

A BARK-FLUTE WORLD

On the Norwegian *Seljefløyte*



OLA KAI LEDANG

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2022

Til Marit

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LIST OF ABBREVIATIONS

| | |
|--------|---|
| AB.SNh | Arne Bjørndals Samling. Spelemenn Nordhordland (Arne Bjørndal's Archives. Fiddlers Nordhordland) |
| AB.SNm | Arne Bjørndals Samling. Spelemenn Nordmøre (Arne Bjørndal's Archives. Fiddlers Nordmøre) |
| AB.ST | Arne Bjørndals Samling. Spelemenn Telemark (Arne Bjørndal's Archives. Fiddlers Telemark) |
| AB.SV | Arne Bjørndals Samling. Spelemenn Voss (Arne Bjørndal's Archives. Fiddlers Voss) |
| AB.TH | Arne Bjørndals Samling. Tradisjon Hardanger (Arne Bjørndal's Archives. Tradition Hardanger) |
| AB.Thl | Arne Bjørndals Samling. Tradisjon Hallingdal (Arne Bjørndal's Archives. Tradition Hallingdal) |
| AB.TN | Arne Bjørndals Samling. Tradisjon Nordfjord (Arne Bjørndal's Archives. Tradition Nordfjord) |
| AB.TS | Arne Bjørndals Samling. Tradisjon Sunnfjord (Arne Bjørndal's Archives. Tradition Sunnfjord) |
| AB.TV | Arne Bjørndals Samling. Tradisjon Valdres (Arne Bjørndal's Archives. Tradition Valdres) |
| AB.Yb | Arne Bjørndals Samling. Ymse brev (Arne Bjørndal's Archives. Miscellaneous letters) |
| AB.Yt | Arne Bjørndals Samling. Ymis tradisjon (Arne Bjørndal's Archives. Miscellaneous tradition) |
| NEG | Norsk Etnologisk Gransking (Norwegian Ethnological Research) |
| NFMI | Norsk Folkemusikkinstitutt (The Norwegian Folk Music Institute) |
| NFS | Norsk Folkeminnesamling (Norwegian Folklore Archives) |
| NRK | Norsk Rikskringkasting (The Norwegian Broadcasting Corporation) |
| NTH | Norges tekniske høyskole |
| NTNU | Norges teknisk-naturvitenskapelige universitet |
| RMT | Ringve Museum Trondheim |

LIST OF SYMBOLS

| | |
|-----------|---|
| A | Amplitude |
| c | Velocity of sound |
| D_n | Deviation from the harmonic scale of tone number n |
| d | Inner diameter of the tube |
| d_1 | Inner diameter of the tube at the mouthpiece |
| d_2 | Inner diameter of the tube at the outlet |
| e | Eccentricity of an ellipse |
| f | Frequency |
| h | Mouth height (cut-up) |
| k | Length of the block extension |
| l | Length of the tube resonator |
| l_1 | End correction at the mouth |
| l_2 | End correction at the outlet |
| m | Total length of the bark body |
| n | Positive integer, tone number |
| p | Pressure |
| r_1 | Radius of a circle of the same area as the mouth |
| S | Cross-sectional area of the tube |
| s | Area of the mouth |
| v | Velocity |
| w | Mouth width |
| α | Angle of the block |
| γ | End correction factor |
| δ | Correction factor due to the alternation between open and closed outlet |
| λ | Wavelength |

Subscripts:

| | |
|----|----------------------------|
| cl | Closed pipe |
| e | Edge tone |
| m | Mean value |
| n | Tone (or resonance) number |
| op | Open pipe |

NORWEGIAN SUMMARY

Borkfløyter av selje og andre lauvtreslag er i Norge mest kjent som *seljefløyter*. Det finst ei rekke variantar i ulike utformingar, frå tre til 80 centimeter lange. Fløyter av bork var lite påakta fram til 1927, da Eivind Groven gav ut boka *Naturskalaen. Tonale lover i norsk folkemusikk bundne til seljefløyta*, om den lange seljefløyta med fast og uforanderleg toneforråd: “naturskalaen”. Monografien *A Bark-Flute World – On the Norwegian Seljefløyte* handlar om den norske seljefløyte-tradisjonen i vidare perspektiv. Borkfløyter er brukt i mange land, men denne tradisjonen er lite granska trass betydeleg internasjonal interesse.

Innleiinga gjer kort greie for den heftige debatten om folkemusikkens eigenart blant norske komponistar og granskarar på slutten av 1800- og starten på 1900-talet. Boka har tre hovuddelar. Den første handlar om kulturarv: tradisjonar, tru og praksis knytt til laging og bruk av seljefløyter allment. Den andre er om naturlov: akustiske eigenskapar og klanglege særdrag ved den lange seljefløyta. Den tredje om estetiske val, musikkbruk: spelpraksis og bruk av den lange seljefløyta. I fokus står den norske tradisjonen, med sideblikk til nærskyld folkløse i andre land. Ein avslutningsdel peiker på rolla seljefløyta har i poesi og litteratur og innbyr til ettertanke kring den naturgitte og sosiale ramma om fløyter av bork.

KULTURARV. Vi har ein solid tradisjon for laginga og ulike førestellingar kring bruken av borkfløyter. Typologisk femner seljefløyta om lag eit dusin kjente arketypar, med stor formriksdom. Eit utal namn på instrumentet, detaljar i utforminga, tru, praksis og rituale ved laging og bruk vitnar om ein livskraftig folketradisjon.

I den frodige barnekulturen lever eit oppkomme av magiske regler brukt til bankinga på emnet for å få borken til å losne. Det gir laginga eit rituelt preg. Ei samling på godt over hundre borkløyse-regler frå ulike kantar av landet er vekslande i innhald, med varierte tekstmotiv kvar for seg og i ulike samanstillingar. Analyse og tolking av tekstkorpuset – med støtte i eigne røynsler frå da eg sjølv brukte ei slik regle som gut i Namsos på 1940-talet – tyder på at det handlar om tre grunnmønster. Det eine er regler om laginga og årets gang, det andre regler med lovnad om lønn eller straff, og det tredje regler i form av bønn til Cecilia, musikkens vernehelgen. Jamvel om reglene synest barnslege, leikne – og tidvis jordnært humoristiske – i uttrykksmåte, kan dei tre grunnmønstra som heilskap tolkast med eit sams djupare innhald. Dei uttrykker ønske om å påverke naturen under den mest kritiske fasen av laginga: å løyse borken frå veden utan å skade borkrøret.

Den praktiske bruken av reglene skjer ved at dei blir resitert, sunge eller sagt fram i jamn rytme til den metronomiske bankinga på borken, noko som òg forsterkar den rituelle karakteren. Såleis kan ein ane uttrykk for age eller ærefrykt overfor naturens kjente og ukjente krefter. I sum kan teksten minne om ein avtale mellom makaren og fløyteemnet. Eit sterkt uttrykk for antropomorfisme! Liknande praksis er kjent i fleire land i Europa og Asia.

NATURLOV. Den lange seljefløyta utan fingerhol gir ei attkjenneleg tonerekke når spelaren endrar blåsestyrken gradvis og samtidig vekslar mellom open og lukka munning på borkrøret. Ein tone lét kvar gong luftsøyla i røret vibrerer med ein *eigenresonans*. Lengda av luftsøyla bestemmer frekvensane for eigenresonansane. Ved opningar (lydhol og munning) oppstår ein gradvis overgang mellom trykksvingingane i røret og den stilleståande lufta utanfor. Lengda av denne akustiske *endekorreksjonen* varierer med frekvensen. Endekorreksjonen ved munningen gjer at open fløyte (partals resonansar, nr. 2, 4, 6, ...) akustisk sett er litt lengre enn lukka fløyte (oddetals resonansar, nr. 1, 3, 5, ...).

Den mest skilsettande konsekvensen av endekorreksjonane er at open fløyte alltid er litt lågare stemt enn lukka fløyte. Dermed blir avstanden mellom ein tone på open fløyte og den nærmaste under på lukka fløyte krympa, mens avstanden til den nærmaste over aukar tilsvarande. Denne akustisk betinga *krympe-auke* effekten skaper såleis ein grunnleggande eigenart ved skalaen på den lange seljefløyta. Krympe-auke effekten påverkar skalaen hörleg og er det openberre kjenneteiknet på at den lange seljefløyta har sin eigen, særmerkte skala som skil seg frå den harmoniske rekka, “naturskalaen”. Frekvensmålingar av resonansrekka til seljefløyter med ulike dimensjonar og utformingar syner systematisk variasjon. Krympe-auke effekten legg óg føringar på melodidanninga ved at vendingar innafor *prefererte tone-par* (7-8, 9-10, 11-12 osv.) er enklare å spela enn andre intervall. Såleis blir skalaens eigenart, som kan variere litt frå fløyte til fløyte, også ein medverkande faktor i melodidanninga.

Tonedanninga ved overblåsing av fløyter er lite utforska. Sonagram-analysar av toneansatsen i den lange seljefløyta syner at ei “klynge” (cluster) av eigenresonansar og truleg kanttonar er aktivert aller først, og at den valte eigenresonansen skil seg ut og dominerer tidleg i toneansatsen. Denne komplekse svingetilstanden er ustabil og vanskeleg å kontrollere med blåsetrykket. Dersom ein ikkje “treffer” den forventa resonansen, blir resultatet uføreseieleg, til dømes ein uønskt tone, hyling eller liknande. Slike *aleatoriske* innslag kan komme utan forvarsel og stiller store krav til utøveren..

ESTETISKE VAL, MUSIKKBRUK. Lydopptak med utøvarar frå Telemark, Østerdalen, Gudbrandsdalen og Nordland syner at spelepraksisen på den lange seljefløyta kan gi musikken tydeleg lokalt særpreg. Selektiv bruk av halvdekking gir dur- og moll-liknande preg i slåttar frå Østerdalen, mens konsekvent bruk av kun open og lukka fløyte skaper ein annan seljefløyte-tonalitet i slåttar frå Telemark. På den andre sida blir prefererte tonepar nesten alltid bunde saman legato, mens andre tonesteg som oftast blir markert med tungeansats. Såleis kjem både lokal kulturell eigenart og akustiske preferansar ved instrumentet til uttrykk i musikken. Slektskap mellom norsk og svensk borkfløytetradisjon blir illustrert ved jamføring mellom *Syljufløytslått* etter Anton Biløygard (1908-1991) frå Lom, og *Polska på sälglflöjt* etter Eugen Hällkvist (1889-1971) frå Ångermanland.

På *tilinca*, ei tradisjonell rumensk, kantblåst fløyte utan fingerhol, møter ein mange av dei same motiva som i norsk seljefløytespel, mens den rumenske identiteten blant anna kjem fram i lange vibratoliknande tonar. Aleatoriske element stikk seg gjerne fram i det melodiske forløpet. Men på den ugandiske overblåste tverrfløyta *ludaya* flyt aleatorikk godt saman med improviserte motiv i open, iterativ form. Aleatorikk integrert i musikkforløpet tyder på høg mental beredskap for det uføreseielege. Det handlar om natur-kultur i ymsesidig samhandling.

SLUTTORD. Poesi har sterk uttrykkskraft, dikt kan i få ord uttrykke heilskapleg forståing av det ufattelege. Mange diktarar gir i poetisk form treffsikre glimt av borkfløyte-verda. I Bjørnsons dikt *Tonen* og Wildenveys *Tør jeg tro?* skaper seljefløytelåt ei magisk kjensle av lengsel etter lykke. I Sandes *Fløytelåt* manar lyden av fløyta fram eit rikt minne: *Tonen kjem smygande, [...] leikar i hugen* og utløyser eit ordknapt scenario om livet frå *barnet* til *gamal mann*. Børli skildrar slitet i tømmerkogen vinters tid i diktet *Seljefløyta*, som blir slående avslutta med: *Jeg maktet vandringa gjennom vintrene / fordi jeg ville skjære ei fløyte av selje / og spille på den om våren*.

I diktinga er det jamt fråvære av estetiske vurderingar: spelet og fløytelåta i seg sjølv skaper ei kjensle av noko appellerande, vanskeleg å gripe, fleirtydig og eksistensielt. Eller beint fram uttrykk for velvære og livsglede, somtid blanda med skarp samfunns- og kulturkritikk. Eit økologisk perspektiv ligg ofte under.

På somt vis er seljefløyta overflødig og unyttig tidtrøyte, men med ei vedunderleg evne til å kalle fram gode minne, skape undring, tillit, ro, filosofisk refleksjon og ettertanke. Seljefløyteaktiviteten i barnekulturen har potensial for spenning, kreativitet og kontakt-søkande dialog med naturens lydlandskap – leik som óg inspirerer i vaksenlivet.

Borkfløyte-verda handlar om eit kulturfellesskap langt utover landegrensene. Den norske seljefløyte tradisjonen framstår som ei grein av ein mangfaldig, eurasiatisk kultur, spreidd over den tempererte sonen på den nordlege halvkula.

PREFACE

To my knowledge, few – if any – musical instruments testify to the intertwining of nature and culture more startlingly than does the long, overblown *seljefløyte* (willow flute). This humble-looking bark flute is made in a few minutes and discarded after only hours or days. However, as focal point of the present musicological study, the *seljefløyte* demands the investigative resources of a cluster of disciplines within the humanities and the natural and social sciences.

Two important threads in this fabric, the instrument's acoustical mode of behavior and its musical style, were brought to attention of literary circles by the Norwegian folk-music connoisseur Eivind Groven (1901–77). His paper on the significance of the *seljefløyte* to Norwegian folk music (1927) has been the main, if not sole, primary source for generations of musicologists, music experts, essayists, journalists, and interested lay people. An abundance of secondary sources – commentaries in popular literature, dictionary entries, newspaper accounts, radio and television programs, and social media – bears testimony to the general acceptance of concepts and views originated by Groven. Truly, his paper has been generally recognized as the sole authoritative account of the *seljefløyte*, despite the fact, that only a few pages are devoted to describing this instrument and its qualities. To my knowledge, until the first public presentation of my research on the *seljefløyte* (Ledang 1970, 1971), Groven's views had been generally accepted without demur.

My own involvement with older folk-music traditions began around 1960, when I was studying physics at Norges Tekniske Høgskole (Norwegian Institute of Technology) simultaneously with music at Trondhjems Musikskole (Trondhjem School of Music). At that time, I read Groven's paper with great interest. His fundamental yet, in my opinion, simplistic description of the *seljefløyte* as a *naturtone* instrument (1927:8) – i.e., with a constant, unchangeable scale, mathematically expressed by the exact harmonic series 1,2,3,4, ... – puzzled me because I was unable to bring that unconditional statement into accord with my own modest knowledge of acoustics. The present work grew out of that discord.

My fascination with the *seljefløyte* merely increased. It might have ended up as a life-long preoccupation – it practically did! Basic research on the instrument's fundamental acoustical properties, and how these are manifested in the playing technique and musical sound was carried out during the years 1967–70, when I was a research associate at the Norwegian Folk Music Institute, Oslo. Important phases of fieldwork, including visits to, and interviews with, a few remaining elderly *seljefløyte* players were carried out in the same period. My original thesis (Ledang 1969) paved the way to a professorship at the Norwegian University of Science and Technology (NTNU) in Trondheim in 1970, but it has never been published.

In succeeding years, the project yielded place to lecturing and administrative duties. During the mid-nineteen-seventies, my research interests turned from musical acoustics and folk music to ethnomusicology in a broader context, African music, and

contemporary cultural life in Norway. For years, the team project “Music life in a rural community” occupied my available research time. During the late nineteen-seventies, and the nineteen-eighties, a deep and long-lasting involvement with the Norwegian Research Council for Science and the Humanities (NAVF) rendered my opportunities for concentrated study practically non-existent.

Moreover, my attitude towards the long *seljefløyte* has gradually changed. To some extent, this is reflected as much in short conference papers (Ledang 1981, 1984b), as in other focused articles (Ledang 1984a, 1986, 1990, Løkberg & Ledang 1984) of limited scope. Fragmentary references and quotations from one unpublished manuscript (Ledang 1970) have surprisingly popped up elsewhere (Sevåg 1979:61f).

My scattered publications on the *seljefløyte* have been focused on selected, limited aspects, such as basic acoustical properties, playing technique, musical style, and the revival/innovation complex. They have not aimed at a complete, consistent, and comprehensive exposition of the instrument in a general perspective. The publications are fragmentary, and they either neglect or only superficially consider a number of important aspects, such as certain folkloristic, historical, and other topics, which deserve integration into a more general musicological approach.

Thus, the present monograph aims at a many-sided comprehension of the Norwegian *seljefløyte*, metaphorically expressed in the title: *A Bark-Flute World*. As will be shown, this world includes various bark-flute archetypes, traditionally referred to under the generic name *seljefløyte*. The perspective is basically organological, contemplated as a part of musicology. The “world” of this book is viewed as an interdisciplinary research area in which methods, techniques, models, and concepts from the humanities, as well as from the social and natural sciences, are integrated into a basically humanistic realm.

Ola Kai Ledang

Trondheim
October 2022

ACKNOWLEDGEMENTS

A great many helpers stand behind this book. I am indebted to all of you. Without thereby reducing the importance of contributions from others, I want to express my gratitude to some, whose favors have been particularly important to the process leading up to this monograph.

My mom and dad, who trusted me to use a sheath knife alone in the Namsos woods as a young boy, laid the basis of a lifelong infatuation with whittling and bark-flute toying.

A propelling force from the very beginning of my *seljefløyte* research was the founder and head of the Norwegian Folk Music Institute, Professor Olav Gurvin (1893–1974), who, by appointing me as research associate at the Institute, led me into a professional career in musicology. From 1964 until 1970, when the independent research institute was phased out and its collections dispersed between the universities in Trondheim and Oslo, Olav Gurvin's unceasing encouragement was a stimulating source of inspiration.

Besides its origin in my own ideas and empirical investigations, this study is largely based on source material from several collections and archives. Copies of *seljefløyte* recordings from the Folk Music Archives of Norsk Rikskringkasting (Norwegian Broadcasting Corporation) were generously released by courtesy of Rolf Myklebust, Head of the Folk Music Department. The program secretary, mag. art. Liv Greni, contributed valuable advice and suggestions.

Professor Johan Sundberg at the KTH Royal Institute of Technology, Stockholm, offered advanced acoustical assistance. Matts Arnberg and Christina Mattson at Sveriges Radio (Swedish Radio) kindly placed copies of recordings of Swedish *sälglöjt* music at my disposal. Märta Ramsten, curator of the Svenskt visarkiv (Swedish Folk Song Archives), Stockholm, and folk-music researcher Ville Roempke from Østersund, willingly communicated data on the *sälglöjt* tradition in Sweden.

My colleague PhD Peter Cooke at the School of Scottish Studies, Edinburgh, kindly offered me not only manuscript texts but also copies of his own tape recordings of *ludaya* (flute) music from Uganda. Iosif Hertea, in Bucharest, provided useful information on the Romanian *tilinka* (one of many types of traditional flutes in the country). I am particularly indebted to the many informants – *seljefløyte* makers and players, and others – without whose collaboration this study would have been seriously impaired: none named, none forgotten.

Through the years from the mid-nineteen-eighties until his untimely death in 1992, my colleague PhD Pat M. Ryan at the English Department (today the Department of Language and Literature), NTNU, Trondheim, painstakingly reviewed the language of an earlier version of my manuscript. During my stay as visiting professor at the School of Music, University of Washington, Seattle, in 1984–85, archivist Laurel Sercombe at the Ethnomusicology Archives, conscientiously supervised the manuscript, and contributed discerning comments and recommendations.

Substantial parts of my *seljefløyte* research during the late nineteen-sixties and later were made possible by generous funding from Norges allmennvitenskapelige forskningsråd (NAVF, the Norwegian Research Council for Science and the Humanities), for which I express my gratitude. Since the mid-nineteen-nineties until 2010, my research and lecturing duties were hampered by increasing hearing loss and related challenges. My *seljefløyte* research was temporarily slowed down. After retiring in 2010 I was fortunate to continue my work as guest researcher at the Norsk senter for folkemusikk og folkedans (Norwegian Centre for Traditional Music and Dance), and to maintain my emeritus status in the Faculty of Humanities, NTNU. Alternative approaches and ideas opened new vistas, stimulating afterthoughts that are embodied in the concluding section “Finality: Counterpoints” of this book.

The heartfelt support from my daughters Kolbrun and Åslaug has been a priceless motivating force behind the writing process, particularly during my advancing years. My wife and lifelong love Marit share the most profound reality of this monograph. Her loving care and advice when that was needed, and encouragement when that was needed, have left their subtle marks on this book, as they have on me too. Annually sharing pleasure in pure *seljefløyte* sound has contributed a playful part of our life together – and always does.

PREAMBLE: THE SETTING

Background: From Outsider's to Insider's View

The Norwegian tradition of making and playing the *seljefløyte* presumably has ancient origins. However, folk-music collectors in the nineteenth and early twentieth centuries paid virtually no attention to this instrument. It was not until *Naturskalaen* (The Nature Scale) by Eivind Groven was published in 1927 that the *seljefløyte* became generally known and acknowledged among cultural elites as a folk-music instrument of significance. The subtitle of the book, *Tonale lover i norsk folkemusikk, bundne til seljefløyta* (Laws of Tonality in Norwegian Folk Music Related to the *Seljefløyte*), indicates his main hypothesis that in some respects the tonality of Norwegian folk music had been conditioned by the *seljefløyte*. Groven's basic assertion was that any *seljefløyte* played in the traditional manner could produce only a *naturskala* (nature scale), i.e., a series of pitches having exact whole-number frequency ratios. In fact, he developed his own aesthetic system based on the nature-scale concept and pure-tuned intervals as universals in music, which are embodied in "the *lur*, *seljefløyte*, or other similar instruments" (1948:5).

Groven's nature-scale concept – appealing to a broad audience of folk music lovers, enthusiasts, and connoisseurs – has made a tremendous impact on the conceptualization of folk music in Norway. This cluster of ideas comprises the background for the present monograph.

To understand the *seljefløyte*'s unique position in the history of Norwegian folk music, we must look back one century or more.¹ Only by doing so, can we clarify the background against which Groven's work was produced and should be assessed. Since he fortuitously entered this arena during an extremely bitter discussion about folk music's basic values and distinctive qualities, it would seem important not only to touch upon his predecessors' work but perhaps even more so to clarify also their ideological positions.

Since the middle of the nineteenth century, the tonal peculiarities of Norwegian folk music have intrigued experts. The pioneer collector Ludvig M. Lindeman (1812–1887) was the first to comment extensively on this topic. In his report on a collecting excursion undertaken during 1848, he stated:

The difficulties of transcribing melodies entail – besides the indistinctness and vagueness of old people's singing – primarily that one so often gets to hear tones a quarter tone higher or lower than usable ones, i.e., tones occurring midway between our semitones. (1850:484)²

1 For a more general survey of folk-music collection and research in Norway before 1950, see Dal (1956:177ff.) or Gaukstad (1950).

2 Whenever Scandinavian sources are quoted in English, the translations are mine unless otherwise stated.

Lindeman also described tuning a *langleik*,³ in which *f* sharp and *d* sharp were much too low, *g* much too high, and *a* somewhere between *a* and *a* sharp (ibid.:487). In some of his transcriptions one can find similar remarks on deviations in *langleik* scales from regular diatonic scales. These remarks bear testimony to his open-mindedness and keen observation, and they commend his manuscripts as an important source for the study of tonality in nineteenth-century Norwegian folk music.

Lindeman did not make any attempt to explain or interpret such tonal subtleties, except for the dubious assertion that “harmony in any case is the basis of melody” (ibid.:484). As composer and organist, he addressed his work to contemporary bourgeois music lovers, and in his published arrangements he consistently adapted traditional tunes to the art music conventions of functional harmony and tonality. Whereas Lindeman’s observations of what are now called microtonal deviations⁴ from the diatonic system in *langleik* scales seemingly were soon forgotten, his folk-music publications, comprising more than 600 tunes, had a great impact on art music. About one thousand tunes, preserved in the Norsk Musikkksamling (Norwegian Music Collection, held in the University of Oslo Library), are still unpublished.

Lindeman’s collections inspired generations of Norwegian composers, including Edvard Grieg. It is noteworthy that Grieg was among the first to express the need for research on the folk music of Norway. Indirectly, his comment was occasioned by the *hardingfele* (Hardanger fiddle) player Knut Dahle. Grieg’s contact with Dahle, which led to Johan Halvorsen’s transcription of 17 *slåtter* (instrumental folk tunes) on which Grieg based his Opus 72, has been ably described and assessed by Pandora Hopkins (1986:247ff.). She emphasizes the fact that it was Dahle who had approached Grieg, and states:

Dahle persisted for more than 10 years before eliciting any real interest on Grieg’s part; even then it seems clear that Norway’s most celebrated composer was finally propelled into action by the news of Dahle’s success with his project in America – as well as, of course, the letter of recommendation from the *musikanter* [musicians] in Decorah, Iowa. (1986:250)

Despite Grieg’s slow response to Dahle’s strong appeal to have his *slåtter* written down, there is a strong likelihood that Halvorsen’s transcriptions immediately fascinated and inspired Grieg. In a letter dated December 3, 1901, enclosed with the transcriptions, Halvorsen commented on the use of *g* sharp in D major, which he found “fresh and enjoyable, where *g* natural would seem insipid” (Benestad and Schjelderup-Ebbe 1980:309). Three days later, Grieg responded enthusiastically:

This “remarkable” you speak of with *g* sharp in D major was what made me wild and crazy in the year 1871. Of course, I stole it straightaway in



Ill. 1.
Ludvig Mathias Lindeman
(1812–1887):
Folk-music collector,
organist, and composer.
Photo: The National Library

3 The *langleik* is a plucked zither, normally equipped with one melody string, beneath which is placed fixed frets and seven drone strings, which nowadays are tuned to a major triad. The instrument can be documented from the early seventeenth century and has been used in most parts of Norway. For references, see Lindeman (1850:487), Panum (s. a. [1918], 1920), Eggen (1923a), Sachs (1913:238), and Ledang (1974).

4 Deviations of an order of magnitude 50 cent.

my *Folkelivsbilder*. This tone is something for the research worker. The augmented fourth can also be heard in the farmer's singing. It is ghosts from some old scale or another. But which? Unbelievable that none of us goes in for national musicology, since we have in our folk music such rich sources for those who have ears to hear with, a heart to feel with, and a mind to write down. (ibid.: 310)

It is noteworthy that whereas Halvorsen and Grieg expressed true fascination with the striking tonal characteristics of *hardingfele* music, their frame of reference did not transcend the conventions of European art music. Basically, they both referred to the use of the augmented fourth in a context of major tonality, and there is no indication that they were conscious of – not to say concerned about – the occurrence of steps between whole tones and semitones. Curious as it might seem, Grieg and Halvorsen might have been less close to a genuine understanding and appreciation of Norwegian folk music than was Lindeman. As I discuss below, it would appear, that the generation not only of composers but also collectors following Lindeman had already forgotten his insightful and forward-looking comments (1850) on folk-music style.

Around the turn of the 20th century there were a number active folk-music collectors, but all were more concerned with writing down and disseminating transcribed music rather than with trying to study and develop an understanding of its aesthetics and style, and its performance characteristics. As already clearly stated by Lindeman (1850:484), the primary measure of music's value was its supposed age: what he searched for were “the old ballads and songs,” rather than the “swarm of novel, more or less valueless songs.”

Composer Arne Eggen (1881–1955) was probably the first collector to approach more closely problems of tonality, which had been so strikingly – albeit briefly – touched upon by Lindeman. Commenting on his own melody transcriptions in folklorist Rikard Berge's collections of folk songs (Berge 1904), but with no reference to Lindeman, Eggen made the following affirmation:

A tune collector need not seek long before he finds separate tones in Norwegian songs that do not hail from European art music – quarter tones⁵ or intermediate tones, one might call them – as opposed to the term “semitone.” They are located outside the common tone series (scale). From this we may discover that we require a distinctive tone series for our *bygder* [rural communities]. [...] As it is certain that tone series in different countries within and outside Europe differ each in their own way from the common tone series, it is likely that tone series, like dialects, change according to peoples' disposition and the shape of the landscape, and perhaps also vary in different parts of the country. This is something one should pay more attention to, [and which could merit considerable scientific inquiry. (1904:272)]

5 Note that the term “quarter tone” here signifies quarter-tone *deviations* (i.e., microtonal deviations) from the diatonic system, not the quarter-tone interval per se. Such somewhat ambiguous use of this term by A. Eggen and his followers (thus quoted in my discussion of their contributions) points to the occurrence of steps amounting to approximately 150 cents, it but does not entail any occurrence of microtonal intervals (intervals significantly less than a semitone, i.e., with an order of magnitude comparable to 50 cent).



III. 2.

Arne Eggen (1881–1955):
Folk-music collector, composer,
and teacher.

Photo: Ernest Rude/
Wikimedia Commons.

Eggen's comparison of music and language as a basis for explaining regional variations in folk-song style reflected ideas that were well established in the nineteenth century. A broad characterization of differences among Danish, Swedish, and Norwegian folk song as reflections of differences in the "modulation of these three nations' speaking voice" suggested by the Danish collector Andreas P. Berggreen (1861:153)⁶ hovers in the background. The related idea of presupposed connections with, or influence from, the somewhat vague concept of "people's disposition" towards folk-song style reflects a national romantic mode of thinking with emphasis on man's feelings and instincts over his intellect. At a time when Lindeman's remarks (1850:484) on microtonal subtleties had apparently lapsed into oblivion, the real novelty in Eggen's remark quoted above was that he explicitly identified in Norwegian songs significant style elements that were not and could not be derived from art music. As a practical consequence of this view, Eggen introduced *diacritical marks* in his printed transcriptions: he employed an asterisk to indicate whether a note should be performed "a little higher" or "a little lower" than notated. His call for "scientific inquiry" further proclaimed that the time for speculation and new theories was imminent.

Eggen's formulation of the "quarter-tone" concept can be seen as the first step towards a new consciousness and understanding of folk-music style: an insider's view. Thus far, no one had been able to point out *why* and *how* the "quarter-tone" phenomenon might have come about.

In taking up this challenge, Eggen's brother, the musicologist and teacher Erik Eggen (1877–1957), went a step further. He presented perhaps the earliest known attempt to explain quarter-tone deviations from the diatonic system. In a short article in *Høgskolebladet* addressed to *folkehøgskole*⁷ teachers, E. Eggen (1909a) stated that whereas the European minor scale alternates between major and flatted seventh in its ascending and descending forms, respectively, the Norwegian minor is equal in both its ascending and descending forms – and with a seventh midway *between* the major and minor ones. According to E. Eggen's view, the Norwegian way of singing reflects a disposition which, contrary to that of Southern Europeans, always carries sorrow behind happiness and happiness behind sorrow. Thus, as a practical consequence, teachers should not correct school singing out of songbooks based on these song traditions, but ineptly notated. Instead, one should improve music notation:

Thus, we have the comedy that teachers go to the *landsbygdi* [rural places] and "correct" Norwegian folk singing to accord with written music. No wonder Jørund Tølne⁸ sang:

Come, let us bookless sing,

Since notesong is so wise.

For who is the master and who is the novice? Are the notes not written down after the singing? When they do not agree, is there any doubt as to who is to blame – who is dull? (E. Eggen 1909a:50)

6 Quoted by Erik Dal (1956:76) and Hampus Huldt-Nyström (1966:11), among others.

7 The folkehøgskole is a private school for general adult education, with emphasis on personal development, but without examinations, and it offers a broad, general educational program. Initiated by the Danish minister and poet Nikolai Grundtvig in the 1830s, the idea soon spread, and such schools have been established in the Scandinavian countries and also in parts of the USA inhabited by Scandinavian Americans. They are usually operated by ideological or religious organizations.

8 A Norwegian writer (1845–92) and ardent *Landsmål* supporter.

For his contemporaries, E. Eggen's article must have come as a thought-provoking attempt to explain tonal subtleties in Norwegian singing style, based on his analysis of the music system itself. He managed to turn the then current notion of presupposed connections with, or influence from, "people's disposition" into something more substantial. In addition, his line of argument reveals a growing appreciation of Norwegian folk music as a basically self-contained and autonomous musical culture, as opposed to the established stereotype of folk music as little more than a reservoir of raw material for a national art music. For example, E. Eggen's clear-cut description and interpretation (1909b) of asymmetrical duration patterns in the *springar* rhythm superseded R. Berge's comment (1908:167) on similar phenomena, and justified his criticism of Halvorsen, who missed an opportunity to discuss this significant aspect of Knut Dahle's playing. The question of *springar* rhythm as raised by E. Eggen remains a hot issue, one that still challenges Norwegian folk-music scholars. Finally, from E. Eggen's reasoning (1909a), we may infer that the notion of the influence of instrumental music on vocal style was not engendered among Norwegian folk-music connoisseurs – at least, not yet.

The ideological message in E. Eggen's article (idem) – that when traditional school singing did not accord with the songbooks, it was because the transcriptions were wrong and the singing right – was immediately taken up by the press. Only a week after its publication, the article was reported in a Kristiania (Oslo) newspaper, under the heading "The Norwegian Scale: Different from the European." The reporter's paraphrase commenced as follows:

It is well enough known that familiar folk tunes are spoiled when they occur in notation books. In some respects, they occur differently from the way people usually sing them. Teachers and others who will afterward teach children and youths tunes in accordance with notation often find themselves in difficult straits. People are not able to handle these "correct" tones, and so they stick to their "false" ones.

Erik Eggen solves this enigma for us in the latest issue of *Høgskulebladet*. He says that although the Norwegian minor scale is different from the European, those who set tunes into notation have used the European scale. Hence, the tone is rendered false when steps in the Norwegian musical scale differ from those of the foreign one. (*Den 17de Mai* No. 41, April 10, 1909)

It is significant that these new ideas, after their first appearance in an obscure teachers' periodical, were immediately propagated by *Den 17de Mai*, the sole *Landsmål*⁹ newspaper in the capital. Clearly, *Den 17de Mai* took a positive interest in E. Eggen's view as a well-defined and outspoken stance against the oppressive impact on Norwegian folk culture of collectors, whose only standards had been derived from the urban elite. E. Eggen himself also wrote in *Landsmål*.



III. 3.
Erik Eggen (1877–1957):
Folk-music collector,
musicologist, and teacher.
Photo: Gustav Borgen/
Norsk Folkemuseum
(CC PDM)

9 The language form Landsmål (later given the official name Nynorsk), created by linguist Ivar Aasen (1813–1896), was based on Norwegian dialects and reflected the nineteenth-century struggle for cultural independence. The language soon challenged the established language form Riksmål (later given the official name Bokmål), developed from Danish, which had been used during four centuries of Danish rule. In fact, the struggle between supporters of Nynorsk and Bokmål continues to vitalize Norwegian cultural life to this day.



III. 4.
Catharinus Elling
(1858–1942): Composer,
folk-music collector,
and scholar.
Photo: Eivind Enger/
Oslo Bymuseum.

Whereas E. Eggen's original article (1909a), with its limited circulation mainly among teachers, apparently elicited no reaction, the report in *Den 17de Mai* immediately provoked opposition from composer and folk-music collector Catharinus Elling (1858–1942). Professionally trained abroad as a composer, and a prolific folk-music collector with government support after 1898, Elling is known as the author of the earliest comprehensive studies of Norwegian folk music, *Vore Folkemelodier* (Our Folk Tunes, 1909), and *Vore Kjempeviser* (Our Heroic Ballads, 1914). He was firmly grounded in the continental classical-romantic tradition and was a passionate advocate of the beauty of folk music, which he also creatively cast into relief through his arrangements and compositions. Elling apparently challenged Eggen in two fugitive polemics (not discovered in *Den 17de Mai*).

In his first defense, E. Eggen (1909c) explicitly quoted Elling's assertion that the so-called "intermediate tones" were not constant. Against this view, he maintained the stability of intonation of such tones. In a second defense, E. Eggen revealed a surprising ignorance of the early history of folk-music collecting: "Lindeman has not, so far as I know, transcribed a single quarter tone. One should not blame L. for this – he lived in an era of musical pioneers" (E. Eggen 1909d). This statement confirms that while Lindeman's fame as folk-music collector was still much alive, his concomitant thought-provoking descriptions of what we now call microtonal deviations from the diatonic system had fallen into oblivion by the turn of the century. Insofar as I have been able to check available sources, Eggen's erroneous statement remained undisputed, which is rather surprising, since Elling referred to Lindeman (1850) in his study (1909¹⁰). Ironically, Elling, who denied the very existence of systematic quarter-tone deviations from the diatonic scale in Norwegian folk music, might have been aware of Lindeman's early observations of such phenomena before A. and E. Eggen rediscovered them. In fact, the Eggen's reestablished a consciousness that Lindeman had first expressed, albeit in a rudimentary way, more than half a century earlier.

In his first general study, Elling (1909:53ff.) quoted Lindeman (1850) extensively and included his description of microtonal deviations from the diatonic scale. But he did not discuss or comment on Lindeman's explicit observations, despite his assertion (referring to Lindeman's printed and unpublished collections) that "everything that is of tonal interest" (ibid.:56) was included in his own analyses. Without exception, Elling's analyses were based on conventional music notation, and he passed over microtonal deviations in silence. His scholarly studies were genre oriented, with analyses of form, melodic structure, and tonality for each melody. Elling generally maintained that in terms of tonality, Norwegian folk music was distinguishable from that of other "Germanic tribes" by "1) the major scale's Lydian tendency, 2) the minor scale's major character, and 3) the dominant's autonomous nature" (ibid.:59), and he consistently insisted that folk song was diatonic "according to its nature" (ibid.:90). Basing his analyses on art music concepts (modality and major/minor tonality), Elling concluded that Norwegian folk tunes exemplified the tonal relations of European music, occasionally modified by influence from "Norwegian nature and Norwegian disposition," as expressed in "numerous mixed forms" (ibid.:96). So-called "mixed forms" included tunes with ambiguous tonality arising, for example, from the alternating use of major and minor thirds or sevenths in different parts of

10 Although "1909" appears on the title page, a footnote on page 101 states that the book was printed in March 1910 and presumably it was not available for E. Eggen until 1911.

the same tune. Critically examined, Elling's mode of reasoning will be seen to have suffered from the logical fallacy of circular argument or *petitio principii*: his premises prevent any conclusion or finding that exceeds the conceptual limits of art music.

Contrary to Elling's confident interpretations based on the supremacy of art music theory, A. Eggen and E. Eggen's reported observations and expressed views clearly indicated the two scholars' growing realization of distinct stylistic characteristics in Norwegian folk music, reflecting aesthetic values and performance practices independent of those of European art music and basically different from them.

E. Eggen took an important step in 1911 in an article for the Kristiania newspaper *Verdens Gang*, in which he pointed out that many things in Norwegian folk music could not be set down on paper, and that the means to quantify them were lacking. Concerning time, he said, collectors were prone to characterize "the uneven, or leaping," as a "rubato," as though that term were an adequate equivalent:

When we turn to the melody, things grow even more troublesome. It often presents [...] tone steps and intervals that carry one into difficulties. This is no recent discovery, but a difficulty one has long faced. One has muddled through by skipping the difficulty and trying to arrange the intervals of folk tunes under international ones, as well as one could. [...] Moreover, there has been no shortage of those who have recommended correcting the folk tune in this way – truly, one might even say that practically none of our music authorities has suggested any other way out of this impasse. This, although not alone Norwegian folk music, presents such irrational things. (E. Eggen 1911b)

Having rehearsed the miserable conditions whereby folk tunes were being "corrected" to fit them into art-music tonality, Eggen described a recent personal experience, when during a visit to a farmer in Telemark, he had discovered an old instrument hanging on a wall:

I immediately realized that I was facing an august specimen of the famous national musical instrument *langleik*. It was the first time I had seen this implement. An aura of romanticism ravished me. [...] Down from the wall came the instrument, and I started to plunk on it, while allowing the frets to set the tones. What kind of magic was this? Here was an abundance of quarter tones – precisely such mystic intervals – intervening whole tones and semitones! Sure enough, they were not accidental or movable! *They were constant enough* – the frets (of bone or hard wood) were *glued* to the *langleik* board! Measurements and calculations confirmed the result even further. (ibid.)

E. Eggen's mode of writing strikingly expressed his fascination with the indeterminate sounds of the old *langleik*; it seems that he experienced them as a truly sensational discovery. Fortunately, that experience did not prevent him from confirming his discovery with the necessary hard data. He also stated that more recent *langleik* forms manifesting modern major scale were of no interest in that connection. Besides, he stated:

Just as I had made this discovery, Mr. Olav Midttun (Cand. Mag.) notified me that L. M. Lindeman in a report on a journey during 1848 has presented a most remarkable piece of information. Lindeman gives a transcription of “*Kjempedansen*” [The Giant’s Dance] on the *langleik*. However, regarding the note d [...] he comments that on the *langleik* it is *closer to d sharp than to d* (the dance is set in A major). So, on the *langleik*, obviously, an intermediate tone between d sharp and d! It is “closer to d sharp,” yet Lindeman transcribes d!

This strongly indicates that international music notation is unsatisfactory when it comes to transcribing our national music treasure. [...]

That this should carry us towards solving the most important of the “irrationals” in folk music seems plausible. Would it be unreasonable, further, to believe one might rescue a considerable part of its otherwise lost charm by notating these intermediate tones? In my opinion, one could by such means notate folk music as satisfactorily as art music when it comes to melody. (ibid.)



III. 5.

Kristian Halse (1858–1939):
teacher, and folk-music collector.
Photo: Scanpix/
Stortingsarkivet.

Most likely, E. Eggen had made the discovery of the old *langleik* only a short time before the *Verdens Gang* article was printed. His essay in the periodical *Syn og Segn* published earlier the same year (Eggen 1911a), which was based largely on a known mode of reasoning (E. Eggen 1909a), also included reference to *naturtonar* (nature tones) and the *lur*, but not to the *langleik*. The essay provoked opposition. Folk-music collector Kristian Halse (1858–1939) responded in the same periodical, in which dismissed the very notion of “quarter tones,” and ridiculed E. Eggen, as follows:

The scale, which [...] has been our norm for correct singing – has been normal – according to Eggen’s teachings on Norwegian folk music is abnormal, and his bizarre scale becomes the norm, with which all folk music from this day will have to comply. (Halse 1911:420)

Like Elling, Halse took for granted the general supremacy of diatonicism. Hence, he explained that when a tone was sounded a little higher or lower “than it should be,” all persons well informed on music “except Eggen” stated that it was not true but false, and that Eggen, on the contrary, “refers to it as singing quarter tones” (Halse 1911:417). Despite his own rural background and his roots in a local folk-song tradition, Halse’s attitude reflected his dependence on what he considered the real authorities: a firm belief in the conventions of art music, combined with a deep distrust of radical new ideas challenging established truths. Such attitudes would have been consistent with his status as schoolmaster, sexton, local composer, and folk-music collector.

In response to Halse’s criticism, E. Eggen not only went more deeply into the *naturtone* system, for the first time with reference to vibration modes of a string, but also described in detail the scale of the *langleik* he had seen at the Telemark farmer’s home (1911c:512). Doubtless, the evidence provided by that *langleik* of a particular Norwegian scale was seized upon as a welcome opportunity to argue for the autonomy of folk music.

The E. Eggen-Halse controversy illustrates a deep conflict between an established national romantic “outsider’s view” of folk music and an emerging “insider’s view.”¹¹ As a middle-aged, well-established composer and a celebrated folk-music connoisseur of markedly conservative bent, Elling was the perfect front man, fighting for established “truths.” What he defended was the once progressive, bourgeois culture, which during the nineteenth century had spearheaded a successful struggle to establish Norway as a nation with its own national culture. A national art music had been developed, inspired from, and to some extent rooted in, folk music, with Grieg – Norway’s only composer of truly international stature – as the celebrated leader. Behind and besides Grieg were numerous others, among them the famous virtuoso violinist and folk-music enthusiast Ole Bull (1810–80). All had employed (if not exploited) folk music as a national symbol and the basis upon which Norwegian art music should be built – an important cultural achievement in the nation-building process of the nineteenth century.

Thus, originally, and during most of the nineteenth century, the national romantic folk-music concept was logically integrated into a progressive force and a dynamic cultural movement. However, in the long run, a general art music’s aesthetic supremacy could not be sustained, particularly as a new understanding of folk music as a self-sufficient, autonomous musical culture emerged. The established outsider’s view, motivated by the demands of art music, gradually yielded to a new insider’s view, reflecting a younger generation’s wish to understand musical folk culture on its own terms.

The conflict itself was clearly felt, but its underlying causes might not have been so easily analyzed or comprehended by the front figures on either side. In an early attempt to approach the core of the problem, folklorist R. Berge interpreted the conflicting views as related to basic differences between art and science in their respective approaches to folk music:

Some transcribers seem to search only for certain kinds of tunes, or for certain kinds of scales in these tunes, and it might thus chance that in their transcriptions they correct the singer, stylize, or restore. Such practice may be musically correct, but it is not scientifically correct. (1911:124)

Were it not for his use of the present tense, one might suspect Berge’s criticism to have been directed at Lindeman, who consistently published folk tunes adapted to art-music conventions. It is more likely that R. Berge was addressing contemporary collectors, particularly Catharinus Elling, the most prestigious of their number. As for the role and responsibilities of the collector-transcriber, Elling asserted:

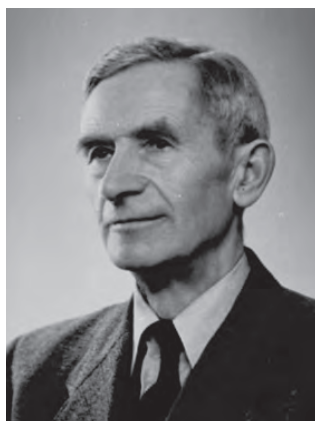
Just as certainly as the transcriber is obligated to show the greatest conscientiousness towards melodic intervals, has he the responsibility to establish the best possible relation between language-rhythm and music-rhythm, the best possible period structure, and altogether – I arrive once more at my *præterea censeo* – stand the melody properly in its own right. [...] People’s singing is usually so free rhythmically [...]

¹¹ For this “insider–outsider” dichotomy, I am indebted to Bruno Nettl (1983:259ff.), although my use of the terminology departs slightly from Nettl’s terminology.

or [...] so poorly measured, that it very often depends on the collector's sense of rhythmical effect, whether, or not anything whole is going to come out of the melody. (1914:134f)

Considered in the light of his own one-sided artistic background, the author's emphasis on the collector's ability to "stand the melody properly on its feet" speaks for itself. Elling's study (1914) of old ballads followed his general inclination to apply art music's aesthetics when analyzing folk tunes; he did not touch on either the "quarter-tone" issue or the question of influences on vocal music from *lur* or *langleik* scales. In his review of the study, the younger scholar Ole Mørk Sandvik (1875–1976) respectfully praised Elling's penetrating, classical analysis of the ballad tunes. At the same time, he pointed out that, from a more scientific outlook, collectors should exercise caution in documenting people's ways of singing:

The singer's imperfect, somewhat indefinite melodic form must in that instance [...] be preferred to the transcriber's logically flawless, although deeply considered, mangled version. [...] A time may come when values other than beautiful, strange melody and fixed, when measurable rhythm are sought in folk song, and when one might feel deprived of older accessible materials. [...] I exhort Mr. Elling [...] to give us some samples of the proto-genuine, naïve – for once, untroubled about "correct" time and rhythm – folk song. (Sandvik 1915:189f)



III. 6.

Ole Mørk Sandvik (1875–1976):
folk-music collector,
musicologist, and teacher.
Unknown photographer,
Anno Domkirkeodden.

The notion of documenting folk music on its own terms – not merely supplying raw material for art music composers – was hardly a novelty. The idea had been one of the forces behind much collecting work since the late nineteenth century. But more than their predecessors, scholars such as Sandvik and E. Eggen were concerned with documentation and studies of folk-music features that had so far attracted little or no attention. Their goal was to "get beneath the surface" and reveal the unique internal relations and inherent logic of folk music as a self-sufficient and autonomous cultural system.

In a general essay on Scandinavian musicology, Sandvik (1918a:583) pointed out the "strange fluctuating tones that distinguish so much genuine folk singing, the so-called quarter tones," and gave E. Eggen (1911a) credit for his "perceptive accounts on this phenomenon."

In the preface to his book *Folkemusik i Gudbrandsdalen* (Folk Music in Gudbrandsdalen, 1919b), his first comprehensive study of Norwegian folk music, Sandvik described his goal as the presentation of a "musical characterization of a single region of our country." True enough, the study was the first scholarly attempt to present and analyze a comprehensive regional body of Norwegian folk tunes. The author referred to old Norse instruments and to the *lur*, the ram's horn, the Jew's harp, the *langleik* (anticipating that examination of old specimens might show that "the old people have counted on a scale somewhat different from ours" (ibid.:8)) the ordinary fiddle, the clarinet, and the wooden flute. He did not mention the *seljefløyte*. After commenting on the *lur*, Sandvik contemplated "the indefinable intermediate tones, the 'quarter tones,' which again signal that the musical needs of bygone days were different from ours" (ibid.:6). He also took the occurrence of "quarter tones" and rhythmic peculiarities as evidence of "a core of venerable tradition" (ibid.:35) in the repertoire of old lullabies.

Confronted with the problems of transcribing fiddle tunes, Sandvik emphasized that he had written down what he had heard as exactly as possible for the violin – not the piano, “as both Lindeman and others unfortunately did” (ibid.:53). However, he concluded: “Only a phonographic rendering will completely suffice” (ibid.). In summarizing his study, Sandvik interpreted different musical features as evidence of “different time periods in *bygdernes* [the rural places] musical development” (ibid.:59): “The triad shows its ability to govern many a turn, major and minor alternate in a frequently conspicuous way, the old church modes keep their strength, and even older influences seem to face us in the fluctuating tones” (ibid.).

It is noteworthy that Sandvik’s approach – “music dialect research” as he himself called it (ibid., Preface) – had initially been suggested by his father, a school inspector, teacher, and musician of high esteem in Hamar (Boyesen 1954). His parents originally came from Ørsta, Sunnmøre, a rural place with a rich folk-music traditions, and both families included celebrated fiddlers and singers (Gurvin 1954). Sandvik himself had traveled extensively in Gudbrandsdalen, where he had met the leading elderly singers and fiddlers. He was also guided by the folklorist and rural historian Ivar Kleiven (1854–1934), and the leading Landsmål poet Olav Aukrust, who was also a good singer, and a Jew’s harp player. Sandvik’s whole approach reflected a familiarity with his sources and the cultural milieu in which he collected his musical materials. Strictly speaking, he was not an insider, but it is probable that his aspiration was to cultivate an insider’s view of the rural music culture with which he developed such conversance.

In his doctoral dissertation, *Norsk folkemusikk. Særlig Østlandsmusikken* (Norwegian Folk Music: Particularly the Music in Østlandet, 1921a), Sandvik turned away from “music dialect research,” expressly stating that his goal was to identify “the valuable, the distinctive quality” (ibid.:9) of Norwegian folk music in general. His approach to the description of musical style may be described as what Nettl (1964:135ff) has labeled “intuitive.” Sandvik discussed different foreign influences, particularly Gregorian chant, as well as different historical layers in Norwegian folk music, and he pointed out what he considered the most striking and important features of different genres and regional repertoires. He devoted one chapter to *Kvarttonen i norsk folkemusik* (The Quarter Tone in Norwegian Folk Music) (ibid.:76). Without pretending to produce a resolution of the enigma, Sandvik suggested that intermediate tones had arisen from the conflict between older and modern scales, such as the Dorian mode and modern minor, with a low and high leading tone respectively: “What is then more explicable than that the contention between older and younger tone feeling, evidenced in a swarm of melodies can operate in the same melody?” (ibid.:76f). Significantly, Sandvik based his explanation of the “quarter-tone” phenomenon solely on considerations of the historical development of folk music; he did not imply any lack of musicality among the singers.

In the introductory chapter of a two-volume work on the history of music in Norway, the composer Gerhard Schjelderup (1921:2) referred to *naturtoner* (nature tones) produced on Bronze Age *lurs*, including transcriptions of tone nos. 1–12, but without indication of microtonal deviations from standard music notation. E. Eggen’s chapter on folk music in the same work dealt more thoroughly with *naturtoner* (1921:70), including a demonstration of the *lur* scale, tones no. 1–12, indicating the quarter-tone deviation of no. 11. E. Eggen maintained that wind instruments in folk music had not been developed beyond a certain “primitive level” (ibid.:72). He assigned much more space to stringed instruments and quoted (ibid.:78) Lindeman’s reported microtonal deviations from the diatonic scale on an old *langleik* (Lindemann 1850).

He also described another old specimen (perhaps identical to the one mentioned in E. Eggen 1911b), from Telemark, and compared its scale with the nature scale. He suggested that the instrument could be considered as evidence of “medieval music life in Norway.” Likewise, he discussed (ibid.:84) the possible use of a fourth between perfect and augmented in folk song, introduced through influence from the *langleik*, finding support once more in Lindeman’s observations. Finally, he supplied evidence (ibid.:100) from recent practice in modernizing the *langleik* scale, i.e., moving the frets beneath the melody string to produce a diatonic scale in accordance with modern, equal-tempered instruments.

It is noteworthy that in the preface to his doctoral dissertation, E. Eggen (1923a) described the conflict between the songs he remembered having heard during his childhood, presumably in Trondheim or Trøndelag (Sandvik 1926), and music learned from notation, a conflict revitalized during the years 1896–98, when he was staying in Telemark. Eggen’s *Skalastudier: Studier over skalaens genesis på norrønt område* (Scale Studies: Studies of the Genesis of Scale in Norse Region 1923a) was based on evidence from the old Norse area (Norway, the Faroe Islands, Iceland, and Greenland) but suggests a similar genesis of scale “far outside Norse territory” (ibid., Preface).

After distinguishing between instruments without and with fixed scale (ibid.:3), the author pointed out two principles, according to which a musical scale is determined: 1) the *decorative system*, in which the instrument’s visual, geometrical design (as, for example, the equidistant position of frets below a string) determines the scale, and 2) the *nature-tone system* (also called *lur tones*), according to which the tone series derives from laws of nature.

E. Eggen’s dissertation may be considered the first truly ethnomusicological study of Norwegian folk music. The author referred to such leading scholars as Richard Wallaschek (*Anfänge der Tonkunst* 1903), Charles K. Wead (*Contributions to the History of Musical Scales*, 1902), Hjalmar Thurén (*On the Eskimo Music*, 1911), Karl Bücher (*Arbeit und Rhythmus*, 1896), Alexander J. Ellis (*On the Musical Scales of Various Nations*, 1885, which E. Eggen was unable to access), and Hermann von Helmholtz (no title), as well as some less well-known representatives of early *vergleichende Musikwissenschaft* (comparative musicology).

E. Eggen hypothesized a significant influence of instrumental music on vocal music; he approached instruments as evidence of musical scales that in the long run had engendered scales and tonality of vocal music. Among wind instruments, he concentrated on the Bronze Age *lurs* as well as the birch-bark *lur*. However, to explain the 3/4 step, he had to venture as far as the interval 11-12 of the *lur* tone series, which is extremely high on most *lurs* and thus claims little, if any, musical significance within the tradition. Thus, E. Eggen turned to chordophones in his search for instruments with fixed musical scale. After touching on medieval ones, he focused on the Norwegian *langleik*. From the positions of the frets, or marks on the soundboard indicating where frets had been placed, he calculated the intervals of the scales, using millioctaves as his unit of measurement.

E. Eggen’s empirical data on *langleik* scales was extremely varied – to an extent bordering on confusion. Scarcely any two old *langleikar* had been constructed with identical scales, and Eggen faced serious difficulties in trying to establish general norms or patterns reflected in actual instrumental scales. His interpretations of individual scales were ingeniously based on the fundamental concepts of the decorative and the nature-tone system. In fact, he interpreted some of the scales as based on a combination of elements from these two systems and thus he was able to establish a

kind of classification of old *langleik* scales. From his observations, calculations, and deliberations, E. Eggen ably argued that intervals not found in art music had been transferred from the old *langleik* repertoire to vocal music. This was taken as proof of the objective existence of quarter-tone deviations from the diatonic scale in traditional singing. On the other hand, he also pointed out the recent practice of changing the position of the frets on old *langleikar*, thus modifying the scale in accordance with the diatonic system. In his little textbook *Norsk musikksoge* (A Norwegian History of Music), E. Eggen (1923b:19f) briefly presented his theories on old *langleik* scales, without mentioning the contemporary practice of tuning the instrument to the modern major scale.

As new insights and attitudes gained momentum, Elling increasingly took on the role of leading, if not sole, antagonist, repressively resisting innovations and reacting to every new outlook as a personal attack on himself. In a general essay on Scandinavian musicology, Sandvik praised Elling as a leading and prolific writer on folk music, while at the same time expressing some reservations:

His analyses, in particular, appear to me excellent. [...] This also applies to his most recent work, *Vore Slaatter* [Our Instrumental Folk Tunes]. However, there, the material is somewhat uncertain and incomplete. Lindeman's Østerdalen *springdanser* are scarcely accurate, while rhythmical finesses are not clearly pictured in either Lindeman's or Elling's transcriptions. Even though much work still remains to be done, we must be exceedingly grateful to Elling for his profound studies. No one can penetrate better than Elling the unconscious harmonic basis of our most peculiar folk tunes, as demonstrated by his treatment of hymn tunes and Setesdal *stevtoner* [improvised songs]. Even if one must often disagree with this writer, every folk-tune researcher will study with the greatest attention what flows from a man so familiar with this terrain as Elling. (918a:582f)

Elling (1918a) promptly reacted to this critique by having an open letter published in a newspaper, in which he challenged Sandvik to express his disagreement more precisely, as a basis for public discussion. In a brief reply, Sandvik (1918b) described the issue as "1) the folk tunes' relationship to old church music, 2) the quarter tones, and 3) the transcribers' relations to their material." He also expressed bafflement that Elling had sought a public discussion on such topics and hoped that in the future he would be able to communicate his own opinion in a periodical article. Elling (1918b), in expressing his dissatisfaction with this answer, insisted that Sandvik communicate his knowledge: "Should you dread to make me a laughingstock, I hereby authorize you to do this. So, produce your documents!" In his reply, Sandvik repeated his admiration for Elling, adding that other collectors' findings and deliberations also deserved acknowledgment. He distinguished between the role of collector and that of researcher, pointing out that in his view, contrary to Lindeman's and Elling's views on the issue, the collector's sole task was to reproduce what he heard, and leave to the researcher to "attempt a choice, such as how the potential fluctuating tone should be assigned" (1919a).

As Elling's and his younger rivals' positions grew more and more rigid, the harsh controversy between them gradually assumed the form of trench warfare. In the present context, I am reluctant to range further in their polemics. Let it suffice to sum up their basic differences in outlook.

Elling set forth his view in two pamphlets, *Tonefølelse med særlig henblik paa norsk folkemusik* (Tone Feeling with Special Reference to Norwegian Folk Music, 1920), and *Strøbemærkninger til vor musikhistorie* (Casual Remarks on Our Music History, 1925). In these publications, musicological considerations are intertwined with polemics against E. Eggen and Sandvik. Elling emphasized the artistic aspect of collecting as follows:

The collector's task is primarily an artistic one. Thus, the collector should be careful to pick and choose. There is enough cheating. However, we do not need folk music devoid of artistic values. Where there exist [...] artistic values, these should be emphasized, and one must then forget about tonal and rhythmic errors, embedded in the performed version. One should have nothing at all to do with explaining that here one's source sang too high, here too low. [...] No, the collector must be a master of the material. His task is to stand the melody in its own right. All other considerations must yield to this. (1920:16)

In advocating the artistic primacy of collecting, Elling found support in Lindeman's pragmatic side:

Lindeman's opinion [...] was that unclear, fluctuating tones should be assigned to that tone, to which they seem to belong. I fully agree with L. on this and I have, admittedly, without knowing L.'s opinion, practiced this from the very beginning. (1920:15)

He went a step further by interpreting Lindeman's observations of "quarter tones" on behalf of his own view:

Lindeman has heard quarter tones – what collector has not? – but [...] L. has understood that these quarter tones were related to other obscurities that not infrequently occur in folk singing. (1925:39f)

A key to Elling's understanding of folk music would seem to be his concept of a general, and possibly ancient, pan-European feeling of tonality, which he believed had influenced – perhaps even generated – the tonal systems of both folk and art music. Curiously, this idea probably was never stated explicitly, but it was clearly indicated in such formulations as "it is the common European tone feeling which provides the basis for Gregorian chant as well as the folk music" (1920:19) and "the different scale formations are caused by common European tone feeling" (1920:26).

In his own view, Elling's training as a professional composer made him an expert on this ostensibly pan-European musical legacy. His feverish opposition to the idea of 3/4-tone steps (cf. footnote no. 5, in this book, on the "quarter tone" concept) as distinctive features of a national Norwegian folk-music style must be understood against such a background. The emotional weight and intensity of formulations such as "the infamous quarter tone," followed by "this Eggen-Sandvik jumping jack" (Elling 1925:28), reflected a deep commitment that was carrying him far beyond conventional communication norms.

While Elling (1925:39f) admitted that both he and Lindeman had heard “quarter tones” – “What collector has not?” – he denied the possibility that such a tone could be stable:

It is out of the question that it should occur as a fixed interval, i.e., is constant under all circumstances. (1925:36)

Such unclear tones are not constant, not equal each time, but now higher, now lower. [...] It is this obscurity that has occasioned the talk about quarter tones. (1920:10)

Thus, he maintained, claiming Lindeman as his witness, that “these quarter tones were related to other obscurities, which not infrequently occur in folk singing” (1925:40). Following up this line of argument, Elling maintained that absences of clarity in folk song were caused by poor performers who were lacking in musicality; “the musical ear is not sharp enough” (1920:13). Moreover, he described folk singers as follows:

people who sing a tone only now and then, thus in no way sharpening their tone feeling. [...] This impurity and obscurity, which only by chance take the form of a quarter tone but as a rule reveal themselves as indefinable pitch, simply arise from delayed development. [...] In general, the people’s tone feeling has not yet reached a conscious maintenance of either a whole-tone step or a semitone step. (ibid.:14)

In other words, according to Elling, folk or rural culture had lagged behind general cultural development; thus, folk singers were unable to distinguish consciously between the whole tone and the semitone. On this basis, reflecting the well-known idea of *gesunkenes Kulturgut*, Elling explained the deviations from art music’s tonality as the outcome of a conflict between past and contemporary systems of tonality: “The quarter-tone phenomenon is caused by tension between an old and a new tone feeling” (1925:28). This putative conflict also induced insecurity in the singer: “One feels uncertain, a consequence of which is imprecision” (1920:13).

Confronted with such imputed evidence of vagueness in folk singing, and disposed to emphasize the artistic basis of collecting, Elling ultimately concluded that collectors’ primary responsibility was to “stand the melody in its own wright” (1920:16). He similarly affirmed the supremacy of the artist’s interpretation: “It is the melody’s inherent meaning that must determine the form it is given” (1925:41).

Considering Elling’s principal views and the fervor with which he propagated them, his stance against E. Eggen and Sandvik is hardly surprising. Elling opposed them both with every means at his disposal, though his combination of personal attack and musically grounded argument betray a lack of supporting musicological evidence. He accused them of ignorance and lack of qualifications:

Mr. Eggen [...] proclaimed the famous Norwegian quarter tone [...] that folk singing the whole world around swarms with these so-called quarter tones, seems to be unknown to this new chauvinist). (1920:11)

If these two gentlemen [E. Eggen and Sandvik] had a keen eye [...] and were not simply left standing in a rut, they might have spared themselves

all their scientific discoveries. They reveal only that instead of being masters of the material, they are its slaves. (ibid.:14)

His comment concerning Sandvik's plea for the utmost exactness in transcription, that "it is only some dilettantish fiddle-faddle Sandvik deals with" (Elling 1920:15) was in a similar vein. Likewise, Elling condescendingly dismissed E. Eggen's assertion that he had heard singers performing "quarter tones":

Eggen [...] has a strange ability to find merely the poor sources. [...] People with neutral third capacity are far too unmusical on the whole to establish such a curio. (1925:34)

As if that were not enough, Elling (1925:41f) added the charge of extreme bias:

However, since Eggen maintains he has never heard anything else than semi-major sixths and sevenths, I cannot explain this in any other way than that he has gotten all this semi-ness into his brain and now hears nothing else. (ibid.:41f)

Elling's writings span an emotional range from coarse irony to uninhibited indignation. He ridiculed Sandvik's efforts to document influences from Gregorian chant on vocal folk music, stating that "those triflets Mr. Sandvik has been trying to advance are only to be laughed at" (Elling 1920:25), and probably grew most irate over E. Eggen's and Sandvik's efforts to establish the objective existence of "quarter tones." Assuming the role of defender of folk music as an art treasure, Elling bluntly stated: "I find it exasperating that such clods should deal with anything so precious as our folk music" (1920:17).

Ironically, although not without warrant, Lindeman has been cited in support of both camps. As pointed out above, both his 1850 report to the university and his extant manuscripts report on microtonal deviations from the diatonic scale, while his published folk tunes were addressed to bourgeois music lovers and contemporary composers, and thus were normalized to art music conventions. It is noteworthy that E. Eggen (1911b, quoted above) viewed his *langleik* discovery as a confirmation of observations made long ago by Lindeman (1850). On the other hand, Elling found support for his own view in Lindeman's pragmatic attitude and practice of publishing standardized versions of folk music, as reflected in numerous folk-music arrangements.

In his general survey of Scandinavian ballad research, Dal properly assessed Elling's general stance on folk music:

He is firmly tied not only to a fundamentally harmonic feeling towards the melodies, but also to a confined classical-romantic form world. Thus, musical-philological allegiance, deviations from the norms of an art music epoch, and the internal relations between variants emerge as questions of minimal or no interest to him, whereas a good melody is always an end in itself and a natural basis for piano or choir arrangements, as it was to Lindeman. (1956:193)

E. Eggen's and Sandvik's strong emphases on Norwegian folk music as a self-sufficient, autonomous body of music must be viewed as a reaction, not against Elling, but against

the conventional outsider's view of folk music, derived from art music supremacy, so tenaciously and inflexibly propagated by him after it had gradually become obsolete.

It is perhaps worth noting that Elling, with his family and educational background from Kristiania and his professional music studies in Leipzig (Ulfrstad 1926), consistently (notwithstanding his most inarticulate, emotional outbursts) argued on a formal, academic basis; to my knowledge, he never pretended to have any personal, pre-professional or pre-educational relationship to rural music culture. On the other hand, E. Eggen (1923a) explicitly professed early childhood musical experiences (presumably from his birthplace Trondheim or elsewhere in Trøndelag) as having been the background for his inspiration. Likewise, Sandvik, with a family background rooted in folk-music traditions of rural Ørsta (Gurvin 1954:235), respectfully acknowledged that his father had encouraged him to study folk music, and he started out with fieldwork in Gudbrandsdalen because "summer trips" had given him "faith in these glorious parts" of Norway (1919b: Preface).

Elling's formal approach and pretended objectivity based on conventional standards reflected not only his conservative attitude but also his urban elitist background. E. Eggen and Sandvik, conversely, combined an exploratory attitude with an investigative approach, intuitively impelled by ideas engendered through intimate early childhood contact with rural folk culture. Thus, E. Eggen and Sandvik, in both their backgrounds and their approaches, reflected the awakening insider's view of Norwegian folk music. For the time, it was indeed an extraordinary situation: nascent insiders speaking the scholarly lingo! Through their work, E. Eggen and Sandvik initiated a process of change but did not carry the insider's view to its fullest expression. Eivind Groven's achievement would play an important part in this process. Groven, a *hardingfele* player with deep cultural roots in rural Telemark, was the first to call attention to an instrument hitherto unnoticed by folk-music collectors and scholars – the long *seljefløyte*.

Oversimplifying Nature

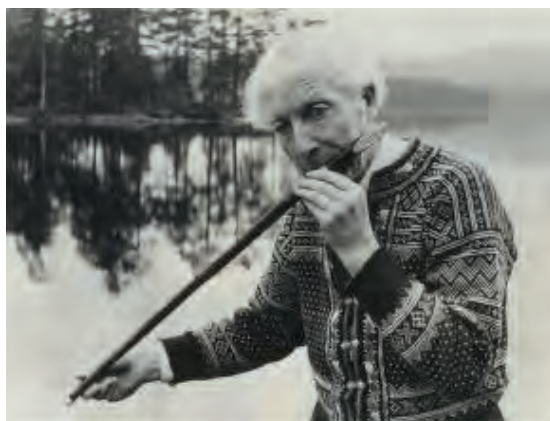
In an autobiographical sketch, Eivind Groven (1971a) has described his sociocultural background and personal history, including genealogical records since the seventeenth century. He also has commented retrospectively on his rural youth at the Groven farm in Lårdal, Telemark, and on those important experiences of childhood and youth that evoked his interest in the *seljefløyte* and eventually led to his continued folk-music studies and lifelong preoccupation with problems of tuning, temperament, and just intonation. The immediate background to his *seljefløyte* studies, drawn from an interview, has been narrated by Rachel Thomassen:

When he was four years old, the adventure began. His father, realizing that the boy was extraordinarily musical, bought him a mouth harmonica. It was not long before he played hymns, songs, and other tunes on this, but a little later, one spring day, he got to hear some beautiful, alluring tones from the neighboring farm. He was virtually spellbound by the sound and set off to find out where it came from. He was not a little surprised to see his Uncle Eivind sitting and blowing on a long willow pin. This

was his first encounter with the *seljefløyte*. It was not long before he had got himself such a flute, too, and soon he could play the same tunes he had heard from his uncle. He also tried producing these on the mouth harmonica, but it didn't work. This greatly startled him; he tried and tried again, but it proved impossible to produce flute tones properly on the mouth harmonica. His older brother played *hardingfele*. Groven immediately taught himself this art, too, and at the age of eleven years he played quite a few *slåttar* that he had learned from his uncle. He had taught himself music notation from studying his father's hymn book. He immediately made a new discovery, namely that the fiddle could be used to produce flute tones. This put him onto the idea that the scale of the mouth harmonica was incorrect, though he could not understand why. A great adventure dawned when, as a twelve-year-old boy, he received a guitar. At the same time, his brother acquired a zither with almost one hundred strings. Now, he really had something to study on. First, he learned how to tune the guitar, and then he discovered how to tune the zither, but there he encountered a new problem similar to that experienced on the mouth harmonica: some chords would sound false. (1954:5)

Groven's own retrospective look at that period in his life (1971a:29ff.) is more detailed, but essentially confirms Thomassen's story.

As a young student at *lærarskolen* (teacher training college), Groven came into closer contact with his grandfather, the well-known folklore collector Rikard Berge. Judging from his own words, that relationship and collaboration with Berge, which lasted for several years, was crucial to his later career:



Ill. 7.
Eivind Groven (1901–1977):
Composer, folk-music collector
and ardent advocate of so-
called “pure-tuned” organs.
Photo: Rana Blad/
The National Library.

We went through all the transcriptions of Norwegian folk tunes and *slåttar*. He had a library of more than 13,000 volumes. [...] It was a gold mine.

Altogether I went through 400 transcriptions of Norwegian folk tunes and, in addition, large collections of folk music from foreign countries. [...] There, for the first time, I became acquainted with Erik Eggen's writings on Norwegian folk music. [...] I was able to read about the Bronze Age *lurs*, in an article by Hammerich. There, finally, I learned about the nature scale.

Thus, I arrived at the solution to the *seljefløyte* problem. It had the nature scale. However, no one else had written about this flute, so I had it all to myself. (Groven 1971a:43)

It was Berge who taught Groven systematic study:

To me, he [Berge] was an adventure. There was an oasis at his house in Skien. We sat working for hours, as quietly as in a reading room. We saw the others only at meals. It was an apprenticeship in scientific method. (ibid. 45)

Berge, being himself an autodidact, had some advice to forewarn his young, aspiring student:

Rikard wrote me a letter when I threw myself into the cultural debate. He warned me against getting stuck in fanatic one-sidedness and thus hurting myself. (idem)

His grandfather's timely warning is readily comprehended in the light of Groven's career and writings, which I comment on later in this book.

It is significant that Groven, who had grown up amid the rich folk-music tradition of Telemark, was early aware of the music's tonal subtleties as compared with standard contemporary music and musical instruments. To his ears, as in his mind, the *seljefløyte*'s tones and those of the Bronze Age *lurs*, which possibly he had not yet heard, were different manifestations of the same "law of nature," as can be inferred from the opening statement of his *seljefløyte* book:

The existing physical and mathematical clarification of nature tones has not aimed at pointing out how they constitute a basis for living music. As for the laws of folk music, studies have yielded only fragmentary results. What we can base this report upon are Hammerich's clarification of the Bronze Age *lurs* in *Aarbøger for nordisk Oldkyndighed* 1893 and Kroman's report on that subject in the same journal in 1902, plus to some extent Eggen's book *Skalastudier. Studier over Skalaens genesis paa norrønt omraade* [Scale Studies: Studies of the Scale's Genesis in Norse Area], 1923 [1923a]. These all clarify the nature tones as produced by the *lur*. The calculations made by these [writers] seem a quite satisfactory basis to build upon. The complete nature scale, the *lur* tones 8–16 are thus mathematically clarified, and I shall not dwell further on these matters. Furthermore, since the *lur* has already been treated, by Hammerich and Kroman, I include it only for the sake of completeness. The novelties presented here are the nature tones, as produced by the *seljefløyte* without finger holes, and the technical laws for this instrument. (Groven 1927:3)

In his statement Groven established the theoretical basis for his most fundamental concept: the long *seljefløyte* as a "nature tone" instrument. A closer examination of his interpretations of Angul Hammerich, K. Kroman, and E. Eggen may shed some light upon his method and mode of reasoning. Hammerich, in his musicological study of the Danish Bronze Age *lurs*, claimed,

The tones, reigned over by the *lur*, are so-called "nature tones" [...], which exist in any tone tube, in accordance with physical laws, as overtones of the fundamental in question, so that their vibration numbers are mutually related, as in the number series 1:2:3:4:5:6:7:8:9:10, etc. (1893:177).

This simplified description of *lur* tones as identical with the perfect harmonic series – or "nature tones," as they were called by Hammerich – did not go undisputed. Kroman (1902:79f), approaching the *lur* more from the domain of "music theory or acoustics," cited Helmholtz's classical *Die Lehre von den Tonempfindungen*, and pointed out certain unexplained phenomena related to tone production in tubes. He clearly demonstrated the *lur* scales' deviations from the harmonic scale, not merely

theoretically but empirically too (ibid. 89–96, 101). This may explain why he shunned terms and concepts such as “nature scale” and “nature tones.”

Emphasizing the acoustical complexities of horns, Kroman challenged the possibility of developing a satisfactory mathematical theory, pointed out some approximations, and concluded that empirical investigations were particularly necessary. Most notably, he explicitly commented upon so-called “end correction” (ibid. 107), which, as demonstrated in Part II of this book, proves to be crucial to the acoustics and musical qualities of the long *seljefløyte*.

It is very likely that Hammerich’s simplistic, idealized model of the *lur* scales influenced E. Eggen and Groven more strongly than Kroman’s penetrating and informed analysis, reflecting current acoustical understanding of such musical instruments. Thus, a misleading system-building process was triggered.

E. Eggen made a significant step by conceptualizing “the natural’ (or ‘*lur* tone’) system” (1923a:17ff.), and by stating that *lur* tones could be produced as harmonics (“flageolet tones”) on a stringed instrument (cf. also E. Eggen 1921:70). Moreover, he maintained that “Only nature tone instruments [...] are capable of producing quite similar intervals from different sound sources” (1921:26). To be sure, similar terms and modes of expression of a somewhat dubious nature frequently occurred in musicological literature – and still do. It may suffice to mention that the prominent scholar Curt Sachs (1920:241ff.) stuck to such terms as *Naturtöne* (natural tones), *Naturtonreihe* (natural tone series), *Naturskala* (natural scale), and *Naturhörner* (natural horns), similar to those adducible from E. Eggen’s writings. This does not necessarily imply, though, that theorists such as Sachs generally employed these terms with the same theoretical implications and mathematical exactitude as E. Eggen. What matters here is that such concepts as “nature-tone instruments” and “nature scale,” as used by the latter, unfailingly implied a class of musical instruments represented by a simplified model of the fundamental frequency system based on an exact mathematical representation of the harmonic series.

Therefore, when E. Eggen (1923a:16) erroneously stated that “nature tones” and “*lur* tones” are identical, he must either have completely overlooked or disregarded Kroman’s distinction between the harmonic scale as an idealized concept and the bronze *lur* scales as measured and empirically documented. As may be inferred from Kroman (1902), the discrepancies between the harmonic scale and the resonance frequencies of cylindrical and conical resonators were familiar to and investigated by nineteenth-century acousticians. Not surprisingly, E. Eggen, being a composer and musicologist, not an acoustician, was either unacquainted with or unable to comprehend the relevant literature and related subjects by such prominent scholars as Hermann von Helmholtz and Lord Rayleigh.¹² More seriously, apparently, he was also unable to grasp Kroman’s timely clarification of fundamental acoustical problems relevant to the musical interpretation of the Bronze Age *lurs*.

This may explain E. Eggen’s oversimplifications and the inherent confusion of his concepts. Dealing primarily with the study of *langleik* scales from the calculation of musical intervals based on measurements of vibrating string lengths, he exploited Hammerich’s and Kroman’s writings primarily for his own conceptual purposes and was apparently little concerned with subtle yet easily observable and significant differences between the “nature scale” and the actual *lurs*’ scales. Thus, his error, arising

12 There are references to Helmholtz and A. J. Ellis in E. Eggen’s dissertation (1923a:4).

from superficial reading of Kroman's article, had no immediate serious consequences for his own *langleik* studies. However, unfortunately, E. Eggen's misinterpretation was to exert a decisive influence on the much younger Groven.

Although Groven did not express the case clearly, he apparently borrowed Hammerich's and E. Eggen's assumption of a one-to-one relationship between the "nature scale" and the "*lur* tones." He also took an important step forward in attributing that same scale to the *seljefløyte*. Consequently, the new concept "nature-tone instrument," as coined by Eggen, was significantly expanded, and consolidated. When Groven used the term, he was evidently thinking of a special class of instruments, which owing to their construction, acoustics, and manner of playing, could generate only mathematically exact "nature tones." Thus, Groven borrowed the concept "nature-tone instrument" from E. Eggen, and from a superficial (and misleading) interpretation of Kroman he supposed that the concept also applied to the *seljefløyte*.

As cited above, Groven assumed that "the complete nature scale, the *lur* tones 8–16" were "mathematically clarified" (1927:3) and embedded in the *seljefløyte*. His ensuing discussion unambiguously established that his concept of the "nature scale" reflected the simplified, perfect mathematical representation of the harmonic scale. He emphasized the value of "pure nature intervals," maintaining the following:

All temperament leads astray. That is decline and not development. The more one can express beauty, the further one has come. The most beautiful tone expression is wedded to absolute pure tone. Temperament is a practical illness, which has followed art-music development and which, luckily, has not infected folk music. (Groven 1927:21)

In general, Groven's stance on scales and tuning was that the "nature scale" concept made no allowance for even the most subtle approximation or inaccuracy (such as the difference between a pure-tuned and a tempered fifth, amounting to 2 cents). This view precluded any deviation from the perfect harmonic series. As judged against this background of interpreting the "nature scale" in the strictest, mathematical sense, Groven's assignment of the *seljefløyte* among "nature-tone instruments" lacked empirical evidence. Such inclusion rested upon a serious misinterpretation by E. Eggen, uncritically accepted by Groven, who was still oblivious to what Kroman had advanced.

Ironically, evidence was close at hand: Groven could easily have tested his hypothesis by means of a well-known traditional tuning procedure, and he could have compared the pitch series produced on two *seljefløyter* tuned to the same pitch on, say, tone number 8. On one or more tones, one invariably encounters the acoustical phenomenon of interference (so-called "beats"), indicating frequency deviations. By employing this simple tuning test, which requires no equipment, Groven would have been able to observe that it is in fact impossible to make two *seljefløyter* with identical pitch series (due to variations in the shape of the resonator tubes).

Groven did not employ any such controls or checks. This is the more noteworthy, since E. Eggen (1923a) had based all his own conclusions on careful measurements. Neither E. Eggen's example, nor Kroman's emphatic call for empirical studies of tube-resonator instruments (1902:96) seems to have made any impact on their successor.

Viewed against the contemporary cultural scene of Norway, Groven's fascination with the "nature scale" concept, linked with theoretical and practical studies of just

intonation and harmony appears as a new, fresh, and independent approach. However, in a wider context he was not the only one promoting such ideas. It is a curious fact that a contemporaneous music theoretician, Josef Ahtélik, in his comprehensive book *Der Naturklang als Wurzel aller Harmonien* (1922), applied the numerical relations of the harmonic series as his point of departure and general reference for a new theory of harmony. His way of thinking, as well as his results and conclusions were quite different from those of Groven. Nevertheless, one might wonder whether the strange coincidence of mutually independent but similar approaches and concepts, drawn from the same cluster of ideas, reflects a common cultural undercurrent – sentiments or mentality – of the time.

Whereas E. Eggen, in his studies of man-made *langleik* scales, had had to rely on empirical data, Groven felt no need to gather such evidence for the *seljefløyte* scale, since his basic idea was that the instrument's music sound was conditioned by extremely simple yet strict laws of nature, and was not susceptible to manipulations by man. Possibly this idea was also to some extent inspired by the widespread national romantic notion of folk music as a more “natural,” uninhibited tradition than art music. Such a mode of thinking is strongly suggested by Groven's assertion that art music, but not folk music, had been “infected” by the “practical illness” of temperament. Furthermore, this mode of thinking confirms how the concept of the “nature scale” as a ubiquitous physical principle, in agreement with sound preferences and a universal sense of beauty, embedded in the human hearing constitution, may account for Groven's unconditional belief in this principle. Such ideas are also clearly expressed in his later writings (e.g., Groven 1948:5,81).

After proffering the *seljefløyte* as a “nature-tone instrument” in his preface, Groven devoted the first chapter to the origin of scale. Following E. Eggen's line of argument (1923a:1ff), Groven (1927:6ff.) maintained that the origin of scale had to be sought in instruments, which, owing to their construction or acoustical properties and manner of playing, could afford the player only with fixed, unchangeable musical intervals. Both Eggen and Groven argued that the scales of such instruments had influenced singing and thus conditioned the feeling of tonality in vocal music.

It is noteworthy that, as evidenced by his chapter on *Naturskalaen og framtid* (The Nature Scale and the Future), Groven's *seljefløyte* study anticipated his life-long preoccupation with tuning and his repeated efforts to develop so-called “pure-tuned organs.” His deep commitment to the ideal of just intonation rests on the fundamental assumption that the “nature scale” (in Groven's strict interpretation of the concept) existed as a universal in music. He found his main support for this in the *seljefløyte*, which he considered a Norwegian representative of the class of “nature-scale instruments.” Throughout his life, he never called into question the crucial importance of his *seljefløyte* study to his later experiments and theorizing on tuning systems of keyboard instruments. This might be a reason why he was reluctant to admit that his conception of the *seljefløyte* as a “nature-tone instrument” was based on a theory that lacked empirical foundation.¹³

It is paradoxical that Groven (1927), in developing his “nature scale” concept as reflecting an autonomous folk-music aesthetic, returned to an ancient kind of numerical reductionism, an analytic procedure in which small integers and simple ratios symbolize as well as represent basic musical intervals. Thus, like E. Eggen, he

13 This was evidenced during numerous conversations I had with Groven in 1969 and 1970, at the Norwegian Folk Music Institute in Oslo.

joined the Pythagorean tradition and its offspring in the history of Western music. His approach embodied more the scientific bias of Western music theory than the boundless variety of physical nature and human culture.

Musicologists' immediate response to Groven (1927) reflected the respective stances described in this section. Although Groven's views on the *seljefløyte* scale were immediately generally accepted among folk-music scholars, his emphasis on influence from instrumental on vocal music resuscitated conflicting opinions. E. Eggen (1928), in reviewing Groven's book, was generally positive, and expressed disagreement only on details. He supported Groven's assertion that, historically, instrumental music is primary to vocal music, and that instruments with a fixed musical scale had set the standard for scales of vocal music. Significantly, E. Eggen paid special attention to the 11-12 interval, which can be easily performed on the *seljefløyte*. Not surprisingly, he defended his own methodology, based on measurements on *langleik* scales, against Groven's criticism (1927:4) that such observations referred to dead instruments, not to living music.

By contrast, Elling (1928:11), in a short polemical contribution, dismissed Groven's assertion (1927) that the *seljefløyte* had significantly influenced tone feeling: "Groven's theory is without any practical importance." Conversely, Elling maintained that the so-called "quarter tones" in vocal music were never fixed, but utterly unstable, and concluded that any influence from the *seljefløyte* on vocal music, as asserted by Groven, was without significance. In reply, Groven (1929a:4) retorted that Elling had merely expressed an opinion, not provided proof, and that it might have been more productive to listen to those "who possess some of the oldest folk-music tradition in their consciousness." An insider's rejection of an outsider's view could hardly have been voiced more clearly. Groven further cited "the old psychological truth that one [...] rather hears and understands what one's ear is used to or expects to hear." He concluded,

Is Mr. *Elling* in a proper situation to determine the oldest tonal characteristics of our folk music? No one dares answer unconditionally yes. Everyone may judge for himself and recognize that a conflict of consciousness arises upon hearing an indeterminate interval. [...] One's consciousness revolts and one assumes that what one wanted to have was intended. [...] This conflict is the first thing to emerge when a collector with "whole" and "half" steps in his ear encounters irregular intervals. Now, suppose that I accidentally know one or another situation from Mr. Elling's collecting work, which precisely elucidates this! (ibid.:14)

The elderly Elling carried discussion no further. After years of harsh polemics, the insider's view had been definitively established as the basis for a new understanding of folk music. Ironically, no one had questioned the lack of empirical evidence in Groven's *seljefløyte* study. E. Eggen's emphasis (1928) on the 11-12 interval exemplifies how Groven's theory swiftly led to the establishment and general acceptance of fundamental concepts based on a deficient comprehension of the acoustical distinctive quality of the instrument.

Issues and Objectives

When I was a boy, I used to make short flutes or whistles – *plysterpipa* – from willow. In springtime, when the sap was rising, I would cut a straight piece of a branch or a sprout. To loosen the bark, I hammered repeatedly with the knife handle, at the same time saying aloud, repeatedly, a magic rhyme or chant:

| | |
|----------------------------|--------------------------|
| <i>Sælje, sælje</i> | Willow, willow, |
| <i>løyp te mæ i år,</i> | peel for me this year, |
| <i>så ska æ løyp te dæ</i> | and I shall peel for you |
| <i>te næste år.</i> | the coming year. |

(From Namsos, Nord-Trøndelag late 1940s.)

I do not know, and probably will never find out, exactly when or from whom I learned this rhyme. But I am certain that I “always” used it and that I was convinced that by so doing I increased my chances of success in making a good flute, while sometimes wondering about the real meaning of the last, seemingly meaningless phrase: “and I shall peel for you the coming year.” Ethnological evidence reveals that the *long seljefløyte* (Ill. 51), about which Groven (1927) wrote, and the short bark flutes or whistles still made by Norwegian youngsters during springtime, relates to the same cluster of traditions. Thus, when as an engineering student I became interested in, and soon grew somewhat suspicious of Groven’s theories about the sound of the *long seljefløyte*, the topic naturally called up happy memories from my early childhood. Conversely, my specific personal background added to my attraction to this fascinating instrument.

During 1967 and succeeding years, when I made numerous frequency measurements of *seljefløyte* scales, Groven used to visit the Norwegian Folk Music Institute (where I was working) quite regularly, and I had ample opportunity to present my ideas and available evidence to him. He listened patiently, but apparently it was extremely difficult for him to admit that he had been unaware of substantial deviations from the perfect harmonic scale in the *seljefløyte*. On the other hand, he might have had his suspicions. After some time, he came to my office one day and disclosed that as early as 1936, during a visit to Berlin, he had had some frequency measurements made by M. Grützmacher and W. Lottermoser at Physikalische Reichsanstalt. The measurements were scant and rough, and Groven himself was unable to interpret them acoustically. I explained to Groven how the measurements, notwithstanding their inaccuracies, could be sensibly interpreted as systematic deviations from the harmonic scale, congruent with what I had already pointed out theoretically and empirically. A few years later, when Groven published the data, he ventured an explanation, stated in elementary physics terms. His formulation that in the closed *seljefløyte*, “there is a *vacuum* between the finger and the end of the sound wave, so that the air stands still here” (1971b:106) appears confusing. This statement was published when he had reached the age of seventy, after I had presented my basic observations and conclusions to the Scandinavian musicological community and to Norwegian folk-music circles (Ledang 1970, 1971). I had also explained my findings to Groven himself in detail and as thoroughly as possible, including necessary references to the basic acoustics of tube resonators.

The assertion that Groven had obtained measurements at least by 1936, which he acknowledged to me in the late 1960s, is perplexing. Here he had faced hard evidence



that the empirical basis of his theory about just intervals in the long *seljefløyte* was failing. Apparently, no such awareness is reflected in his writings.

Groven's theory of "nature tones" as corresponding to just intonation, and his lifelong, unreserved argumentation for this comprehension, bears witness to an extremely firm conviction, which unfortunately prevented him from pursuing a more critical, scholarly approach to the problem of *seljefløyte* scales. Throughout his life, he remained faithful to his original idea of the mathematically perfect "nature scale" as a universal in music, embodied in the *seljefløyte*. Apparently, he did not miss any opportunity to expound the *seljefløyte* as a "nature-tone instrument" (1945, 1948, 1953, 1971a, and 1971b) and developed his principal ideas without ever questioning his basic assertions.

Surprisingly, no critical examination of these ideas had been attempted before the present project was begun. Musicologists and lay people have quite readily tended to give credence to Groven's views. As a connoisseur of the Telemark folk-music tradition, a prominent *hardingfele* player, and an ardent collector of folk music, Groven attained a natural authority, and he promoted his views on the *seljefløyte* assertively in a variety of contexts.

Writers propagating Groven's views had scarcely any awareness of the confusion of ideas behind his concept of the *seljefløyte* as a "nature scale instrument." Despite its lack of scholarly empirical or theoretical evidence, his notion with all its implications has affected an unknown number of written accounts on the instrument. This idea has found its way into musical dictionaries (Gurvin & Anker 1959:744, *Musikkens verden*

Ill. 8. Christian Skredsvig's painting "Gutten med seljefløyten" (The boy with the seljefløyte, 1889) is a colorful, naturalistic picture of the long seljefløyte in its original rural context. Although an artist's interpretation in national-romantic vein, the painting seems to convey in every detail a true representation of the seljefløyte-playing boy. One might well imagine he is playing as a pastime, while herding cattle. The site depicted is Dælivatnet, north of the farm Fleskum in Bærum, Akershus.

1963:2776f) and popular scientific literature (Gurvin 1950:51-53, Greni 1968:45, Moe 1955:18), as well as textbooks (Benestad 1968:50, 179, Grinde 1981:89) and musicological papers (Moeck 1951:22, 1954:69), as well as a vast amount of writing in newspapers, magazines, folk-music publications, and various mediation through radio, and television. It has even spread into primary sources. A typical example is furnished by the following response of the collector and informant Truls Ørpen to a NEG questionnaire:

Since many of the old *slåttane* in this *bygd* [Krødsherad, Buskerud] are *naturtone* flavored, with *kvarrttonar*, several of them are surely transferred directly from *seljefløyte*. (NEG 763)

It is painful to assess the consequences of this process, which might be viewed as a case of myth making (Ledang 1975). However, the myths spun around the *seljefløyte* do not have any societal function in transcending reality. They function more like substitutes for knowledge and thus constitute obstacles to objective assessment of the *seljefløyte*'s musical qualities. The myth of the *seljefløyte*'s "nature scale" has uncritically been accepted and disseminated by musicologists and other supposed experts, and thus has found general approval among performers, folk-music enthusiasts, and the general public.

The original goal of my *seljefløyte* research was a thorough assessment of Groven's 'nature scale' theories. During my studies, I have been repeatedly surprised by the realization that a study of the instrument embraces several noteworthy problems and issues that are well worth in-depth examination. Gradually, the idea of a more general approach developed, one that eventually led to the present monograph.

Since the nineteen-sixties, the long *seljefløyte* has to a certain extent been replaced by similar flutes made of plastic, metal, wood, or other more durable and stable material than the fragile, delicate, and brittle bark (Ledang 1984a). In this process of change, the use of the term *seljefløyte* has acquired a wider and diluted meaning, deprived of the significance related to the traditional organic raw material. The basic physical difference between a traditional bark flute—hand made in situ from organic, living matter – versus a similar plastic flute and the like—mass-produced from industrially processed and stable substances – gets blurred and, ultimately, loses significance. This has far-reaching consequences for the cultural practices and expectations embracing the instrument. In the present book, the term *seljefløyte* is consistently used as a generic name for various kinds of traditional bark flutes, including long, overblown¹⁴ flutes without fingering holes. Conversely, the various substitute flutes made from more durable material and traded under the traditional term *seljefløyte* – widely known from mass media and the culture industry – are not included in the present study. The modern plastic "*seljefløyte*" is in some respects similar to the traditional long *seljefløyte*, but the dissimilarities regarding performance stability, sonic predictability, the maker-player complex, and cultural matrix are considerable. Hence, there are obvious reasons why the present monograph is limited to the longstanding and viable bark-flute tradition, inclusive of the long *seljefløyte*.

Nowadays, the *long seljefløyte* plays a modest, though not unimportant, role in Norwegian culture. Whereas the contemporary plastic version, marketed through

¹⁴ Overblow, "To blow a woodwind instrument so hard that its notes are stepped up from basic pitch." (*The Oxford Dictionary of Music* 1994:648)

commerce and mass media is increasingly well known, the awareness of the long *seljefløyte* as a unique traditional instrument with a distinct repertoire still seems to be shared by only a limited coterie. Furthermore, the popular concept of the *nature-scale* – with its seductive simplicity and mathematic unambiguity – may add a mythic-like quality to the overblown flute.

Generally, Groven's *nature scale* concept has had a particular appeal to a broad public of folk-music lovers, enthusiasts, and connoisseurs. The need for revision and updating of Groven's *seljefløyte* concept was initially the basic justification, though not the only one, for the present study. Several other aspects deserve mention. For example, the *seljefløyte* and its hardware offspring play an important role as part of the folk-music heritage preserved and cultivated by such idealistic organizations as *Noregs Ungdomslag* (Norway's Youth Society) and *Landslaget for spelemenn* (National League of Fiddle Players). Since the late nineteen-sixties, the metal or plastic offspring of the instrument has also engaged the interest of several young ballad singers and other musicians, and thereby has been introduced into popular music. The prominent contemporary Norwegian composer, Arne Nordheim (1931–2010), has included traditional *seljefløyte* recordings as basic sound material for electronic music (cf. his studio production to Henrik Ibsen's play *Peer Gynt*¹⁵), and in its modernized version, the instrument occasionally emerges in a variety of Norwegian mass-media contexts. Since the nineteen-seventies, it has even popped up abroad in international contexts of jazz and meditation.

Thus, despite its humble ancestry and simple appearance, the instrument is not without importance. Indeed, through its presence in various subcultures and music activities, the *seljefløyte* mirrors significant aspects of past and contemporary Norwegian society. From a more general ethnomusicological point of view, a study of this unpretentious looking flute addresses problems, methods, and findings worthy of dissemination across a global spectrum.

In recent studies of the *seljefløyte*, the focus has changed from preoccupation with the physical basis of tone production to a more general approach, especially the instrument's uses and functions, in historical perspective as well as in contemporary culture. Thus, I have arrived at a concept of the *seljefløyte* that is equivalent to the broad approach to organology most clearly expressed by Mantle Hood:

Organology – the science of musical instruments – should include not only the history and description of instruments but also equally important but neglected aspects of “the science” of musical instruments, such as particular techniques of performance, musical function, decoration (as distinct from construction), and a variety of socio-cultural considerations. (1982:124)

More and more, I aim to achieve a kind of self-contained, holistic understanding of the *seljefløyte*, reflecting – as in a microcosm – the interplay of nature and culture, and of history and society, through this humble-looking bark flute. Thus, in this regard, a musical instrument serves as focal point for a more general study, embracing physical and musical sound, and musical behavior and ideas in a broad historical and sociocultural context.

¹⁵ I am indebted to Arne Nordheim for offering an audiotape copy of his electronic music for *Peer Gynt*.

Towards this goal, my main challenge has been to produce, collect, and integrate, joining in a consistent way a multitude of fragments, drawn from diverse areas of knowledge. This process has required synthesis: bits of information and understanding, variously acquired, have been assembled as in a huge mosaic.

My research strategy for these studies has been based on the following three methodological categories, which reflect the distinctions between the humanities, and the physical and social sciences

1) *A core of conventional methods from humanistic research fields:*

- Fieldwork, involving tape recording of music, interviews, and other spoken utterances, integrated with
- Transcription work, analysis, interpretation of the material, and comparative, cross-cultural studies, and
- Critical examination, analysis, and interpretation of printed and written sources, and archival studies.

These methods, generally of a qualitative nature, belong to the *seljefløyte*'s historic dimension or, more specifically, to a dimension of tradition and change comprising such topics as the instrument's uses and functions, its traditional context in rural society, and recent processes that have culminated in contemporary institutionalization of the plastic flute. These also include some approaches specific to musicology or ethnomusicology, such as studies and analyses of playing technique, repertoire, musical structure, and behavior of the instrument, as experienced through playing. In this connection, I should emphasize the importance of practical experience to the research object, including the tacit knowledge embedded therein. My own childhood background and continuous personal involvement with making and playing *seljefløyte* have been not only powerful incentives behind the present monograph but have also significantly influenced the research process, for example through the conscious application of introspection in connections where this has seemed appropriate.

Within this general ethnomusicological context, several other approaches have been followed, and are described as follows

2) *Methods and techniques borrowed from the physical sciences*

Most of these naturally address more general problems of sound production in flutes but in the present study are directed towards illuminating certain acoustical questions and aspects important for an assessment of the musical qualities of the *seljefløyte*, and for improved understanding of the general concept of the *seljefløyte* in Norwegian society and culture. In each case, these methods and techniques have been tailored or modified to address the specific problem in question. Finally:

3) *Methods and approaches borrowed from or influenced by the social sciences*

These include interview procedures and the design and application of questionnaires in collecting data, and models and concepts borrowed from social anthropology, aimed at description and analysis of recent historical developments.

In general, methods, techniques, models, and concepts from the natural and social sciences may make up a useful toolbox in a musicological context. The use of such tools in the present study is not only desirable but also inescapable. It is only through this kind of combined, integrated, interdisciplinary approach, or *methodological pluralism*, that it is possible to get closer to a comprehension of the compound process whereby an almost forgotten instrument is revived in contemporary society. Consequently, each method, technique, model, and concept must be adapted and applied in a way that promotes such comprehension. As ultimate goal, the different approaches should

enrich and sustain each other in the quest for a vision – or rather, “audiovision” – of a bark-flute world. Conversely, synthesizing activity should add meaningful insights into phenomena that appear meaningless when taken in isolation.

Guidelines for the use of ideas and practices borrowed from other academic fields are not easy to formulate. Through the research process, I have developed an *eclectic* and *pragmatic* point of view. Thus, in the present study, the selection of appropriate methods and techniques has been based mainly on an assessment of their *relevance*, *explanatory potential*, and *importance*, with respect to the relevant musicological problems involved.

Every method, technique, model, and concept borrowed from another discipline needs to be applied, and sometimes modified, with great care and critical judgment to avoid infringing upon the distinctive quality of ethnomusicology, conceived as a field of humanistic studies. My primary concern is that the research process should be more a matter of how to handle *ideas* than of methodology per se: ideas should generate approach and methods, rather than the reverse. Thus, the researcher must be capable of assessing how ideas borrowed from different areas of thinking can be meaningfully brought together and integrated within a humanistic perspective. During the research process, one is constantly exposed to situations requiring choices among alternative methods and approaches. Herein, there lie both challenges and dangerous pitfalls.

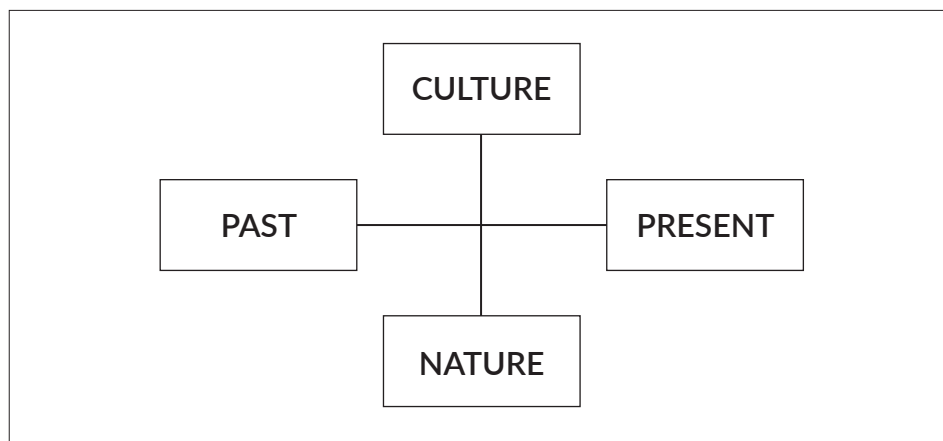
When the method or model generates the problem, one may easily be led astray. For example, a fascination with applied laser optics might tempt one towards comprehensive studies of the vibrational patterns of the tube wall in flutes. This might be both interesting and meaningful in an acoustical or mechanical context,¹⁶ but considering their extremely small amplitudes, carrying such explorations too far would amount to a kind of “pocket fluff” research within a musicological context.

Another potential stumbling block is the comprehensive gap between the natural sciences and humanistic studies, rendering productive interaction of ideas and methods challenging. Beyond the large *conceptual* gap between measurable acoustical parameters and subjectively perceived sound qualities, it is also impossible to establish an empirical one-to-one relationship between, say, frequency and pitch. Thus, in dealing with relationships between acoustics and music, one ultimately must lean on *interpretations* of physical relationships. Similar situations possibly exist among the everyday experiences of any musicologist applying ideas, methods, and concepts from the social sciences within studies of music in culture.

The recurring question of interpretation points to the present project’s humanistic core. Accordingly, important keywords in connection with methodological pluralism, such as “relevance,” “importance,” and “explanatory potential,” are to be comprehended in relation to the final goal: *general comprehension and an appraisal of the seljefløyte – understood as the Norwegian generic term for bark flutes in general – in historical, cultural, and social perspective.*

From an idealized point of view, a more unified approach to the *seljefløyte* might have been preferable to what I have been able to accomplish. However, given the complexity and diversity of a man-made object such as a musical instrument in its multitude of contexts, hardly any other practicable path to general understanding than methodological pluralism and eclecticism would appear to exist. The basic problem of the conceptual gap between the physical sciences and the humanities

16 Løkberg and Ledang (1984).



III. 9.
The tension versus time model.

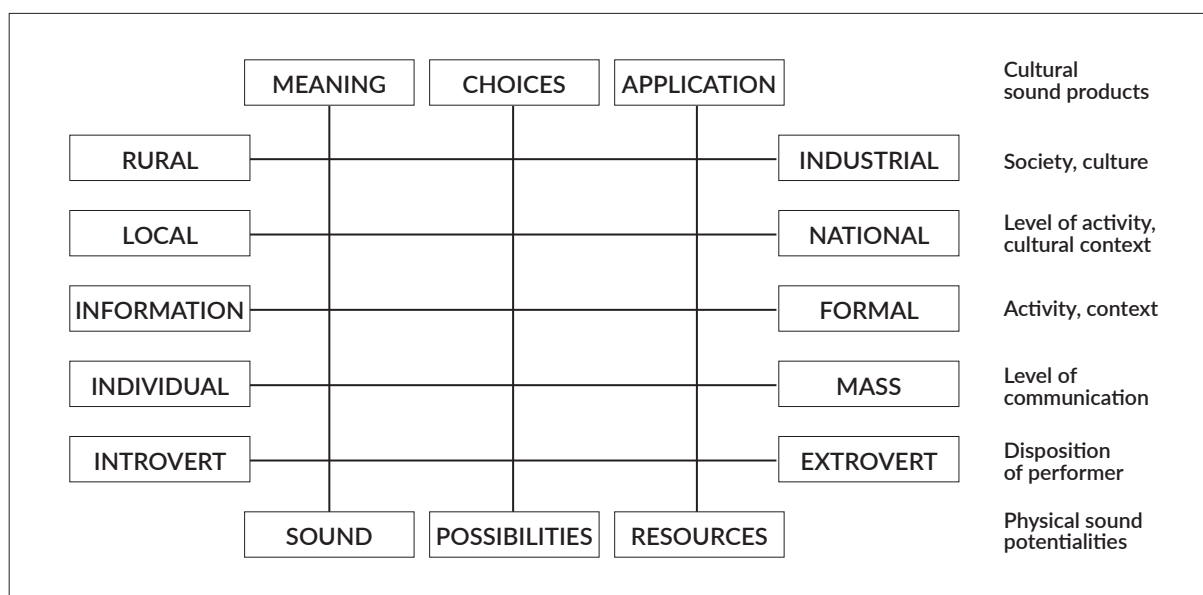
is deeply embedded in fragmented, compartmentalized Western thinking. Since this fundamental schism is manifest in my own cultural, social, and educational background, it must necessarily be strongly reflected in the present monograph. Such impediments to understanding are also reflected in the interdisciplinary nature of ethnomusicology.

Yet another problem related to this methodological dilemma warrants mention. Methodological pluralism, like any other interdisciplinary activity, ideally requires that one be equally conversant in all disciplines from which constructs are borrowed and employed. In my own case, such a requirement has seemed utterly utopian, since I lack thorough professional grounding in the social sciences, as in a wide range of relevant humanistic fields. Consequently, several interesting aspects of the *seljefløyte* related to music psychology, cultural geography, philosophy, and religion, are loosely touched upon in this monograph. Such lacunae may prove a spur to further research.

Two simple, time-honored conceptual pairs, the nature-culture, and past-present dichotomies, embody the main perspectives of this monograph. While the nature-culture dimension applies to generative potentialities and to forces enclosed in a matrix of nature and culture, the past-present dimension represents the historical context within which relevant formative processes (involving music sound, ideas, and behavior) unfold. Thus, these dichotomies interlock, as illustrated in the “tension-versus-time” model shown in Ill. 9.

The simple model roughly outlines the research field, as well as connoting explanatory potential. However, its usefulness consists primarily of the way it serves as a means of systematizing and making order out of a multitude of information fragments, to enable the bringing together of disparate data from different fields of knowledge in a meaningful and coherent manner.

In general, the nature-culture axis represents a dichotomy transcending humanistic and social realms. Although “culture” appears to be a more widely used concept in current ethnomusicology, the “nature” concept, even in its more restricted biological sense, is not without significance. Thus, Walter Graf (1980:224ff.), in his discussion of “Biologische Wurzeln des Musikerlebens” summarized various aspects under a similar dichotomy: *biologische Unterbau* vs. *kulturelle Überbau*. In the present context, “nature” should be understood in the most direct sense as physical nature. The *seljefløyte* is here conceived as a man-made product, reflecting man’s ability to adapt natural resources and nature’s laws within a cultural and social context.



III. 10.
Applications of the tension
versus time model.

Nature not only supplies the raw material for flute making, but also defines acoustical potentialities – and boundaries – for the culturally conditioned sound system. While manipulating and exploiting these acoustical potentialities, man attributes meaning to sound, and physical sound becomes music sound. In the latter instance, through this constant struggle man reveals his desire and ability to work against nature's limitations: his creativity or imagination appears to be the final limiting factor, constantly striving against nature's physical boundaries and conditions. Thus, the nature-culture dichotomy is viewed as a *field of tension* between nature's potentialities and man's desires and abilities. Within this field of tension, the *seljefløyte* and the symbolic system surrounding it are constructed, maintained, and altered. The past-present axis (see Ill. 9) represents the historical perspective from a distant past to contemporary society. Along this diachronic horizontal line, relevant formative processes of maintenance and change are viewed in terms of the vertical, synchronic nature-culture dimension.

The general nature-culture dichotomy encompasses more specific dichotomies, such as sound-meaning, possibilities-choices, and resources-applications. Likewise, the past-present dichotomy embraces more specific ones, such as rural-industrial, local-national, informal-formal, individual-collective, and introverted-extroverted. Thus, a specific model (Ill. 10), as applied to the *seljefløyte*, can be made more tangible, and differentiated.

Each of the vertical dichotomies in the applied tension-vs.-time model can be studied, interpreted, and analyzed as related to one another and to any of the horizontal ones. Consequently, the model implies ways to relate its different elements to one another. From this, it follows that the model generates a richness of available focusing points or guidelines that can be applied to study how different aspects and variables relate to each other, no matter how diversified or disparate they might appear at first sight. To follow up all such possible research directions would be beyond human power and probably not very meaningful; some directions would be more interesting than others and some might turn out to be trivial. As a matter of fact, my research process to a large extent has consisted of making relevant choices

within this matrix, i.e., selecting some focusing points and directions of inquiry that appear most adequate and promising – and challenging. It would be ostrich-like not to acknowledge that such choices also depend on methodological considerations of practicability and possibilities.

Generally, the tension-vs.-time model transcends, and to some extent explains, the way this book is organized. By bearing this model in mind, the reader may be continuously reminded that although fragments of understanding and pieces of information are treated separately in individual chapters and sections, they should ultimately all be understood and considered as integral parts of a whole. Unfolding this whole – a bark-flute world – is what this monograph is directed towards.

In this introductory part, I have outlined relevant research, leading up to the introduction of the *seljefløyte* into Norwegian folk-music research. Hereafter, there are three main parts in the book, followed by a conclusion.

Part I, “Product of Culture: A Legacy from the Past,” is concerned with folkloristic, ethnographic, and historical perspectives. Based on archival literary studies, and my own fieldwork efforts, the section is methodologically centered on analytical and critical methods of inquiry, focused on *seljefløyte* tradition assessed as a significant cultural legacy.

Part II, “Laws of Nature: The Acoustical Basis,” treats the instrument’s sound production mechanism from a physical viewpoint and is centered on classical acoustic theory and empirical investigations. The section takes up frequency measurements and spectral analysis of *seljefløyte* sound, together with an experimental approach to the scale’s dependence on flute design.

In Part III, “Aesthetic Ways: Music Usage,” I try to assess the *seljefløyte*’s musical repertoire and its uses from two different angles, one cultural and the other related to the physical world. Thus, analysis and discussion integrate cultural and physical aspects with the study of basic musical structure, conceived as a symbolic expression of human values embodying meaning and purpose. It draws on historical sources and data gathered through fieldwork, a survey study, and results obtained in Parts I and II. Methodologically, Part III is centered upon analysis, explication, and the interpretation of ideas and of music as symbolic expression.

The concluding part “Finality: Counterpoints” is an effort to conjoin disparate elements from Parts I, II, and III into some sort of tentative conclusion. Worked out during contemplative retirement years, it ends with some frank thoughts and pondering on the bark-flute world.

I. PRODUCT OF CULTURE: A LEGACY FROM THE PAST

I embarked upon my *seljefløyte* studies at a time when current cultural practices in Norway tended to reflect a deplorable lack of general historical consciousness towards certain folk traditions, as compared with other facets of our artistic and intellectual heritage. For example, the cultivation and promotion of folk music in Norway by idealistic organizations such as *Landslaget for Spelemenn* (The National League of Fiddle Players) and *Noregs Ungdomslag* (Norway's Youth Society) tended to generate a concept of folk music and dance as a frozen repertoire of music and dances preserved from a mythic "Golden Age" of pre-industrial, rural society. In this, they found support in scholarly literature. For example, in his standard work *Norsk musikkhistorie* (A History of Norwegian Music 1981:77ff.) Nils Grinde includes a chapter on folk music, which he views primarily as the musical forms and instruments used in rural society during the nineteenth century. This is, of course, a most conspicuous way of presenting folk music – not on its own terms, but rather as a convenient background for Edvard Grieg and other national-romantic composers. Even if the historical dimension are touched upon, the overall effect is a static picture of traditional music in Norway just before the advent of industrialism (keyword: the accordion) and mass media (keyword phrase: the African-American wave).

A similar lack of critical historical reflection on folk culture was betrayed in Eivind Groven's somewhat facile generalization, seemingly based entirely on his own local *seljefløyte* tradition in Telemark:

This instrument, the flute, evidently developed over a long period alongside the *lur*, but eventually replaced it. In any case, the keyless *seljefløyte* is nowadays more common than the long *lur*.

To judge from the deep imprint this kind of flute has made on our melodies, either the keyless *seljefløyte* has been made and used every spring, across the country, generation after generation, or a similar wooden or metal one has just as likely been in common use. (1927:7)

Thus, devoid of historical evidence, Groven's hypothesis of the possible existence of a "wooden or metal" flute similar to the long *seljefløyte* has been prudently passed over in silence by Norwegian folk-music scholars. It is perhaps symptomatic that the first to reject the hypothesis openly might have been the German musicologist Hermann Moeck (1954:69).

Against this background, a general historical perspective on the *seljefløyte* takes on importance. However, our opportunities to establish such a perspective are limited by two major obstacles. First, bark is a rather perishable material, to such an extent that the chances of discovering any archeological evidence of bark flutes (in contrast to bone and wood flutes) are practically nonexistent. Second, the making and use of bark flutes seem to have escaped the interest or observation of history writers,

possibly because of the tradition's unpretentious mode of existence within children's culture and the societal complex of mountain farming. The lack of older historical and archeological sources makes the task of creating a historical perspective somewhat intricate: we must rely mainly on folkloristic and ethnographic evidence.

Nowadays, bark flutes in the traditional context of rural life and mountain farming in Norway are history. Studies of this culture must mainly be based on literary sources and archive materials. One may only hope to find the last, scattered traces in the memories of elderly people, who themselves experienced the tradition a lifetime ago. For obvious reasons, fieldwork has played only a limited role in the present study, and it pertains mainly to the handful of old-timers I have been able to locate. To some extent, this has to do with the circumstance that originally the focus of this monograph was more on the long *seljefløyte* than on the abundance of bark flutes that reflect a more widespread and still vivid tradition. Equally important is the fact that, in general, the surviving bark-flute traditions of our time have already been documented quite extensively in folkloristic and ethnographic literature and archives. Some of this material is the outcome of comprehensive, systematic collection on a national scale.

Thus, the lack of historical evidence for the *seljefløyte* is to some extent compensated for by the surprisingly rich oral traditions pertaining to its uses and functions, some of which have survived well into post-war Norwegian society. A considerable body of material has been collected since the late 1940s by Norsk Etnologisk Gransking (NEG, Norwegian Ethnological Research) through questionnaires mailed to study participants throughout the country. Some material collected since the late nineteenth century is maintained in the archives of Norsk Folkeminnesamling (NFS, Norwegian Folklore Archives) at the University of Oslo and in Arne Bjørndals Samling (AB, Arne Bjørndal's Collection) at the University of Bergen, and some is found in published literature. Although scholars have occasionally been confronted with intriguing problems of interpretation of such archival material (cryptic and self-contradictory statements do occur), in general it provides valuable factual knowledge about folk traditions and folk culture, which has been extensively used in this study.

Also important in this connection is the huge body of literature in the form of the *bygdebøker*, which are books on regional rural culture and history. Such literature, dating back to the late nineteenth century, covers various aspects of local traditions and constitutes a voluminous source. One can occasionally find scattered references to traditional music practices and instruments. Some *bygdebøker* also contain one or more chapters especially devoted to folk music. I include here only intermittent references to these sources.¹

Altogether, available archival materials and scattered literary references constitute comprehensive and invaluable documentation of Norwegian rural traditions as a cultural matrix of practices and beliefs associated with bark flutes.

In the following survey of bark-flute heritage in Norway, attention is drawn to the question of regional variation. Information on provenance and regional distribution of certain phenomena is presented with general reference to the 1964 administrative division into *fylke* (counties) (cf. Ill. 11), prior to their merger from 19 into 11 counties in 2020.

¹ Some of these have been traced by means of two helpful register volumes, respectively by Solheim (1943) and Skjelbred (1983), which refer to the folklore series *Norsk folkeminnelags skrifter*.



III. 11. Counties of Norway, prior to their reorganization starting in 2020.

Typology

In English texts the Norwegian term *seljefløyte* has been rendered as “willow pipe.” This is an inadequate translation for two reasons. First, *selje*, which refers to *salix caprea*, the European variety of willow, is a more specific term than willow, which refers in a more general way to “a deciduous tree or shrub of the genus *Salix*” (*Webster’s II New Riverside Dictionary* 1984:1319). Second, the designation *fløyte* as it occurs in *seljefløyte* consistently refers to a whistle flute, while the term “pipe” is more ambiguous. Following Moeck’s practice (1951:21, 1954:68) of combining Norwegian and German (“Seljeflöte”), one could, of course, (as I did for years) use the term *selje-flute*. I am no longer comfortable with such a polyglot term; indeed, I prefer not to attempt any translation. Accordingly, I stick to its original Norwegian name, a solution, which at least avoids the risk of confusion.

To be sure, even *seljefløyte* may have several meanings. As used in familiar language, it often denotes a tiny whistle flute with internal duct, of the common type made by youngsters from a twig or branch of willow or other deciduous tree during springtime and early summer. A basic typifying quality is the process in making the instrument, which focuses on stripping the bark from the piece of wood. The process demands intimate knowledge about the natural material from which the flute is made, besides skill in whittling fresh, “wet” wood. The most demanding and critical part of the making process starts as follows,

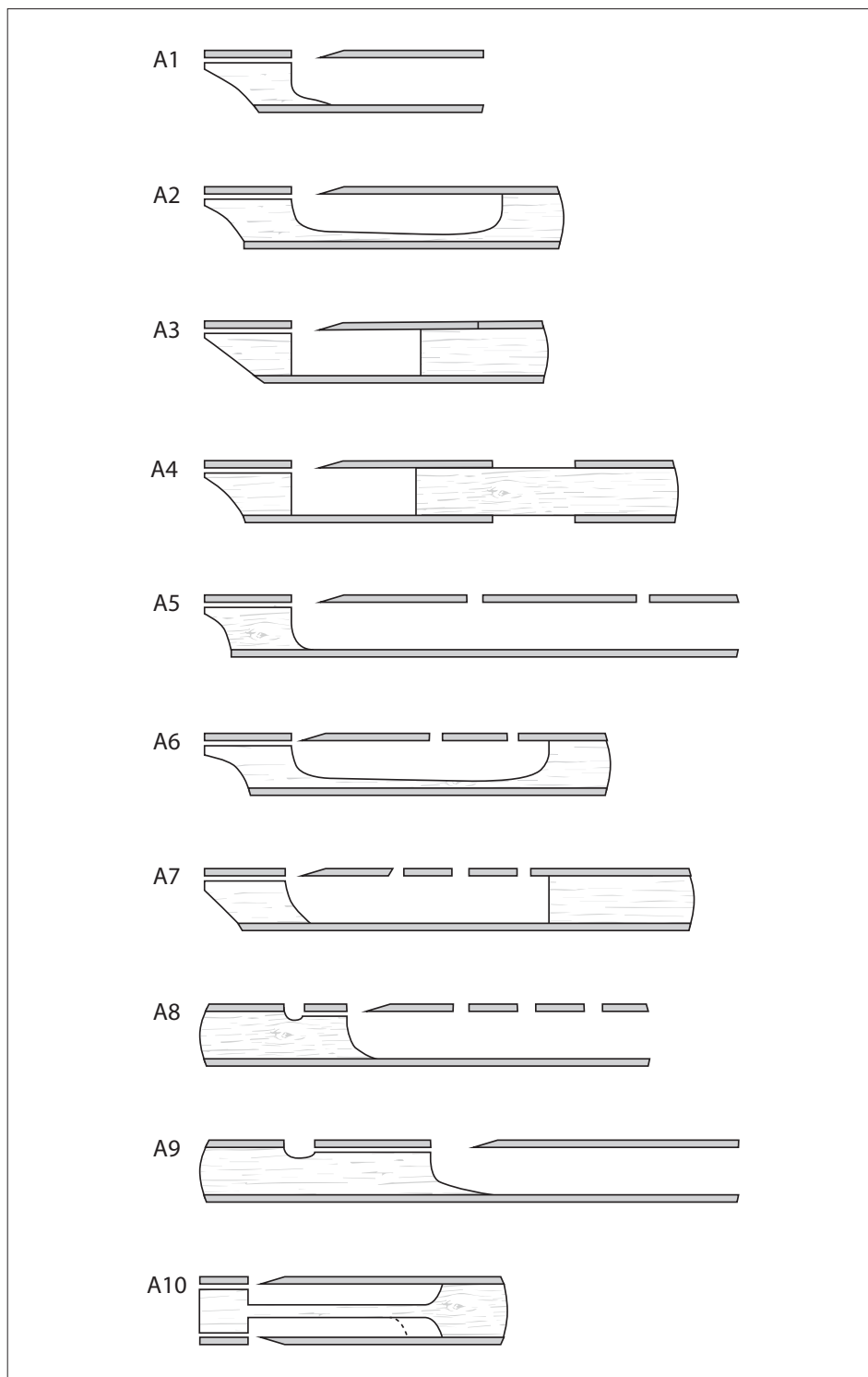
by stripping the bark, as an intact cylinder, from a small branch or twig. In the Temperate Zone, this operation can only be performed during the period of annual Spring-growth; and bark is only to be stripped from dicotyledonous trees, such as willow, poplar, etc., or from gymnosperms such as pine and fir. These are the only trees that undergo annual growth as a result of the activity of an internal, cylindrical layer of cells, the cambium, which lies below the surface of the trunk, branches, and twigs. In Spring (and, at higher altitudes, in Summer) the cambial cells undergo rapid multiplication, so that they form a hollow cylinder of turgid, sap-filled cells, lying beneath the outer, cortical layers of the bark, and external to the wood. Because of the mechanical fragility of this cambial layer, it can easily be ruptured, either by shear (under the application of a torque) or by gentle bruising followed by shear. It is this physical property that makes possible the removal, intact, of the external bark-cylinder as a pipe or tube. (Picken 1976:297)

A systematic and typological classification of the *seljefløyte*, as well as its historical and sociological aspects, has been dealt with by Moeck (1951:21ff., 69f). In his discussions on typological marks of whistle flutes (1967:11f, 1969:47f) he comprehensively demonstrated different designs of the mouthpiece but did not include protruding mouthpiece, a characteristic feature of the long *seljefløyte*, although this instrument was included in his material (1969:66). Oscar Elschek (1969:28) similarly omitted any mention of the protruding mouthpiece in his general survey of different *Anblasvorrichtungen*, despite the significant consequences of the protruding mouthpiece for the flute design itself, and even more for the manner of playing it. Reidar Sevåg (1969), in his survey of Norwegian whistle flutes, described different

types of flutes found in our folk-music tradition, including the most common types of *seljefløyte*.

The generic term *seljefløyte* comprises the flute types shown in Ill. 12. Based on this typological classification, one may distinguish ten archetypical varieties of bark flutes documented in Norway.

Archetype A1 is an end-blown, open whistle flute without finger holes, in which the air is directed through a simple, beaked mouthpiece against the sharp edge of a crescent-shaped hole cut in the pipe just below the mouthpiece. Its length is usually



Ill. 12. Various archetypes of bark flutes known in Norway. Schematic outline, lengthwise section.

less than 15 cm but may extend to 50 cm. Short A1 flutes are capable of producing one or two pitches, whereas longer ones, by means of overblowing and fingering on the end opening, can produce a few high-pitched notes. There are no reports of these few pitches having been used for making melodies. The A1 type is well known throughout Norway, which may explain why only a few scattered NEG responses specifically mentioned it, notably in Troms,² Hedmark,³ and Østfold⁴. An extremely long flute, of about 50 cm, and capable of producing a substantial series of pitches, was reported as used in Vest-Agder.⁵

Archetype A2 is a closed whistle flute with beaked mouthpiece, made from a continuous piece of wood inside the bark tube and without finger holes. Usually, it can produce only one pitch. The length of the resonator space usually does not exceed 4–5 cm. This type is documented in Nordland,⁶ Nord-Trøndelag,⁷ Møre og Romsdal,⁸ and Sogn og Fjordane.⁹ It is probably more widespread. An unusual variety, with a tiny, wooden pellet moving freely in the resonator, to create a rolling sound, is reported in Møre og Romsdal.¹⁰ With regard to my Namsos tradition, I remember my own delight upon adding a little water and a wooden pellet into the flute, to make a more live sound.

Both A1 and A2 are among the most common types of *seljefløyte*, and they are known from many different places. People can still be widely observed making these kinds of bark flute during springtime. I have met adults from cities, towns, and the countryside who like to make these kinds of flute. It seems that this practice is a vivid part of contemporary folk tradition in Norway, as evidenced by numerous references in the NEG material. Possibly A1 and A2 archetypes hide behind some NEG responses referring to unspecified bark flutes in Finnmark,¹¹ Troms,¹² Nordland,¹³ Nord-Trøndelag,¹⁴ Sør-Trøndelag,¹⁵ Møre og Romsdal¹⁶, Sogn og Fjordane¹⁷, Hordaland¹⁸, Rogaland¹⁹, Vest-Agder,²⁰ Aust-Agder,²¹ Telemark,²² and Oppland²³.

2 NEG 942.

3 NEG 18214.

4 NEG 18331.

5 NEG 19322 and 18458.

6 NEG 18542.

7 NEG 1336.

8 NEG 18291.

9 NEG 18459.

10 Høeg 1976:575.

11 NEG 18420 and 18543.

12 NEG 4641.

13 NEG 1278, 1950, and 3424.

14 NEG 837 and 940.

15 NEG 903, 1119, 1280, 1314, and 18303.

16 NEG 844, 1182, 1539, and 2957.

17 NEG 1635 and 18361.

18 NEG 785, 798, 1256, 1499, 1543, and 1720.

19 NEG 804, 18203, 18204, 18248, 18283, 18334, 18349, 18391, 18412, 18466, and 18508.

20 NEG 827, 857, 982, 1153, 1279, 1524, 4803, 18329, and 18394.

21 NEG 17695.

22 NEG 18220.

23 NEG 861.

A3 is an end-blown, closed whistle flute with beaked mouthpiece and fixed resonator volume, made with two separate pieces of wood inside the bark tube and without finger holes. This type is documented in Nordland,²⁴ Nord-Trøndelag,²⁵ Møre og Romsdal,²⁶ Rogaland,²⁷ Vest-Agder,²⁸ and Aust-Agder²⁹.

A4 is an end-blown, closed whistle flute with beaked mouthpiece and variable resonator length due to its movable lower wooden tap, which is used as a piston, hence the recent name piston flute. The type is documented in Troms,³⁰ Nord-Trøndelag,³¹ Sør-Trøndelag,³² Sogn og Fjordane,³³ Rogaland,³⁴ Vest-Agder,³⁵ and Hedmark³⁶. I still remember with joy my boyish satisfaction when I succeeded in imitating the sound of a fire engine or ambulance on my self-made piston flute.

A5 is an end-blown open whistle flute with beaked mouthpiece and finger holes. The number of finger holes may vary from a couple to six or more. The length of the bark tube varies from 10 to 30 cm or more. The type is documented in Hedmark³⁷ and possibly in Møre og Romsdal.³⁸

A6 is an end-blown closed whistle flute with beaked mouthpiece, made with a continuous piece of wood inside the bark tube and with finger holes. The number of finger holes varies, and it appears that three holes are common in A6 flutes. This type is documented in Oppland³⁹ and Hedmark⁴⁰.

A7 is an end-blown closed whistle flute with beaked mouthpiece and fixed resonator volume, made with two separate pieces of wood inside the bark tube and with between one and six finger holes. It is documented in Troms,⁴¹ Vest-Agder,⁴² Østfold,⁴³ and Hedmark⁴⁴.

24 NEG 18327.

25 My tradition.

26 NEG 18328.

27 NEG 18283.

28 NEG 18320 and 18334.

29 NEG 18218.

30 NEG 18212.

31 My tradition.

32 NEG 3356 and 18390.

33 NEG 18475 and 18585.

34 NEG 18395.

35 NEG 18219.

36 NEG 18214.

37 NEG 18321 and 18503.

38 NEG 18319.

39 NEG 18497

40 NEG 18214.

41 NEG 18212.

42 NEG 18334.

43 NEG 18331.

44 NEG 18503.

In general, bark flutes with several (up to eight) finger holes are mentioned in Nordland,⁴⁵ Nord-Trøndelag,⁴⁶ Sør-Trøndelag,⁴⁷ Sogn og Fjordane,⁴⁸ Rogaland,⁴⁹ Hordaland,⁵⁰ Vest-Agder,⁵¹ Hedmark,⁵² and Buskerud⁵³. *Seljefløyte* with as many as twelve finger holes are reported as having been used in Møre og Romsdal.⁵⁴ Evidence generally points to a great variety of lengths. One informant from Aust-Agder, simply stated that the *seljefløyte* was made long as possible, which might reflect a more widespread practice.⁵⁵ Several sources indicated that the length was limited by the available raw material.

A8 is a side-blown open whistle flute with protruding mouthpiece and finger holes. The inner end of the block is cut approximately at a right angle. This type, with several finger holes and a 30–40 cm tube resonator, is documented in Nordland,⁵⁶ Sør-Trøndelag,⁵⁷ and Møre og Romsdal.⁵⁸

A9 is a side-blown, open whistle flute with protruding mouthpiece. Frequently, the block is cut approximately with a right angled (e.g., as in A8), but a lengthy extension – up to 20 cm or more – inside the wall of the resonator tube has also been used. The function of this extension is not quite clear; it is perhaps intended as a reinforcement of the long tube wall. I know this type only from Lom, Skjåk, and Vågå (Oppland⁵⁹). Although short varieties are known, A9 is normally made as long as possible, up to 80 cm – ultimately limited by human anatomy, i.e., by the player's arm length. Archetype A9 includes the instrument described by Groven (1927). It is documented in Nordland,⁶⁰ Nord-Trøndelag,⁶¹ Sør-Trøndelag,⁶² Møre og Romsdal,⁶³ Sogn og Fjordane,⁶⁴ Hordaland,⁶⁵

45 NEG 1526 and 18542.

46 NEG 18305.

47 NEG 18390 and 18505.

48 NEG 18422 and 18475.

49 NEG 18203, 18221, 18338, and 18517.

50 NEG 18215 and 18313.

51 NEG 18320.

52 NEG 1018.

53 NEG 18411.

54 AB.SNm:36.

55 NEG 18340

56 NEG 18327.

57 NEG 18498.

58 NEG 18291.

59 Anton Biløygard, Harald Tuva, Lars R. Holø, and Rikard Udnes all made this type of *seljefløyte*, as first recorded during my fieldwork in June 1972.

60 Bjørnar Schei, Selbu, interview 25 June, 1988.

61 NEG 18442.

62 NEG 18498.

63 NEG 18306 and 18364.

64 NEG 18459.

65 NEG 18202, 18304, 18313, and 18402 probably refer to this type.

Rogaland,⁶⁶ Aust-Agder,⁶⁷ Telemark,⁶⁸ Buskerud,⁶⁹ Oppland,⁷⁰ Hedmark,⁷¹ and Østfold⁷². Some traditional specimens are held in Ringve Museum, Trondheim.⁷³

The most significant typological feature of the archetype A9 is the protruding mouthpiece, which accounts for the characteristic way the instrument is held during playing, i.e., like a transverse flute. The technique of overblowing is used to varying degrees, depending on the length and proportions of the instrument. Long A9 instruments may produce the full series of pitches used in the long *seljefløyte*'s melody repertoire. Presumably, the various designs of the block may have some acoustical implications (cf. the section "Sound-Formative Parameters" in Part II of this book).

A10 is an end-blown, closed, double whistle flute without finger holes, which is made from one piece of wood, with a right-angled mouthpiece to facilitate simultaneous sounding of both individual flutes. A flute of this type, with a decorated handle, has been documented in Hordaland.⁷⁴ The lack of additional evidence makes it difficult to assess the grounds of the unusual design; one might suspect that it is a solitary offspring of an incidental meeting between local culture and foreign influence – perhaps in the wake of increasing tourism?

Flute decoration is minimally documented, but not unknown.⁷⁵ It is easy to make designs by carving circles and spirals into the wood and peeling off the narrow bark strips, thereby leaving decorative white wood patterns. I remember my own pride when I had finished a *plysterpipe* (whistle pipe), lavishly decorated on its prolonged, lower end, which I conceived as the "handle." Most informants claimed that bark flutes had normally been made without any decoration. However, during annual informal performances of instrumental folk music at Sverresborg Trøndelag Folkemuseum, Trondheim, in the summer season, I have met quite a few people – most of them from various parts of Trøndelag – who have known from their own localities the use of simple decoration of bark flutes, such as spirals and circular strips carved into the bark around the "handle." It is difficult to say how widespread this practice has been; possibly, perhaps it has been an outcome of children's creativity and imagination. The traditional way of making bark flutes is basically utilitarian: as long the flute sounds all right, its exterior design can be rough. The flute is made and ultimately exists as a means for sound production, not as an elaborate piece of art.

It should be borne in mind that in general the whole corpus of bark-flute archetypes is addressed by the discussion of traditional usage, practices, and beliefs. Much of the written documentation does not make any distinction among different varieties and, strictly speaking, thus manifests the abundance of bark-flute forms and practices.

Known iconographic documentation of Norwegian bark flutes from the distant

66 NEG 18360 probably refers to this type.

67 NEG 18218.

68 NEG 769, 807, 18201, 18216, 18336, and 18337; Marie Vøllestad, Drangedal, interview 1967.

69 NEG 763, and 811, probably also 1450.

70 Erling Flem, Trondheim, personal communication 1988.

71 Marius and Jostein Nytrøen, Vingelen, Tolga, interviews 1967 and later; Egil Storbekken, Tolga, interviews 1972 and later.

72 NEG 1096 and 1098.

73 RMT 1099, 72/24 B, C, D, E.

74 Eirik Raknes, Osterøy, letter dated 14 March, 1988.

75 Ibid.

Ill. 13. A unique illustration from the fourteenth-century Macclesfield Psalter. The instrument resembles and is held and treated like a long *seljefløyte*. The player is depicted holding the flute with the right hand below the upper end and stopping the outlet with the left forefinger. Reproduced with permission, from Montague 2006:199. MS 1-2005, folio 188. Illuminated Manuscript, The Macclesfield Psalter. © The Fitzwilliam Museum, Cambridge.



past is scanty. The vast majority of *seljefløyte* – well-known and inconspicuous objects particularly popular among children – might have been too little esteemed to inspire pictorial representations or the like. By contrast, the long *seljefløyte* – presumably an instrument of some esteem in adult society – has left iconographic evidence of considerable interest. The most wellknown is Christian Skredsvig's artwork *Gutten med seljefløyten* ('The boy with *seljefløyten*', cf. Ill. 8), a national romantic painting of a herdboys playing a long *seljefløyte*. This unique source – an honest and credible scene of country idyll – bears testimony to the cultural context, traditional design, and

usage of the long *seljefløyte* up to the nineteenth century. Reproductions can be found in numerous Norwegian homes, and the painting is also reproduced on postcards, in books, and in other printed sources. The painting was for long the oldest known iconographic documentation of the long *seljefløyte*. A recently discovered medieval English source considerably extends the regional and historical perspective.

Among a wealth of colored paintings in the unique Macclesfield Psalter is a rendering of a flute player (Ill. 13). The size and details of the instrument and the way it is held and treated by the player, indicates that the painting depicts music making with a *seljefløyte* or similar overblown flute. As noted by Montague (2006), the flute body “seems to be bound with a close coil of bark.” The bark coil might have been a means of protection, either to strengthen or keep the tube wall airtight. I do not know of anything comparable to this source regarding the early history of the traditional long *seljefløyte*. The unique image calls forth the close medieval cultural contact between Norway and England.

Whereas Ill. 13 presumably depicts an adult player, it does not reveal much about the context. In this respect, Ill. 14 is more loaded with information. The child listening to the elderly man playing a *seljefløyte*, was painted only 23 years later than the famous, retrospective painting of a herdboym (Ill. 8), but it conveys an entirely different message of nostalgia interfused with recognition of the then new time. The authenticity is emphasized by the family situation: The year is 1911, the *seljefløyte* player is Tor Holbø (about 70 years of age), the child is the painter’s four-year-old son Halvdan, and the background is the creek Sjørdalsbekken and the farm Sygard Holbøjordet in the mountain village of Vågå, the original home of the painter.⁷⁶

Ill. 14. Detail of painting by
Kristen Holbø (1869–1953).
Displayed in Fossheim Hotell,
Lom.
©Kristen Holbø/BONO 2022.

76 Letter from the painter’s son Halvdan Holbø, May 21, 1989.



Ill. 15. Family photo from Moen, Hadeland (Oppland). In the back: Berte Taaje (1865-1955) and Marta Taaje (1892-1921). The *seljefløyte* players are Erik Taaje (1864-1938), left, and Anders Taaje (1895-1961). Anders was also known for playing the fiddle. After G. Berge 1995:4,94.



Another family context is shown in Ill. 15, focusing on two well-dressed men who are showing their familiarity with *seljefløyte*-playing: a unique photo documentation of early twentieth century country life. The family photo – father and son, with their wives behind them – bears witness to appreciation of, and pride in, the *seljefløyte*, presumably an expression of the cultural value of the instrument, transcending the rural context of times in the distant past.

The scarcity of historical iconographic documentation is largely offset by the wealth of linguistic evidence; Norwegian dialects flaunt a panoply of names for bark flutes. Thus, a simple survey of the corpus of names might shed light on significant aspects of traditional conceptualization and usage. The purpose of the present section in this book is primarily to investigate what kind of conclusions may be drawn on such matters, based on a simple classification of designations.

In general, most names do not address the musically significant distinction between long flutes and the multitude of variously designed short flutes. Thus, purely musical considerations are only included when warranted by the source material. Since the practice of making bark flutes is still very much alive and since my sources cover only limited localities, one cannot be sure that every locally known term is included in this material.

Most names for bark flutes are nominal compounds. Besides their interest as conceptual attributes to the group of bark flutes, the names can be conceived as the outcome of a linguistic process: compounding. For the present purpose, a compound can be tentatively defined as a morphologically complex unit, made up of two words acting as a single word (Bauer 1978:54). In most cases, the bark-flute name is a noun+noun compound in which the *head* element (i.e., the second, main element) is the syntactically obligatory lexical category, while the *modifier* (the initial element) indicates a subcategory. (For example, *seljefløyte* denotes a member of a subclass of *fløyte*.)

In the following list, the corpus of bark-flute names and their provenance is presented as lexically modified, starting with non-compound names, followed by compounds arranged according to the head-modifier concept, and finally by compound phrases.

Non-compounds

Fløyte, etc.

| | |
|-----------------------------|--|
| <i>Flyta</i> | <i>Hordaland</i> . ⁷⁷ |
| <i>Flæte</i> | <i>Møre og Romsdal</i> . ⁷⁸ |
| <i>Fløt</i> | <i>Møre og Romsdal</i> . ⁷⁹ |
| <i>Fløydra</i> | <i>Rogaland</i> ⁸⁰ and <i>Vest-Agder</i> ⁸¹ . |
| <i>Fløyte</i> ⁸² | <i>Nordland</i> , ⁸³ <i>Nord-Trøndelag</i> , ⁸⁴ <i>Sør-Trøndelag</i> , ⁸⁵ <i>Møre og Romsdal</i> , ⁸⁶ <i>Sogn og Fjordane</i> , ⁸⁷ <i>Hordaland</i> , ⁸⁸ <i>Rogaland</i> , ⁸⁹ <i>Vest-Agder</i> , ⁹⁰ <i>Aust-Agder</i> , ⁹¹ <i>Telemark</i> , ⁹² <i>Buskerud</i> , ⁹³ <i>Oppland</i> , ⁹⁴ <i>Hedmark</i> , ⁹⁵ and <i>Akershus</i> . ⁹⁶ |
| <i>Fløytre</i> | <i>Rogaland and Vestfold</i> . ⁹⁷ |
| <i>Fløyta</i> | <i>Møre og Romsdal</i> . ⁹⁸ |

Jerpe

| | |
|-------------|---------------------------------------|
| <i>Jærp</i> | <i>Nord-Trøndelag</i> . ⁹⁹ |
|-------------|---------------------------------------|

Pipe, etc.

| | |
|------------------|---|
| <i>Piba/pibe</i> | <i>Vest-Agder</i> . ¹⁰⁰ |
| <i>Pip</i> | <i>Møre og Romsdal</i> , <i>Buskerud</i> , <i>Vestfold</i> , <i>Akershus</i> , and <i>Oslo</i> . ¹⁰¹ |

77 NEG 785, 1499, and 1543.

78 Høeg 1976:584f.

79 Ibid.

80 NEG 1310, 18391, and 18395.

81 NEG 18322.

82 In older sources spelled *fløite*.

83 Mo 1957:117; Høeg 1976:575.

84 My tradition.

85 NEG 18390, 18498, and 18505.

86 AB.SNm:21; Høeg 1976:574.

87 AB.Yb:741.

88 NEG 832; Opedal 1954:113; Høeg 1976:574.

89 NEG 804 and 18248.

90 Høeg 1976:579.

91 NFS H. Delgobe 28:2, 5, 30; NFS Joh. Agerholt 2:78; NFS K. Weierholt 2:12; Høeg 1976:579; Jensen 1918:75; Olsen 1918:76f; Johan Corneliussen, Seattle, interview 1985.

92 NEG 18315, 18337, NFS M. Moe 69:28.4; Høeg 1976:579.

93 Høeg 1976:574.

94 Ibid.; Erling Flem, Trondheim, personal communication 1988.

95 Høeg 1976:574.

96 Ibid.

97 Høeg 1976:574f.

98 Tor Erik Jenstad, Trondheim, personal communication 1989.

99 Idem.

100 NEG 18320; Høeg 1976:580.

101 Høeg 1976:574f, 578.

| | |
|---------------------------------|--|
| <i>Pipa/pipe</i> | Sogn og Fjordane, ¹⁰² Hordaland, Telemark, Vestfold, Oppland, and Hedmark ¹⁰³ . |
| <i>Pipi</i> | Vestfold. ¹⁰⁴ |
| <i>Pipil</i> | Oppland (Fåberg, Rollag). ¹⁰⁵ |
| <i>Pipo</i> | Buskerud. ¹⁰⁶ |
| <i>Pippel/pipel</i> | Østfold. ¹⁰⁷ |
| <i>Pippil/pipill</i> | Oppland and Østfold. ¹⁰⁸ |
| <i>Pipta/pipte</i> | Rogaland. ¹⁰⁹ |
| Piste, etc. | |
| <i>Pista/piste/pisto/pisste</i> | Møre og Romsdal, ¹¹⁰ Sogn og Fjordane, ¹¹¹ Hordaland, ¹¹² Oppland, ¹¹³ and Vestfold ¹¹⁴ . |
| <i>Pistre pl. pister</i> | Oppland. ¹¹⁵ |
| <i>Pistre pl. pistor</i> | Hordaland. ¹¹⁶ |
| <i>Pistre pl. pistrer</i> | Sogn og Fjordane. ¹¹⁷ |
| <i>Skrikje pl. skrikur</i> | Telemark. ¹¹⁸ |
| Plystre, etc. | |
| <i>Blister</i> | Møre og Romsdal. ¹¹⁹ |
| <i>Blistre</i> | Møre og Romsdal. ¹²⁰ |
| <i>Blåsa</i> | Aust-Agder. ¹²¹ |
| <i>Plistre/plistra</i> | Nordland, ¹²² Sogn og Fjordane, ¹²³ and Oppland ¹²⁴ . |

102 Bugge 1919:84.

103 Høeg 1976:574, 578ff., *Norsk Ordbok* 2009: 225.

104 Ibid.

105 Flem personal communication 1988; *Norsk Ordbok* 2009: 1228.

106 NEG 18575.

107 Høeg 1976:574, 578.

108 Ibid.

109 NEG 18204, 18248, 18283, 18349, 18466, and 18517; *Norsk Ordbok* 2009:1229.

110 Høeg 1976:574f, 580.

111 Borchgrevink 1956:103; Høeg 1976:575.

112 Høeg 1976:574f.

113 Anton Biløygard, interview 1970; Høeg 1976:575.

114 *Norsk Ordbok* 2009: 1228.

115 Høeg 1976:574f.

116 Ibid.

117 Ibid.

118 Hovde-Gvåle 1974:84; *Norsk Ordbok* 2012:140.

119 Jenstad, personal communication 1989.

120 NEG 18291.

121 Høeg 1976:579.

122 NEG 18327.

123 NEG 18459; Høeg 1976:579.

124 Høeg *ibid.*

Plystre Nordland,¹²⁵ Møre og Romsdal,¹²⁶ and
Sogn og Fjordane¹²⁷.

Tvitt, etc.

Tvi Vestfold.¹²⁸

Tvitt Møre og Romsdal.¹²⁹

Viva Vestfold.¹³⁰

Compounds

Fløyte, etc. as Head

Wood Type as Modifier

Barkfløyte Møre og Romsdal.¹³¹

Istervifløyte Troms.¹³²

Orefløyte Hordaland.¹³³

Raunefløyte Hordaland.¹³⁴

Raunefløyte Hordaland,¹³⁵ Rogaland,¹³⁶ and Vest-Agder¹³⁷.

Rognefløyte Møre og Romsdal,¹³⁸ Sogn og Fjordane,¹³⁹ and Hordaland.¹⁴⁰

Selifløyta Nordland.¹⁴¹

Seljeflyta Møre og Romsdal,¹⁴² Sogn og Fjordane,¹⁴³ Hordaland,¹⁴⁴ and
Oppland¹⁴⁵.

Seljeflæt Møre og Romsdal.¹⁴⁶

Seljeflöt Møre og Romsdal.¹⁴⁷

125 NEG 18541; Høeg 1976:575.

126 Høeg 1976:574.

127 NEG 1240; Høeg 1976:574.

128 Høeg 1976:579.

129 NEG 1253, 18328; Høeg 1976:584f, 580.

130 Høeg *ibid.*

131 NEG 18222 and 18319.

132 NEG 18212.

133 Opedal 1954:114.

134 AB.Yt:391.

135 AB.Yt:391; NEG 18215.

136 NEG 18329, 18334, 18338, 18412, and 18508.

137 NEG 18219 and 18329.

138 NEG 18306.

139 NEG 18361.

140 Høeg 1976:584f, 580.

141 NEG 1526.

142 AB.Yt:220.

143 AB.TN:48, and 58; AB.TS:59, 68, 69, 81, 85, and 94; AB.Yt:65, 280, and 384.

144 AB.SV:121; AB.SNh:116; AB.TH:91, and 96; AB.Yt:276, 287, 346, 391, 477b, and 562; NEG 785, 1499, and 1543.

145 AB.TV:20, 39.

146 Jenstad, personal communication 1989.

147 *Idem.*

| | |
|---------------------|---|
| <i>Seljefløydra</i> | Vest-Agder. ¹⁴⁸ |
| <i>Seljefløytt</i> | Nord-Trøndelag and Møre og Romsdal. ¹⁴⁹ |
| <i>Seljefløyte</i> | Finnmark, ¹⁵⁰ Troms, ¹⁵¹ Nordland, ¹⁵² Nord-Trøndelag, ¹⁵³ Sør-Trøndelag, ¹⁵⁴ Møre og Romsdal, ¹⁵⁵ Sogn og Fjordane, ¹⁵⁶ Hordaland, ¹⁵⁷ Rogaland, ¹⁵⁸ Vest-Agder, ¹⁵⁹ Aust-Agder, ¹⁶⁰ Telemark, ¹⁶¹ Buskerud, ¹⁶² Oppland, ¹⁶³ and Hedmark ¹⁶⁴ . |
| <i>Seljfløytt</i> | Sør-Trøndelag. ¹⁶⁵ |
| <i>Seljfløyte</i> | Sør-Trøndelag. ¹⁶⁶ |
| <i>Seljfløtt</i> | Sør-Trøndelag. ¹⁶⁷ |
| <i>Seljflyta</i> | Hordaland. ¹⁶⁸ |
| <i>Sellfløytt</i> | Nord-Trøndelag and Sør-Trøndelag. ¹⁶⁹ |
| <i>Sellfløyte</i> | Nord-Trøndelag. ¹⁷⁰ |
| <i>Siljefløyda</i> | Rogaland. ¹⁷¹ |
| <i>Siljefløyte</i> | Sør-Trøndelag ¹⁷² and Hedmark ¹⁷³ . |
| <i>Siljflyte</i> | Telemark, ¹⁷⁴ Buskerud, ¹⁷⁵ Oppland, ¹⁷⁶ and Akershus ¹⁷⁷ . |

148 Ross 1971:198; NEG 18199.

149 My tradition; Jenstad, conversation/correspondence 1989.

150 NEG 18420.

151 NEG 4641 and 18212.

152 AB.Yt:924; NEG 1950 and 18327.

153 NEG 797, 837, 1336.

154 NEG 1163, 3356, 18303, and 18498.

155 AB.SN:36, AB.Yt:220, NEG 2957, 18291, 18328, and 18364.

156 AB.TN:48, 58, AB.TS:59, 68f, 85, and 94, AB.Yt:384, NEG 18361, 18422, 18475, and 18585.

157 AB.SV:121, AB.TH:63, and 96; AB.Yb:374[?], and 996; AB.Yt:287, 391, 477b, 483, and 562; NEG 18202, 18215, 19302, 18304, and 18402; Opedal 1954:113.

158 NEG 2982, 18203, 18213, 18248, 18334, 18338, 18466, 18508, and 18517.

159 NEG 812, 18322, 18392, and 18458; Høeg 1976:457.

160 NEG 17695, 18340, and 18477.

161 AB.ST:112, NEG 807, 18201, 18216, 18220, 18315, and 18336.

162 NEG 18328.

163 NEG 18497.

164 NEG 18214.

165 Jenstad, personal communication 1989.

166 Idem.

167 Idem.

168 AB.SNh:116; AB.Yt:477b.

169 Jenstad, personal communication 1989.

170 Idem.

171 NFS Tor Skiftun 8.142.

172 NEG 903.

173 NEG 18321; NFS Ole Matson 1.265.

174 NEG 769.

175 NEG 18575; Høeg 1976:574.

176 Flem, personal communication 1988.

177 NEG 843.

| | |
|----------------------------|--|
| <i>Siljufloytre</i> | Vestfold. ¹⁷⁸ |
| <i>Sylje-/sylvofloyta</i> | Oppland. ¹⁷⁹ |
| <i>Syljufloyte/-floyta</i> | Oppland ¹⁸⁰ and Buskerud ¹⁸¹ . |
| <i>Sællifloyt</i> | Nord-Trøndelag. ¹⁸² |
| <i>Søljefloyte</i> | Rogaland. ¹⁸³ |
| <i>Søljfloyt</i> | Sør-Trøndelag. ¹⁸⁴ |
| <i>Søljufloyte</i> | Oppland, ¹⁸⁵ Buskerud, ¹⁸⁶ and Akershus ¹⁸⁷ . |
| <i>Säljflø't</i> | Sør-Trøndelag. ¹⁸⁸ |
| <i>Vidjefloyte</i> | Troms ¹⁸⁹ and Hedmark. ¹⁹⁰ |

Other Modifiers

| | |
|---------------------------|----------------------------------|
| <i>Fingrefloyte</i> | Sogn og Fjordane. ¹⁹¹ |
| <i>Fugla-/fuglefloyta</i> | Sogn og Fjordane. ¹⁹² |
| <i>Langfloyte</i> | Buskerud. ¹⁹³ |

Pipe, etc. as Head

Wood Type as Modifier

| | |
|--------------------|----------------------------------|
| <i>Istervipipa</i> | Hedmark. ¹⁹⁴ |
| <i>Raunepibe</i> | Vest-Agder. ¹⁹⁵ |
| <i>Raunepipe</i> | Vest-Agder. ¹⁹⁶ |
| <i>Raunepipta</i> | Sogn og Fjordane. ¹⁹⁷ |
| <i>Seljepibe</i> | Vest-Agder. ¹⁹⁸ |
| <i>Seljepip</i> | Sør-Trøndelag. ¹⁹⁹ |

178 Høeg 1976:574.

179 AB.TV:27.

180 AB.Yb:171; Anton Biløygard, interviews 1970 and later; Lars R. Holø and Harald Tuva, interviews 1972.

181 NEG 18328.

182 Gunnvor Dahle, Namsos, interview 1990.

183 AB.Ub:941; NEG 18338.

184 NEG 18498.

185 Rikard Udnes, Vågå, and Anton Biløygard, interviews 1972.

186 AB.TH:71.

187 NEG 843.

188 Jenstad, personal communication 1989.

189 NEG 3157.

190 NEG 18503.

191 Høeg 1976:574f.

192 NEG 18459; NFS Kjell Bondevik 4.8.

193 NEG 811.

194 NEG 1081 and 18321; Marius Nytrøen, interviews 1969 and later.

195 Høeg 1976:574f; Esther Corneliussen b. Bjaanes, Seattle, interview 1985.

196 NEG 18394.

197 NEG 1132 and 18349.

198 Storaker 1928:110; Corneliussen b. Bjaanes, Seattle, interview 1985.

199 Jenstad, personal communication 1989.

| | |
|-----------------------------|---|
| <i>Seljepipa/-pipe</i> | Sør-Trøndelag. ²⁰⁰ |
| <i>Seljpipe</i> | Sør-Trøndelag. ²⁰¹ |
| <i>Sellipipe/-pipa/-pip</i> | Nord-Trøndelag. ²⁰² |
| <i>Siljupipa</i> | Østfold, ²⁰³ Hedmark, ²⁰⁴ and Akershus ²⁰⁵ . |
| <i>Suljepipo</i> | Oppland. ²⁰⁶ |
| <i>Syljupipe</i> | Akershus. ²⁰⁷ |
| <i>Søljepipe</i> | Akershus. ²⁰⁸ |
| <i>Søljupipe/pip</i> | Buskerud ²⁰⁹ and Hedmark ²¹⁰ . |
| <i>Vierpipo</i> | Oppland. ²¹¹ |
| <i>Vi-pip</i> | Sør-Trøndelag. ²¹² |
| <i>Viupipe</i> | Hedmark. ²¹³ |

Other Modifiers

| | |
|----------------------------|---|
| <i>Blisterpip(e)/-pipa</i> | Nordland, ²¹⁴ Nord-Trøndelag, ²¹⁵ Sør-Trøndelag, ²¹⁶ and Møre og Romsdal ²¹⁷ . |
| <i>Faulepipa</i> | Aust-Agder. ²¹⁸ |
| <i>Fuglapipa</i> | Sogn og Fjordane. ²¹⁹ |
| <i>Gnellpipe</i> | Sør-Trøndelag. ²²⁰ |
| <i>Hjelpepip</i> | Buskerud. ²²¹ |
| <i>Høkepipe</i> | Østfold. ²²² |
| <i>Jerpepipe</i> | Oppland. ²²³ |
| <i>Lodderpipe</i> | Vest-Agder. ²²⁴ |

200 NEG 18390; Jenstad, personal communication 1989.

201 Jenstad, personal communication 1989.

202 NEG 18305, 18442, and 18449.

203 NEG 18331, and 18427.

204 Høeg 1976:574.

205 NEG 843.

206 Høeg 1976:574.

207 Refsum 1935:150.

208 Høeg 1976:574.

209 Samuelsen 1966:138.

210 Høeg 1976:574.

211 Ibid.

212 Jenstad, personal communication 1989.

213 Høeg 1976:574.

214 Ivar Roger Hansen, Mo i Rana, personal communication 1986.

215 Jenstad, personal communication 1989.

216 NEG 18303, 18390, 18498, and 18505.

217 Jenstad, personal communication 1989.

218 Ommundsen 2009:44.

219 Bugge 1919:84.

220 Høeg 1976:575.

221 Høeg 1976:578.

222 Høeg 1976:575.

223 Flem, personal communication 1988.

224 Høeg 1976:574.

| | |
|-------------------------|--|
| <i>Lådepiba</i> | Rogaland. ²²⁵ |
| <i>Låtarpip'</i> | Sør-Trøndelag. ²²⁶ |
| <i>Maipipe/majapipa</i> | Hordaland. ²²⁷ |
| <i>Pelarpipe</i> | Oppland. ²²⁸ |
| <i>Plisterpip</i> | Nord-Trøndelag and Sør-Trøndelag. ²²⁹ |
| <i>Plistrepip</i> | Oppland. ²³⁰ |
| <i>Plysterpip</i> | Nord-Trøndelag. ²³¹ |
| <i>Signalpipe</i> | Sør-Trøndelag. ²³² |

Låta, Staur, and Tvitt as Head

| | |
|-------------------|---------------------------------|
| <i>Piststaur</i> | Møre og Romsdal. ²³³ |
| <i>Raunelåta</i> | Rogaland. ²³⁴ |
| <i>Rognetvitt</i> | Møre og Romsdal. ²³⁵ |
| <i>Seljetvitt</i> | Møre og Romsdal. ²³⁶ |

Compound Phrases

| | |
|----------------------|--------------------------------------|
| <i>Hipp happ</i> | Vestfold. ²³⁷ |
| <i>Hippe happe</i> | Buskerud. ²³⁸ |
| <i>Hippen happen</i> | Buskerud. ²³⁹ |
| <i>Hippo happe</i> | Buskerud. ²⁴⁰ |
| <i>Kjipp kjapp</i> | Vestfold. ²⁴¹ |
| <i>Pikk pakk</i> | Buskerud and Østfold. ²⁴² |
| <i>Pipe happe</i> | Buskerud. ²⁴³ |

225 NEG 18332.

226 Jenstad, personal communication 1989.

227 Høeg: 580.

228 Høeg 1976:578.

229 Jenstad, personal communication 1989.

230 Høeg 1976:584f.

231 My tradition; Jenstad, personal communication 1989.

232 NEG 903.

233 Jenstad, personal communication 1989.

234 NEG 1132.

235 NEG 18328.

236 Ibid.

237 Høeg 1976:585, 579.

238 NEG 18575; Høeg 1976:575, 578.

239 Høeg 1976:578.

240 NEG 18575.

241 Høeg 1976:578.

242 Ibid.

243 Ibid.

An array of names such as presented above necessitates some reservations before any analysis or discussion is undertaken. One should not neglect the fact that, like other facets of culture, bark-flute names and their usage are continuously changing. Our panoply of names is the outcome of a collecting process, partly systematic, and partly not. The terms have been documented at different points in time and at different locations. Strictly speaking, they constitute little more than samples of a dynamic naming practice, as documented, mainly in post-war Norway. Nevertheless, the corpus gives a broad view of the naming practice during the twentieth century. It also affords some idea about the diversity of names used in different contexts and locations.

In the real world, terminology is not static, but dynamic. This continuous change in naming practice is also revealed in the source material:

Father says *raunelåta*, [...] but I, and my siblings say *raunepipta*.
(From Skaare, Rogaland, 1948²⁴⁴)

From alder bark was made a little flute or pipe, quite short. In my youth we called it a “*hippe, happe*,” a name which is now completely unknown to children in Sandsvør.
(From Sandsvør, Buskerud²⁴⁵)

Thus, it becomes apparent that, to some extent, our corpus of names blurs details of dynamic change within naming tradition and name usage.

Even if we consider the dynamics of terminology, viewed as a live language organism, it is probably justifiable to assume that our panoply of names yields a relevant and credible perspective of the naming practice “in recent times.” Judging from the recent general decline in rural culture linked to early mountain farming, the abundance of names in the past was possibly greater, rather than smaller, compared with the one presented here. Furthermore, the corpus of names reveals some interesting general tendencies, to which I return in the ensuing discussion.

Starting with the non-compounds, three name groups are documented as more widely used than others: *fløyte*, *pipe*, and the *piste/plystre* complex.

Doubtless, *fløyte* is the term most widely used among non-compounds, as it is documented in virtually all parts of Norway and in many local dialect variants. As a general designation for a musical instrument, *fløyte* (*fløjte* in Danish, *flöjt* in Swedish) is widely used in Scandinavia; its roots probably go back to the Old Norwegian *flautir* (Torp 1919:128). According to Moeck (1951:90ff.), the term *flautir*, as well as numerous related words in European languages, was derived from the Latin word *flare*. Originating from Medieval Latin (the earliest known occurrences of *flautum* date from between AD 1300 and AD 1500), the term spread rapidly to other languages and is documented in Scandinavia as early as the fourteenth century:

Die vielfältigen Flötennamen aus diesem Stamm [...] bezeichnen ausschliesslich Kernspaltflöten; und zwar auch nur solche mit Grifflöchern; wenn sie primitivere, etwa Weidenflöten bezeichnen, so wird dies hinzugesetzt. (Moeck 1951:94)

244 NEG 1132.

245 Høeg 1976:574. Høeg was born in 1898.

The Norwegian material confirms that the term *fløyte* usually signifies whistle flutes. However, contrary to Moeck's assertion that the term alone did not apply to more primitive flutes, the occurrence of numerous dialect versions of *fløyte* as a name for bark flutes affords ample evidence that the term also is firmly established in the more specific sense of denoting bark flute.

Almost as common as *fløyte*, and in an even greater diversity of local variants, *pipe* is reported as used in all counties south of Trøndelag. Moeck (1951:86) pointed out that within the Norse tradition the expression *blåsande i pipa* (blowing in the pipe) occurs as early as in the Sverresoga (Sverris saga) of ca. AD 1200. According to Torp (1919:489), the Old Norwegian term *pipa*, meaning pipe to blow into, derives from Medieval Latin *pipa*. Thus, all *pipe* and *pipe*-derived names, and perhaps also those made up of compound phrases, constitute a large group of names with roots of considerable age. The pioneer linguist Ivar Aasen pointed out that *pipa* or *pipe* is known both as a noun and a verb: "pipe to blow into [...] tube, a hollow column [...] to pipe, to blow into a pipe" (1918:568).

In general, the term *pipe* and derivations of it most often seem to be used nowadays for short flutes. Thus, some informants distinguished between the long bark *fløyte* and the short *pipe*, *plistra*, or the like.²⁴⁶ Torp (1919:494) referred to the *plistra* as a "small flute from bark," in some places denoted *blistro*; he maintained that these terms were derived from the verb *blistra* or *plystra*, to whistle. Ove Arbo Høeg (1976:574) simply stated that *pip*, *pipe*, and *pibe* have been the most common names for the instrument "in its simplest form." On the other hand, it may be significant that in one case the name *sellipip* clearly refers to a flute that is 30 cm in length and designed exactly like a long *seljefløyte*, and is played with fingering on the end opening (Nord-Trøndelag²⁴⁷). Apparently, *pipe* and *pipe*-derived names reflect the same ambiguity regarding flute design as do *fløyte* and terms derived from them. Available documentation of the distribution of *pipa*, points to an old, nation-wide tradition, comparable to the use of the generic term *seljefløyte* or the like.

The terms *piste*, and *plystre*, are documented in most parts of Norway. These onomatopoeic terms probably have been, and still seem to be, quite common. Aasen referred to the related noun *pist* as "a whine, a feeble, squeaking sound; also: whimpering, wailing" (1918:579) and linked the term to names used for birds, such as *ffjorepist* (*Tringa maritima*). According to Hans Ross (1971:572), *piste* meant the female genitalia, while *pista* and *pistra* denote a "small *Flöite* or *Pipa*" (cf. Torp 1919:491). As a verb, *pista* means to whimper or whine for something, or to sound the *pista* (flute). There seems to be an onomatopoeic element in all this, whereas the reference to the female organ is intriguing. While several scholars have commented upon sexuality, gender, and fertility as important traditional aspects of flute making and playing, it seems to be a common notion that flutes traditionally represent the male organ, not the female one. Sachs (1929:20ff.) presented cross-cultural evidence linking the flute to fertility conceptions, and concluded as follows:

Die Bedeutungsreihe ist: Fruchtbarkeits- und Wiedergeburtsszauber –
Liebeszauber – Liebesausdruck (Ständchen) – Liebessehn-sucht –
Unterhaltung – Kinderspiel. (ibid.: 22)

²⁴⁶ NEG 18327, 18459, and 18503.

²⁴⁷ NEG 18442.

Moeck (1951:55), echoing Sachs, remarked that in the German vernacular, terms such as *Flöte*, *Pfeife*, and *Pipe* were still used to denote penis. According to Torp (1919:489), the Norwegian words *pip*, *pipp*, and *pippel* – all related to *pipa* – were used with the same meaning. In my own Norwegian dialect, the term *pipp* (definite *pippen*) is occasionally used with the same meaning. Picken (1975:68), in contemplating relevant “childlore”, pointed out a possible connection between the presence of obscenity in magic bark-detaching rhymes and Sárosi’s suggestion that the magical content of such rhymes derives from “uralten Fruchtbarkeitsriten” (s.a. [1967]: 72).

Less common, and documented only in limited areas, are terms such as *jerpe* and *tvitt*. *Jerpe* can sensibly be interpreted as a shortened form of *jerpepipe*. In general, the latter term denotes a small duct flute, also called a *lokkefløyte* used by hunters to attract *jerpe* (hazel hen, *Bonasa bonasia*). The singular reference to this name possibly reflects a more widespread use in the past. A convenient material for making flutes for attracting game was the wing bone of wood grouse, which, of course, would be durable enough to be used all year around for hunting. However, despite their seasonal and short-lived existence, bark-flute varieties of *jerpepipe* are also known (Sevåg 1973:75).²⁴⁸ It is also worth mentioning that Ross (1971:374) referred to *jerpa* as meaning “to jabber.” This suggests another connection to the bird, since the *jerpe* bird is known for its extremely high-pitched flute-like sound. Whether the flute-bird connection confirms Moeck’s remarks about prehistoric cultic conceptions linking the flute to the bird as a totem (1951:156), or reflects nothing more than an onomatopoetic connection, must remain unanswered.

A flute-bird connection also applies to the *tvitt* concept. Aasen referred to *tvitt* as “1) a short flute or pipe to blow into; [...] 2) a bird, so called after its call, which reminds of the word *tvitt*” (1918:855). He also included two related bird names, *tvitta(r)fugl* and *kvittafugl*, and the verb *tvitta*, meaning “to flute with a short or interrupted sound” (ibid.). Aasen localized *tvitt/tvitta* to Møre og Romsdal, and this is confirmed by NEG evidence. One might wonder whether there is any connection between the *tvitt/tvitta* terms in Møre og Romsdal and *tvi* evidenced in Vestfold. *Viva*, documented in Vestfold, is unique and defies simple rational explanation. The unusual term *skrikur* – referring to small willow flutes (Hovde-Gvåle 1974:84) – perhaps derives from their squeaking sound.

Taken as a whole, compound names are more common and occur in a greater variety than non-compounds. Among the compounds, two main heads are clearly pointed out: *fløyte* and *pipe*.

All available documentation confirms that *seljefløyte* is the generic term for bark flutes used and understood everywhere in Norway. The term was recorded by Aasen (1918:642), and it is emblematic given that one of the NEG sources from Møre og Romsdal²⁴⁹ maintained that the *seljefløyte* “is so well known that it appears unnecessary to give a more detailed description.” Not only is the reported normalized form of the name used in virtually all counties, but local dialect variants are also documented in some places. It may be questioned, though, whether Christian Skredsvig’s famous painting of 1889 *Seljefløyten* (also known as *Gutten med seljefløyten* (The Boy with the Willow Flute), which can be found as a reproduction in numerous Norwegian homes) and Groven’s booklet (1927), and an abundance of references and writing related to

248 Today, tiny *jerpepipers* made from metal are commercially available. I possess one myself, which I have used for hunting. It is amazing how curious *jerper* are attracted by its sound.

249 NEG 18291.

these works have contributed to the establishment of *seljefløyte* as the common generic term. As for the NEG documentation in general, due allowance must also be made for the explicit employment of the name *seljefløyte* in the questionnaires,²⁵⁰ which might have influenced some informants in favor of using this standardized term, despite the request to use local, traditional terminology.

Judging from the general persistence of local language usage in rural districts, particularly when it comes to terms established and used for generations and for which there is still a need, there is hardly any reason to doubt that the name *seljefløyte* manifests old traditions on a countrywide basis. This also accords with the widespread use of *selje*, more than any other type of wood, for making bark flutes. The multitude of dialect variants of this name—more than for any other name—bears testimony to the same.

Besides *selje*, the hardier willow variety *vier*, or *vidje/istervi*, has also lent its name to the instrument, notably in mountainous places and in the far northern parts of Norway, where the tough climate makes *vier* more likely than *selje* to supply adequate raw material for bark flutes. References to *rogn* or *raune* (mountain ash) in the name occur only in the western and southern parts of the country. Within these parts, mountain ash is the type of tree most commonly used for bark flutes, possibly because of its accessibility, which is thus reflected in the usage of regional names. Similar circumstances may apply to the use of the name *orefløyte*, which denotes a flute made from *or* (alder).

As a rule, references to material almost entirely deal with specific types of wood. The more general and abstract term *bark flute*, used by one NEG informant only, appears to be a more recent phenomenon. On the other hand, the *seljefløyte* name group also includes flutes made from other types of wood.²⁵¹

The modifier *fingre* in *fingrefløyte* doubtless refers to the verb *fingra*, meaning “1) touch with the fingers, feel on, take on; 2) about fingering on the violin [...]” (Aasen 1918:156). Whether fingering here applies to the end opening of the long *seljefløyte* or to finger holes on the side of the tube wall – or to both – is uncertain. In any case, the use of fingering probably indicates music making as a primary purpose.

The rather unusual name *fuglafløyta* (bird flute) curiously reminds one of Moeck’s remarks (1951:85) about totemistic links between flute and bird. Such roots may explain the prehistoric origin of the Indo-Germanic, onomatopoetic word *pip*, from which birds’ names as well as flute instruments’ names have been derived. Another possible explanation is that *fuglafløyta* relates to other flute types, such as bone flutes used by hunters to attract game, including birds (cf. *jerpepipe*, mentioned above).

Langfløyte (literally, long flute) appears to be the only term explicitly referring to a long *seljefløyte*. The singular occurrence of this term might indicate a more recent origin, possibly an influence from art music.

From a comparison of the occurrence of non-compounds and compounds, it is strikingly demonstrated that the plain *fløyte* is significantly less documented than compounds based on the same term as the head. More specific terms, in which the modifier specifies some important feature of the instrument or its use, are generally more widely used than the neutral, collective term *fløyte*. In particular, *seljefløyte* is abundantly evidenced as the generic term for bark flutes of various types.

250 *Emne nr. 6 Folkelege musikkinstrument* (Topic No. 6 Vernacular musical instruments), not dated, and *Nr. 102 Enkle låteredskaper* (No. 102 Simple sound tools), dated January 1964.

251 AB.Yt:65; also my tradition.

Like *fløyte*, *pipe* occurs in a great number of compounds in which the type of wood acts as modifier. The kinds of wood include *selje*, *rogn*, *vidje*, and *istervier* – not quite as many as the number associated with the head *fløyte*, and with less dialect variety. Nevertheless, the documentation indicates a nationwide distribution of *seljepipe* and similar *pipe*-derived names.

The verb *plystre* (whistle) relates compounds of the *blisterpipe* type such as *plisterpip*, *plistrepip*, and *plysterpip* to the more general sound phenomenon of whistling. Primarily, such designations seem onomatopoeic in nature.

Fuglapipa, linking “bird” to “pipe,” is likely to be interpreted in the same way as *fuglafloyta* mentioned above. 0

The term *gnellpipe* is characterized by the modifier *gnell*, derived from the verb *gnelle*, meaning to “shrill, squeal” (Haugen 1984:16). This name also exemplifies onomatopoeia.

The meaning of *hjelpipe* is puzzling. *Hjelpe* simply means “help,” and the magic jingle in which the instrument’s name occurs gives no clue as to its meaning. Whether this name indicates an old, long forgotten, specific use or function of the pipe, or is a recent innovation with no deeper meaning, is an open question. Perhaps *hjelpipe* is simply a misinterpretation of *jerpe*, pointing to the widely used *jerpepipe* (mentioned above).

Høkepipe is an enigmatic term that defies explanation. I have not been able to discover any plausible interpretation. The modifier is curiously reminiscent of *hawk* (hawk), but this similarity might be accidental.

It is possible that names such as *lådepiba*, *lodderpipe*, and *låtarpip* refer to flutes used for performing melodies (å låte – to sound or to play) contrary to signaling or playing for fun. A similar term, *spelpipa*, is current in Sweden (Kjellström 1980:200). The noun *låt* may have different meanings, including “sound, tone [...] whimpering, moaning [...] playing, piece of music” (Aasen 1918:411, cf. Ross 1971:470). Conversely, the different meanings of the verb *låta* include the following:

- 1) produce a sound or tone [...] Very extensive, approximately like cheep, chirp/twitter, cackle, scream, howl/hoot (of animals and birds); squeak, creak, scrape (of inanimate things); sound, ring (of playing and instruments). Common and much used.
- 2) of humans: whimper, wail, utter feeble screams or other unusual sound [...]. (Aasen, *ibid.*)

In the present context, it seems reasonable to interpret the modifier *låta* as a reference to music making, such as playing melodies.

At first glance, *maipipe* and *majapipa* may be taken as simply referring to the month of May, during which the first bark flutes are often made. Moeck (1951:125) reported a similar name, *Maienpfeifen*, used in Dardin-Glitz, Switzerland, but without suggesting any interpretation. It is worth mentioning that an old *maifest* – a May festival – is still well known in Sweden and Germany. The *maifest*, as such, is unknown in Norway but corresponds to the Norwegian *jonsokbryllaup* (midsummer wedding), the roots of which are believed to go back to ancient practices to ensure a bountiful harvest. The modifier *maja* also curiously reminds of the name of the Roman goddess Maia, from which the Roman month’s name Maius probably was derived.

Pelarpipe, with a modifier derived from the verb *å pela*, meaning “to finger” or “to fiddle with,” points to a sound tool manipulated by means of fingering. The term most likely denotes a flute used for making music.

Signalpipe obviously refers to a pipe used for signaling, presumably a short type constructed and used with more emphasis on loudness than on capabilities of pitch variation.

It is striking that compound names with the head *pipe* include a greater number and a considerably larger variety of modifiers than those with the head *fløyte*. Possibly the specialized designations within this *pipe* group reveal the few scattered traces of a more differentiated – and largely utilitarian – use of bark flutes of greater antiquity than the usage reflected by the head *fløyte*, clustering around a more recent concept of music making.

Seljetvitt and *rognetvitt* are names for small bark flutes such as type A2 (Ill. 12), and obviously a subform of the *tvitt* type discussed above. These terms seem to be well known in Møre og Romsdal but are not documented elsewhere.

Compounds based on other heads are rare and the documentation is scanty. *Piststaur* is of a dual nature, combining the onomatopoetic *pist* with the physical reference to *staur* (pole, stake). A more specific interpretation, based on Ross's information that *piste* denoted the female genitalia (1971:572), suggests the name *piststaur* as a phallic reference to the bark flute.

Raunelåta evokes the various meanings of the head *låta*, mentioned above. Like *lådepiba*, *raunelåta* denotes a tool for sound making, perhaps with less emphasis on music and more on sound.

Compound phrases such as *hipp happ*, *kjipp kjapp*, *pikk pakk*, and *pipe happe* are apparently evidence of local traditions in Buskerud, Vestfold, and Østfold. It may seem awkward to use a phrase as the name of an instrument, but it was clearly stated by Høeg (1976:574) that, in his youth, small flutes made from alder were called *hippe happe*. In addition to their occurrence as characteristic rhythmic and phonetic patterns in magic jingles, this type of compound names defends its place along with other regular names for bark flutes. It is also worth mentioning that, according to Renate Brockpähler (1970:85), bark flutes in Westfalen, Germany were known by such names as *Happe*, *Huppe*, and *Huppelte*.

The variety of names used for bark flutes in Norway reflects not only distinct ways of characterizing and labeling the instrument itself but also an opulence of language in the local dialects. An interesting feature revealed by the source material is that the naming practice almost exclusively relates to types of wood, uses, functions, and onomatopoeia. Thus, with few exceptions, typological or constructional matters are not generally reflected in the different names. Many of these names are broadly applied to flutes of diverse kinds and sizes.

As the head “flute” occurs in composite names, it may refer to all kinds of whistle flutes made from bark: long and short, with and without finger holes, open and closed, and piston operated. The same applies to the head “pipe.” Although some of the references relating to the *seljefløyte* and *seljepipe* groups specifically mention long bark flutes without finger holes, the bulk of the material revolves around short flutes.

Some specific designations, such as those derived from *plystre* (whistle), unambiguously refer to short flutes capable of producing one or two pitches only. Most names do not address the musically significant distinction between long, overblown flutes without finger holes and the multitude of differently designed short flutes. In addition to denoting a bark flute, the name *blisterpipe* is also used for a single-reed straw pipe and a double-reed pipe made from a stalk of dandelion (Nord-Trøndelag²⁵²).

252 Tor Erik Jenstad, Trondheim, personal communication 1989.

Viewed as the outcome of a linguistic process, the quantity of composite names reveals noteworthy features about the conceptualization of bark flutes. In the majority compounds, the modifier refers to concrete types of wood. Besides pointing to the flute as a material object, such compounds also emphasize the object's direct relationship to nature. Thus, such names as the generic term *seljefløyte* immediately position the instrument within the realm of mankind's natural environment. Other modifiers can be grouped in various categories. The modifiers *fingre-* and *pelar-* refer to performing technique, whereas the *plistre-* and *lâte-* complexes point to both the playing technique and the sound output. Onomatopoeic modifiers such as *gnell-* and *pist-* emphasize the instrument's sound qualities. Only one modifier, *lang-*, refers to the shape or size of the flute. Several modifiers, such as *hjelpe-*, *jerpe-*, and *signal-*, unmistakably evoke various uses of the sound tool, while *fugla-/fugle-* and *mai-/maja-* possibly refer to obscure uses of a forgotten past. Altogether, the richness of compounds indicates a wide range of conceptual contexts.

Finally, let us return to the dynamic aspects of name usage. As pointed out above, it is striking that while *seljefløyte* is more widely documented than *seljepipe*, the head *fløyte* occurs in a considerably smaller number of compounds than *pipe*. It is tempting to see this as an indication of a more general, large-scale cultural change during recent times. The *pipe* complex of names seems to reflect a variety of older ways of using bark flutes for different purposes. The *fløyte* complex and particularly the pervasive *seljefløyte* seem to reflect a less varied, more standardized concept, one that was created and strengthened through a historical process involving sociological factors, as well as cultural factors. Such factors are briefly touched upon in Part III of this monograph.

Types of Wood and Terms for Various Instrument Parts

The generic name *seljefløyte* reflects the fact that the instrument is usually made from *selje* (willow, *Salix caprea*). But it does not necessarily imply that the use of this type of tree is obligatory. On the contrary, a *seljefløyte* can be made from different types of wood. During my childhood, I sometimes made *seljefløyte* from wood species other than *selje*, such as *older* (alder) and *rogn* (mountain ash). This appears to be a common practice: one grasps whatever natural resources that are available. However, the main rule is that the instrument is made from the type of wood to which its name refers. Thus, names referring to different types of wood provide information on materials traditionally used for bark-flute making.

Beyond a doubt, *selje* is the most suitable species of tree for making bark flutes. Its bark is quite tough, and during early spring when the sap is rising in the tree, it can easily be detached and peeled off the wood in long strips or tubes without cracking. Also, the undemanding, hardy *selje* can be found almost everywhere in Norway, from coastal areas up to the timberline (tree line). The *selje* may reach the size of a tree but often grows more as a bush. As a bush, it grows up to the birch belt (a topographic/climatic periphery). Many farmers consider *selje* a weed; one often finds *selje* scrubs on the edges of cultivated areas, along roads and railroad tracks, and in similar places where trees and high vegetation are unwanted and the soil is moist. When a *selje* is cut down, numerous shoots will usually grow from the stump, developing into fairly straight, slender branches with no twigs along the lower 50–100 cm. Selected shoots provide excellent raw material for *seljefløyte* making.

There is ample evidence that *selje* has been the most frequently used wood for bark flutes of all types and sizes. This is also borne out by responses to the NEG questionnaires, confirming *selje* as the main (and sometimes only) material used in local districts of Nordland,²⁵³ Nord-Trøndelag,²⁵⁴ Sør-Trøndelag,²⁵⁵ Møre og Romsdal,²⁵⁶ Sogn og Fjordane,²⁵⁷ Hordaland,²⁵⁸ Rogaland,²⁵⁹ Vest-Agder,²⁶⁰ and Buskerud²⁶¹. Considerable additional documentation pertains to the use of the name *seljefløyte*.

Smaller species of the *salix* genus (varieties of willow) are often called *vier* or *vidje*. Their growth extends above the birch belt, close to exposed rock. *Vier* is reported used for bark flutes in Troms²⁶² and Buskerud.²⁶³ *Istervier* (“fat willow,” *Salix pentandra*), found mainly in the eastern part of the country and in Trøndelag, is reportedly used in Hedmark,²⁶⁴ Telemark,²⁶⁵ where the local term *hisser* is used, and even as far north as Troms²⁶⁶. *Gråvier* (“grey willow”), including several species such as *sølvvier* (“silver willow,” *Salix glauca*), *ullvier* (“wool willow,” *Salix lanata*), and *lappvier* (“Samish willow,” *Salix lapponum*), has grey, furry leaves, making the terrain look grey from a distance. *Gråvier* is reportedly used for bark flutes in Nordland.²⁶⁷

Korgpil (“basket willow,” *Salix viminalis*) and *tårepil* (“tear willow”), a variety of *kvit pil* (“white willow,” *Salix alba*) are varieties of cultivated willow, but also found growing wild. Both *korgpil* and *tårepil* are reportedly used for making bark flutes in Nordland.²⁶⁸

Next to the many different types of *selje*, *vier*, and *pil*, all of which belong to the *Salix* genus, the most important type of wood used for making bark flutes is *rogn* (rowan, *Sorbus aucuparia*). *Rogn*, which belongs to the rose family (*Rosaceae*), is a beautiful tree that grows in most parts of Norway, from the coast to the mountains, above the conifer forests. The use of *rogn* for bark flutes was reported by local informants in Nordland,²⁶⁹ Nord-Trøndelag,²⁷⁰ Sør-Trøndelag,²⁷¹ Møre og Romsdal,²⁷²

253 NEG 18381 and 18542.

254 My tradition.

255 NEG 3356, 18303, and 18498.

256 AB.SN:21, NEG 1822, 18291, and 18328.

257 NEG 18459 and 18475.

258 NEG 832 and 19302.

259 NEG 804, 1310, 18221, 18248, 18391, and 18395.

260 NEG 18219 and 18320.

261 NEG 763 and 18411.

262 NEG 942.

263 NEG 763.

264 Marius Nytrøen, interviews 1967 and later, also NEG 1081 and 18321.

265 NEG 807.

266 NEG 18212.

267 NEG 3424.

268 NEG 3424.

269 NEG 18381.

270 My tradition.

271 NEG 3356 and 18498.

272 NEG 18222, 18291, and 18328.

Sogn og Fjordane,²⁷³ Hordaland,²⁷⁴ Rogaland,²⁷⁵ Vest-Agder,²⁷⁶ and Aust-Agder²⁷⁷. In general, *rogn* has qualities similar to *selje* when it comes to making bark flutes, except that *rogn* usually does not provide suitable straight branches free from twigs and of sufficient length for making the long type of flute (i.e., longer than about 40 cm). When *rogn* has been preferred to *selje*, it may be because flutes made from *rogn* were stronger and did not crack so easily.²⁷⁸

Or or *older* (alder, *Alnus*) belongs to the birch family, *Betulaceae*. The most common type, *gråor* (grey alder, *Alnus incana*), grows most places in Norway, particularly on sandbanks and in clay soils, up to slightly above the timberline of conifer forests. The other type found in Norway, *svartor* (black alder, *Alnus glutinosa*), is found as far north as Trøndelag, and it forms a hybrid with *gråor*. As a point of interest, it might be mentioned that wood from the *svartor* has been used for the bottom piece in *hardingfele*. *Older* is used for making bark flutes in Nord-Trøndelag,²⁷⁹ Sør-Trøndelag,²⁸⁰ and Møre og Romsdal²⁸¹.

Osp (aspen, *Populus tremula*) is found in most parts of Norway, both as a tree and in mountainous areas as a bush. It is reported as used for making bark flutes in Buskerud.²⁸²

Bjørk (birch), comprising varieties of *låglandsbjørk* (lowland birch, *Betula verrucosa*), *fellbjørk* (mountain birch, *Betula odorata*), and *dvergbjørk* (dwarf birch, *Betula nana*), is widespread and possibly, from a socioeconomic point of view, the most important deciduous tree in Norway. However, it is not well suited for making bark flutes because the bark is not easy to peel, and long, straight branches without twigs can rarely be found. Exceptionally, it has been reported as used for bark flutes in Møre og Romsdal.²⁸³

Hassel (hazel, *Corylus avellana*) can be found many places, from Nordland and southwards. It produces straight, slender saplings from the stump, which are well suited for making bark flutes. As a much less common type of wood than *selje* or *rogn*, *hassel* is reportedly used for making bark flutes only in Møre og Romsdal.²⁸⁴

In short, available documentation reveals that bark flutes have been made from various deciduous tree species in Norway. Conifer, which is hardly adequate for making bark flutes, has not been used. The use of different kinds of deciduous trees strikingly demonstrates how, in making this kind of instrument, people tend to select whatever resources are most readily available (cf. Sachs 1929:24). If there are different options, the most convenient one is likely to be selected. In general, the documentation of types of wood used for bark-flute making reflects a utilitarian attitude. Among

273 NEG 18349 and 18475.

274 NEG 18459 and 18475.

275 NEG 1310, 18221, 18248, 18283, 18334, 18391, 18395, and 18412.

276 NEG 18219 and 18320.

277 NEG 17695 and 18218.

278 Karl Hjelle, Sjøholt, Møre og Romsdal, interviewed by Erling Flem, 1988.

279 My tradition.

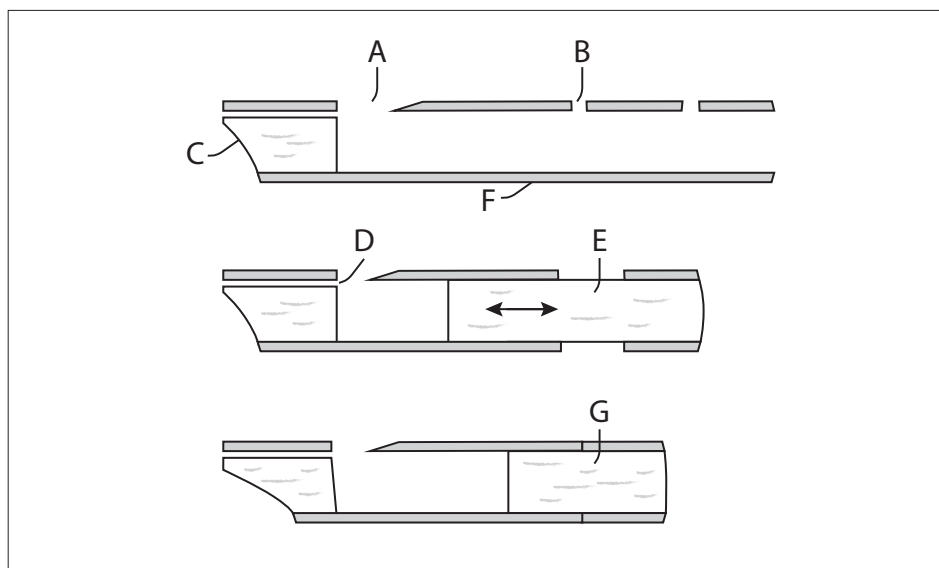
280 NEG 3356 and 18303.

281 AB.SN:21; NEG 18291.

282 NEG 18411.

283 NEG 18291.

284 NEG 18222.



Ill. 16. Terms used for different parts of the seljefløyte.
 A: lydhhol; B: prillarhol/fingerhol;
 C: munnstykke/lydpinne/tappen;
 D: lydfure/renne; E: tapp/kjepp;
 F: fløytesliri; G: lukkepinne/prop

local resources, one presumably makes choices of raw material based on availability, adequacy, and ease of making.

Whereas the Norwegian bark-flute world embraces many types of wood as raw material, only a moderate number of terms referring to different parts of the instrument are known. The terms are indicated in Ill. 16 and briefly commented below.

Lydhhol (Hedmark²⁸⁵), *ljodhol* (Rogaland,²⁸⁶ Telemark²⁸⁷), and *Buskerud*²⁸⁸), *ljohol* (Vest-Agder²⁸⁹), or *johåle* (Telemark²⁹⁰) are local variations of the term *lydhhol* (“sound hole”) and refer to the opening in the tube wall (in organ builders’ terminology, the mouth) where the acoustic vibrations are excited. By its direct reference to the sound of the instrument, the term presumably reflects an understanding of the critical role played by the opening and its design to the sound production process. Thus, the term focuses on acoustics as related to technical aspects of the instrument. Exceptionally, *ljo’hol* is also used with reference to finger holes (Rogaland²⁹¹).

Prillarhol or *prillehull* (Buskerud²⁹²) refers to finger holes and the verb *å prille*, meaning “to finger.” Other terms are simply *hol/hull/holer/huller* (Troms,²⁹³ Nordland,²⁹⁴ Sør-Trøndelag,²⁹⁵ Møre og Romsdal,²⁹⁶ and Rogaland²⁹⁷), or *fingerhol/*

285 NEG 18214.

286 NEG 18203.

287 NEG 769 and 18337.

288 NEG 763 and 811.

289 NEG 18358.

290 NEG 18201.

291 NEG 18338.

292 NEG 811, 1450, and 18411.

293 NEG 18212.

294 NEG 18542.

295 NEG 18498.

296 NEG 18319.

297 NEG 18221 and 18517.

fingrehol (Vest-Agder²⁹⁸), literally “holes” or “finger holes,” respectively. Another term is *tonehuller* (Møre og Romsdal²⁹⁹), literally “tone holes,” which reflects the use of finger holes to change the pitch. *Hakk* (Sør-Trøndelag³⁰⁰) is also used, literally meaning “notch,” presumably referring to the way the fingerholes are made, i.e., by cutting a notch through the bark tube before it is slid off the wood.

Munnstykke (Nord-Trøndelag³⁰¹ and Møre og Romsdal³⁰²), literally, “mouthpiece,” appears to be a common term for the mouthpiece. Another term for this part is *lydpinne* (Østfold³⁰³) or *ljodpinna* (Telemark³⁰⁴), meaning “sound peg.” The reference to sound in this case possibly reflects the fundamental experience known to every bark-flute maker: the design of the mouthpiece and its position relative to the sound hole significantly affects sound production. Other terms for the mouthpiece are *tappen* (Buskerud³⁰⁵), meaning “the peg,” or *endestykke* (Telemark³⁰⁶), meaning “end piece.”

Lydfure (Troms³⁰⁷), meaning “sound furrow” or “sound groove,” and *renne* (Troms³⁰⁸), meaning “gutter,” both refer to the duct introduced by cutting a groove into the mouthpiece between the sound hole and the blowhole.

As for piston flutes, the terms *tapp* (Sør-Trøndelag³⁰⁹ and Sogn og Fjordane³¹⁰), meaning “peg,” and *kjepp* (Sør-Trøndelag³¹¹), meaning “stick,” refer to the piston.

Fløyte-sliri (Telemark³¹²), literally, “flute sheath,” refers to the bark tube. The term is highly descriptive, suggesting a simple analogy between the bark tube (enclosing the wooden mouthpiece capable of being slid out) and a sheath (enclosing a knife to be slid out). Thus, it relates the bark flute most adequately to a well-known, everyday utensil.

Lukkepinne (Østfold³¹³), meaning “closing peg,” refers to the separate piece of wood in the lower end of a closed *seljefløyte*. It points directly to the mechanical function of the lower wooden piece of a closed flute, reflecting a practical, functional attitude towards the instrument. Another, equally adequate name is *propp* (Vest-Agder³¹⁴), meaning “plug.”

Compared with the abundance of names for bark flutes, the number of specific terms for parts of the instrument is remarkably limited. Even for those terms mentioned above, one reservation should be made. We cannot, in general, be sure that all of them

298 NEG 19358 and 18392.

299 AB SN:36.

300 NEG 18505.

301 My tradition.

302 NEG 18306.

303 NEG 18331.

304 NEG 807.

305 NEG 763 and 811.

306 NEG 769.

307 NEG 942.

308 NEG 18212.

309 NEG 18390.

310 NEG 18475 and 18585.

311 NEG 3356.

312 NEG 807.

313 NEG 18331.

314 NEG 18358.

reflect normal and widespread usage. The NEG questionnaires included a request to describe the *seljefløyte*. Presumably, informants responded by using general terms that seemed adequate, though some might simply have invented terms to respond to the questionnaire as thoroughly as possible. The latter might have applied to such isolated mentions of terms such as *hakk*, *fløyte-sliri*, and *lukkepinne*. However, terms such as *lydhol*, *prillarhol*, and *fingerhol*, which are rendered in local dialects and occur in local versions within different areas, most likely reflect traditional usage.

In any case, morphological aspects of nomenclature point to a non-specialized and non-professional tradition of making bark flutes, evidenced by an absence of terminological differentiation such as we associate with the pipe organ (cf. Ill. 51). On the other hand, the few terms used reveal noteworthy ways of conceptualization, focused on important aspects such as sound production, playing technique, and physical design.

Thus, terms such as *lydhol* and *lydpinne* evidence a focus on acoustical and technical matters. They reflect an acute understanding of significant details that account for the subtle acoustical behavior of bark flutes. In addition, since the terms are commonly used in connection with, e.g., fiddles, they establish a conceptual link between bark flutes and other musical instruments. In general, their meaning refers unambiguously to one specialized category of objects and signifies that bark flutes belong not only to the larger class of flutes but also to the still larger class of musical instruments. I would also point out that these terms pertain to a basic aspect of music: *music as sound*.

Similarly, terms such as *prillarhol* and *fingerhol* evidence a concern with playing technique. These terms are specialized in the sense that they do not apply to common objects other than flutes or similar aerophones, and that they are rarely used in contexts other than playing such instruments. Thus, they identify the relevant group of bark flutes as belonging to the category of aerophones with finger holes, such as flutes and horns. It is also worth noting that the terms point to one particular area of action: *music as behavior*.

Furthermore, terms such as *tapp* (peg/mouthpiece), *endestykke*, *fløyte-sliri*, and *lukkepinne* are descriptive by analogy. They are technical terms, referring primarily to the bark flute as a material, physical object. They are not specific to flutes but are borrowed words that have been assigned special meanings related to the flute. In a wider perspective, the terms focus on a particular aspect: the *musical instrument as material culture*.

Bark-Flute Making and Storage

The various short bark flute types are generally easy to make by anyone who can handle a sharp sheath knife. A common way I made *plysterpipe* during my early childhood may serve as an example. I would prepare a 10–20 cm long piece of wood, carve a beak-formed mouthpiece at the narrow end, cut down through the bark radially at the opposite end – leaving from 5–10 cm for a “handle” – and cut the sound hole in the bark before it was detached. After an elaborate bark-stripping operation, pounding on the bark with the handle of my knife while reciting a magic jingle, I was able to separate the bark tube undamaged from the wooden core. Then, after leaving the frail bark tube in a safe place, I would cut away a chip from the wood between the blowing end and the sound hole (thus preparing for the duct).

Thereafter, I would either cut the wood in two pieces at the sound hole or carve out some wood beneath the sound hole to prepare for the resonator. Finally, I would join the bark tube and the piece (or pieces) of wood and test the sound. If it did not work out as expected, a subtle adjustment of the wooden block might help, but if not, I would have to take the flute apart and trim the mouthpiece. Finally, in the case of success, I would end up with a nice little bark flute with either an open or closed end (cf. Ill. 12: A1, A2 and A3).

A more demanding making procedure applies to the long *seljefløyte*. The length of the bark tube, varying from about 40–80 cm, reduces the making season to the short period when the sap is rising in the wood, which roughly speaking is from early May to the end of June. (The period may occur earlier or later, depending on the local climate.) The bark tube can only be loosened from the wood during that period, just by grasping the piece of wood at both ends in the palm of each hand and applying a firm but cautious twist, thus separating section by section (one to two cm at a time) of the bark from the wood. It takes strong fists and manual dexterity to master this technique, but for an experienced and skilled maker, it can be carried out in a few, decisive minutes. To facilitate the start, Groven used to tear loose strips of bark at the thin end and make a clean cut around the same end after the bark had been twisted loose, but before sliding the bark tube off the wood.³¹⁵

Strictly speaking, Groven was more concerned with *seljefløyte* sound than with subtle aspects of the instrument design per se. His description of bark-flute making and storage – addressing Norwegian readers who, presumably, were familiar with bark flute traditions in general – was brief and without much detail:

The making of the *seljefløyte* is limited to the period from early May to mid-June. Considering the few weeks one can maintain a *seljefløyte* by keeping it under water, the time allotted to this music amounts to scarcely more than two months per year. Any guess as to how the *seljefløyte* or similar flute is used is of less importance. This instrument has left its mark, and this is our main concern. (Groven 1927:7)

Some NEG informants offered more detailed, albeit brief accounts of the various stages of the *seljefløyte*-making process, including the following:

One must find a long, knotless *selje* offshoot and cut a ring through the bark about 5–6 cm from the pulling end. Then one cuts out a little splinter in the *tappen* [“peg”] where one is going to blow and carves out a *ljodhol* [“sound hole”] in the bark 7–8 cm ahead [of the blowing hole]. Now one twists the bark, slides it off the *selje* sucker, cuts the sucker at the *ljodholet*, whittles a little off the *tappen*, and the flute is finished. (From Buskerud.³¹⁶)

315 Demonstrated to me during *seljefløyte*-making excursions in the woods of Groruddalen, Oslo, in spring 1967 and later.

316 NEG 811.



Ill. 17. Anton Biløygard, Lom, making a *seljefløyte*, June 10, 1982. Shown cutting the raw material at the wide end. (Photo: Ola Kai Ledang)



Ill. 18. Anton Biløygard cutting the sound hole through the bark. (Photo: Ola Kai Ledang)

Common language usage evidence a relaxed and unrestrained – not careless – attitude towards the making process:

They called it *å skjera fløyta* [to cut flute].
(From Vest-Agder.³¹⁷)

This generally applies to the making of small bark flutes. However, when it comes to the long overblown *seljefløyte*, considerable skill – and concentrated yet relaxed handwork – is required for making a good instrument. Some traditional makers/players may illustrate critical parts of the process.

Anton Biløygard (1908–1991) was an outstanding representative of the traditional art of *seljefløyte* making. His relaxed yet deeply concentrated way of making *seljefløyte* is exemplified in Ill. 17 and 18.³¹⁸



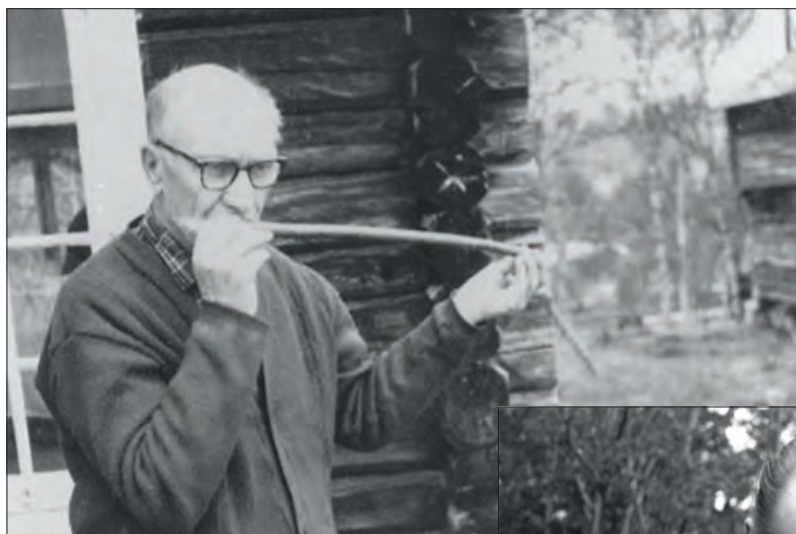
Ill. 19. Harald Tuva, from Skjåk, cutting the sound hole, while a small curious child was watching. (Photo: Ola Kai Ledang, 1972)

³¹⁷ NEG 18219.

³¹⁸ Comprehensive picture documentation of *seljefløyte* making can also be found elsewhere, e.g., Høeg 1976:575ff. and Ledang 1979:8f.



Ill. 20. Rikard Udnes, Vågå trying out a newly made flute, June 2, 1972. His left hand is shown grasping sensitively but firmly around the bark tube, with the thumb right below and under the sound hole to enable the fingertip to be used for pressing, and thus accommodating the curved edge of the sound hole to promote optimal sound production. (Photo: Ola Kai Ledang)



Ill. 21. Marius (above) and Jostein Nytrøen (right) trying out newly made flutes. (Photos: Ola Kai Ledang)



III. 22. Marie Vøllestad playing her long *seljefløyte*. Note her right-hand fingering practice: Her narrow fingertips necessitated the use of both the middle finger and the forefinger to close the flute tube. (Photo: Ola Kai Ledang)



Harald Tuva, from Skjåk, and Rikard Udnes, from Vågå, did not have a repertoire of *seljefløyte* tunes, but were familiar with making long *seljefløyte*.

Marius Nytrøen (1896–1993) and Jostein Nytrøen (1930–2008), Vingelen, Tolga, were excellent *seljefløyte* makers and players.

Marie Vøllestad (1889–1981) did not make the instrument herself but enjoyed playing *seljefløyte*. Her use of two fingers to manage to close the flute, was creative and effective.

Bjørnar Schei (1922–2015) was a committed *seljefløyte* maker-player and had developed his own small tricks to make the flute sound good. For example, he bit the wooden core to make subtle adjustments to the air stream through the flue, as shown in III. 23.

Paul Okkenhaug (1908–1975), composer and organist in Levanger, Nord-Trøndelag, was deeply captivated by the *seljefløyte* and had learned to make it as an adult, while traveling in the southern part of Norway.



III. 23. Bjørnar Schei, Selbu making *seljefløyte*, June 25, 1988. By biting across the block at the end close to the sound hole, he achieved the correct curving of the duct to direct the air stream slightly outwards, right up against the sharp, curved edge of the upper lip. (Photo: Ola Kai Ledang)



Ill. 24. Paul Okkenhaug, selecting a piece of raw material for a *seljefløyte*, and gentle twisting to make the bark tube loosen. (Photo: Ola Kai Ledang)

Egil Storbekken (1911–2002), folk musician and composer from Tolga, Hedmark, produced plastic replicas of the *seljefløyte*, but was also an experienced maker of the traditional instrument.

Although most of the making procedure is common to all bark-flute makers, some individual and regional variations can be documented, as shown above. Whereas the short bark-flute varieties have been and still are easily made by anyone, there are a few tricks involved in making a good-quality long *seljefløyte*.

Particular care is taken in the design of the *lydpinne* and the *lydhol*. To function successfully, a flute must be designed in such a way that the air stream from the duct is directed right up against the curved, sharp edge of the *lydhol*. This can be accomplished in various ways, most of which aim at producing a slight curvature upwards of the lower, flat side of the duct. Groven's method was to make a little chink in the end of the *lydpinne*, right below the *lydhol*.³¹⁹ By pressing a small splinter or chip into the chink, he adjusted the shape of the duct near the *lydhol* to yield the best musical result. Another technique to achieve a similar result is simply to bite across the *lydpinne* close to the *lydhol*, as demonstrated by Schei (Ill. 23).³²⁰

319 Personal communication 1967.

320 A similar method is also used by Marius and Jostein Nytrøen.

*Ill. 25. Egil Storbekken carefully yet firmly pulling the wooden core out of the "wet" bark tube, and then testing the new flute.
(Photo: Ola Kai Ledang)*



Available documentation gives evidence of a quite widespread practice of storing *seljefløyte* in a humid environment, to lengthen the life of the instrument. The most common and simplest method was to keep the instrument immersed in water:

To prevent the bark from drying out, the flute had to stay in water.
(From Krødsherad, Buskerud.³²¹)

321 NEG 763.

Ill. 26. Bjørnar Schei trying a newly made flute and demonstrating his method of long-term storage of *seljefløyte* immersed in water with Hibitane (chlorhexidine cream) added. By means of the string attached to the mouthpiece, the flute is conveniently stored in the plastic tube (Photo: Ola Kai Ledang).



When the [*selje*]fløyta was not used, it was constantly kept under water. In that way it held up better.
(From Kvam, Hordaland.³²²)

Also, a somewhat unusual method was reported:

Kristen Nilsen Rimdal [?³²³] blew well on *seljeflyta*. To keep the flutes whole and fresh long as possible, they put them into the *mysesåden*,³²⁴ this was much better than watersoaking. K. N. R. died around 1914, about 75 years old.
(From Fjaler, Sogn og Fjordane.³²⁵)

It is not easy to assess whether the practice of storing *seljefløyte* immersed in water is an old or a recent phenomenon. Doubtless, the possibility of doing so has always been close at hand, since in every place where bark flutes were made and played, there would have had easy access to water in local streams and springs. At least, it seems safe to draw the conclusion that the practice of storing bark flutes in water has not been exceptional. On the other hand, there is no evidence that this method of storage has been used to extend the *seljefløyte* playing season for more than a couple of months, to last during the summer.

The lack of any traditional method for long-term storage of bark flutes has recently prompted experimentation with different ways to store or preserve *seljefløyter*. Groven, when experimenting with *seljefløyter* immersed in fresh water, succeeded

322 Opedal 1954:113.

323 Indistinct handwriting in the MS.

324 A container with *myse*, whey.

325 AB.Yt:384.

in keeping flutes playable for as long as one year.³²⁶ The method is confirmed from my own experience, as I have successfully stored long *seljefløyter* in water for up to fifteen months. Similarly, Bjørnar Schei tried different ways to store and preserve *seljefløyte*.³²⁷ Among the techniques he tried were 1) storage in linseed oil, 2) painting the bark tube, and 3) keeping the flute immersed in water. Methods 1 and 2 were not successful. According to Schei, the best way to preserve a *seljefløyte* is by immersion in fresh water to which is added an antiseptic, such as Hibitane (chlorhexidine cream), to avoid fermentation. Stored in this solution, the flute may last longer than one year. Schei also developed a method of attaching a string to the end of the protruding mouthpiece. He stored the flute in the water-Hibitane solution in an 80 cm long plastic tube with an inner diameter of 25 mm. To remove the flute from the water, he simply pulled the string attached to the mouthpiece (Ill. 26).

My own practical experience confirms that a *seljefløyte* can successfully be stored immersed in fresh water (which must be replaced now and then), even for a period exceeding twelve months. However, each time the flute is used, it functions less satisfactorily because of the deterioration process. After one year (sometimes more) in water, the *seljefløyte* becomes unplayable due to the storage method. A *seljefløyte* stored for a couple of weeks or more usually does not function musically as flexibly as a newly made one. The *seljefløyte* is essentially a seasonal, throwaway instrument, traditionally made and used only a couple of weeks or months every year.

Traditional Practices: Magic Jingles

As demonstrated in the preceding section, names for bark flutes and terms for different parts of the *seljefløyte* reveal basic conceptual connections and shed light on bark flute usage. In this section, I consider various practices and beliefs associated with making and using bark flutes. These traditional customs reflect basic aspects of meaning, and thus contribute to the contextual, social, and cultural matrix of bark flutes in Norway. My own childhood memories include annual playful *seljefløyte* activities, which made up a significant part of my cultural background. Such insider's experience and values necessarily will manifest themselves through my analytical approach – for the better, I hope.

Bark-flute making is basically a silent undertaking. Making a long *seljefløyte* the traditional way by twisting and then loosening the bark calls for deep, quiet concentration. By contrast, making short flutes traditionally has involved a sort of ritual, including a magic jingle chanted simultaneously with the bark-stripping act. This dichotomy – usually not notified among bark-flute makers, perhaps because it was taken for granted – is commented by Toralf Hjellen from Søndeled, Aust-Agder, who had used a jingle when he made short bark-flutes as a boy in the late nineteen thirties. But later he did not use the jingle, when he made long *seljefløyte* (Hellerdal 2009:46f).

The innermost element of the bark-stripping ritual, a magic jingle or conjuration, deserves particular attention. The rich and many-sided repertoire of such jingles,

326 Personal communication 1967.

327 Interview, Selbu, June 25, 1988.

rhymes, or chants, involves challenges and intriguing questions³²⁸. Similar jingles have been documented in several countries,³²⁹ from which one may infer that the tradition of using such jingles is a longstanding one. Moeck (1951) suggested that what, in the 1950s, was conceived as insignificant children's play might have had its historical origin in an ancient springtime ritual to ensure a bountiful harvest. In the monumental work *Planter og tradisjon* (Plants and Tradition) by Høeg (1976:573ff.), 64 jingles from different regions of Norway are quoted, stressing the importance of rhythm in their performance. Høeg pointed out numerous jingles from the counties of Aust-Agder and Vest-Agder as variants of "the prayer to Saint Cecilia, the protector of music" (1976:580), amplifying an interpretation put forward by Olsen (1918:75). Although he had enough material to justify a more systematic approach to the form and content of the magical jingles chanted or sung to the making of *seljefløyte*, Høeg, who focused on their traditional usage, presented these jingles in a regional sequence.

The corpus of jingles reveals a rich diversity of form and content, which deserves closer attention. The recurrence of certain motives, singly and in combinations, indicates that an analysis of form and content might be rewarding.³³⁰ Such an analytic approach must take into consideration that the source material has been collected over a considerable time span – more than one century. However, there is no indication that significant changes in the use of jingles occurred during those years, compared, for example, with the noticeable regional variations. Most jingles were documented literally, with scant information on such details of performance as rhythm and melody. Thus, an overall analysis limits the focus to addressing verbal design and content. A general content analysis might be profitably integrated with some attention to usage.

In the following, an attempt is made to present the available jingle corpus in a systematic order, based on preliminary analyses of form and content. Depending on the kinds of criteria, which form our basis, various means of classifying the material are possible, for example, addressing questions related to the meaning, uses, functions, and historical implications. Amidst such profusion, I have chosen to search for what I consider the essential inherent quality of each jingle, to be utilized as the basis for a simple typological survey. Thus, my goal has been to classify each jingle primarily according to a generalized conception of its basic underlying meaning. Through deliberations based on preliminary inspection and analytical evaluation of the material – and an introspective side glance at my own personal experience in these matters from early childhood – I have arrived at a classification scheme based on three main types of jingles and – for the sake of comparison and broadening perspective – an additional category of related folklore genres:

- I. Jingles focused on the making process and/or the year cycle
- II. Jingles promising a reward or penalty
- III. Jingles addressing Cecilia or equivalent designation
- IV. Related jingles

328 For the sake of consistency, I use the term "jingle." Other terms, such as "conjunction" and "adjuration," appear more appropriate to the discussion on usage and practices.

329 See, for example, Jeanjaquet (1905), Moeck (1951), Brockpähler (1970), Picken (1975, 1976), and Emsheimer (1984).

330 Brockpähler's approach (1970) is an interesting example of such an analytic approach to a large jingle corpus.

The main types I–III comprise texts known and used only as “jingles-for-making-bark-flutes.” They focus on beliefs and ideas evoked through the ritualized making process, occasionally with thought-provoking sidetracks.

Jingles of Type I are, as a main rule, recognized as an offer: the maker offers a return “next year” if the flute made now (the “flute-under-processing”) responds well, according to the maker’s expectations (and the expected natural qualities of the raw material). Thus, a kind of contract-like, mutual commitment is established between the maker and the made, with an obscure, abstract remuneration and the year cycle as time horizon. The real content of the promised recompense remains an unsolved mystery – or futility? The overall impression points to the jingle as a magic expression, establishing a supernatural relationship between maker and the made, framed within the year cycle.

Type II jingles of the second type, as a rule are focused on a promise of a material reward, provided the flute-under-processing responds as expected by the maker – and/or a penalty in case of the opposite. Both reward and doom have no expressed time frame, and in some cases leave an impression of lofty pun with little substance. The promise is occasionally emphasized, by various extras and intensifiers that cause the jingles sound to bloom.

Type III jingles includes those in the form of a prayer asking Cecilia or a related addressee for help with the bark-stripping process. The presumed prototypical address of Cecilia indicates an historical origin as a prayer to Saint Cecilia, the Catholic patron of music and musicians. Despite the numerous creative corruptions of the word Cecilia by generations of users, the essentially prayer-like form of the jingles seems to have been maintained quite stably up to recent times. Occasionally, various additional, related, or independent motives are added in local jingle variants.

Type IV jingles contain examples of related folklore genres: jingles and rhymes with words borrowed from various contexts or used in connection with making reed pipes, and rhymes commenting on reputation of bears and their sentiments relating to music. These samples provide a glimpse of the huge and long-standing folklore traditions within which the use of jingles-for-making-bark-flutes was evidently created and has developed through the centuries.

The preliminary typological division proposed here does not constitute a consistent, unambiguous classification system. Like most folkloristic material, the corpus of bark-stripping jingles, conceived as a whole, comprise variants related to each other in different, intertwining ways, and this makes a strict, consistent typology out of one’s reach. Whereas the typology is essentially factual, the complexity of the material warrants interpretation as a necessary requisite. Particularly in the case of jingles of a compound or hybrid nature, one faces choices among different possible classifications, and a fair amount of practical judgment should be exercised. As a rule, I comment upon such cases and explain my interpretations and their underlying premises. Here, one must rely on an evaluation of what seems the most essential quality of each jingle. Quite a few jingles classified as type I contain an enticement and could therefore easily be included in type II. However, while the enticements found in the jingles of type II generally comprise a promise of a reward or punishment without mention of any time factor, those in the jingles within type I usually relate to the year cycle. These, as well as other questions related to the typology outlined above, are dealt with in the presentation and discussion of the entire body of material. The same applies to the criteria chosen for subdivision of the main types. Jingles of a hybrid nature are – to the best of my judgment – tentatively included in the three main categories.

For the sake of completeness and clarity, each jingle is presented both in its Norwegian dialect version, as quoted from the respective source, and in a literal English translation. No attempt has been made to preserve the rhythm and rhyme of the originals in the translations, my primary aim being to reproduce the semantic meaning of the originals as faithfully as possible in English. Notwithstanding this, one may occasionally stumble across jingles, in which the Norwegian vernacular has stunningly close parallels in English. On the other hand, a multitude of subtle variations in the Norwegian originals, reflecting differences among local dialects, is unavoidably lost in the translation process.

I. Jingles focused on the making process and/or the year cycle

Two jingles refer to the making only. Nevertheless, they appear complete and whole. The first one is simply an appeal to the flute-under-processing to peel:

Jingle 1.

Sva sva pipi ...

(From Brunlanes, Vestfold.³³¹)

Peel peel pipi ...

The next jingle is a little ambiguous:

Jingle 2.

Tille tille tå,

la pista mi gå.

(From Syvde, Møre og Romsdal.³³²)

Tille tille tå,

let my *pista* peel.

The initial formula *Tille tille tå* reminds of a common formula known from nursery rhymes and children's songs, such as *Till, till tuten*, *Tirelill Tove*, and *Till, till tara* (Støylen 1959:10, 47, 49). Jingle no. 70 has a similar formula. One can also dimly perceive a phonetical relationship with other bark-flute designations such as *tvitt tvitt*, or *pippil pippil*.

Jingle nos. 3–15 in various ways refer to the year cycle – a universal dimension of time and nature, which has always enclosed mankind and human life. In general, these jingles in their traditional context mentally establish a mutual commitment or contract-like relationship between the maker and the made. This “agreement” revolves around non-material values, such as a promise that “if you peel for me this year, then I’ll peel for you the next year (or another year).” Thus, such a non-material exchange of values appears as a typological attribute of type I jingles.

The subdivision of this type takes the initial formula (first line) as the main distinguishing criterion. Terms such as *sva* (loosen, peel), *løype* (peel), *selje* (willow), and *tvitt* (name for a small flute) are intimately connected to bark-flute making.

³³¹ Høeg 1976:578.

³³² Ibid. 580.

Jingle 3.

*Sva, sva pipta
vil du sva for meg i år
skal eg sva for deg eit ant år.
(From Nestrand, Rogaland.³³³)*

Peel, peel *pipta*
should you peel for me this year,
I'll peel for you another year.

Jingle 4.

*Sælje, sælje,
løyp te mæ i år
så ska æ løyp te dæ
te næste år.
(From Namsos, Nord-Trøndelag.³³⁴)*

Willow, willow,
peel for me this year,
then I'll peel for you
the next year.

| | | |
|----------|--|----------|
| Chanting | | |
| Pounding | | III. 27. |

I learned this jingle during my childhood in the 1940s, but I still do not know from whom. While rapping gently with the handle of my sheath knife on the bark, I used to repeat the jingle monotonously, at a tempo of approximately 240 beats per minute. The rapping would produce an unbroken, metronomic pattern of regular beats, coalescing with the rhythm of the chant, as represented by the transcribed eighth-note series. A similar pattern in slightly different vocal version is applied in the following jingle:

Jingle 5.

*Sælli, sælli,
vil du løyp åt mæ i år,
så ska æ løyp åt dæ
te næste år.*

*Sælli, sælli,
should you peel for me this year,
then I'll peel for you
the next year.
(From Namsos, Nord-Trøndelag.³³⁵)*

Jingle 6.

*Tvitt, tvitt, tvitt,
vil du gå for meg
ska eg gå for deg
ein annan gong.
(From Ørsta, Møre og Romsdal.³³⁶)*

*Tvitt, tvitt, tvitt,
should you peel for me,
I'll peel for you
another time.*

333 NEG 18517.

334 My tradition. I learned this jingle at the age of seven or eight years and always took great care of using it whenever I made a *seljefløyte*. Who taught me the magic? I still do not know!

335 Gunnvor Dahle (1918–2015), Namsos, conversation June 17, 1990. Dahle learned the jingle from her father, Birger Dahl, born in Namsos 1892, and grandfather, Otto Christian Dahl, from Overhalla. Birger Dahl had used the jingle when he made *sællifløyte*.

336 Harald Sørheim (b. 1937), (conversation during a wedding in Trondheim), June 20, 1992. Sørheim had learned the jingle from his father, Elias Sørheim (1896–1985).

References to the month of May or the like, appear as a culturally conditioned objectification of the more general year-cycle concept. They are documented as used in Western Norway:

Jingle 7.

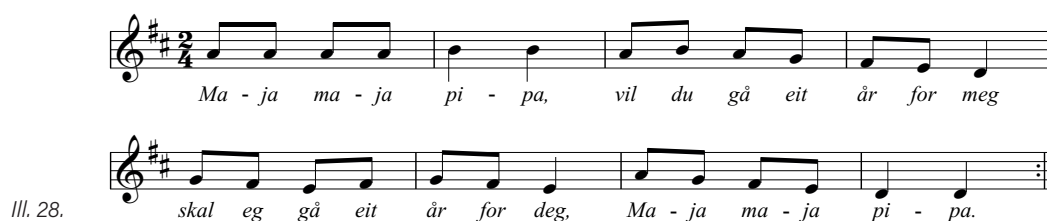
| | |
|---|---|
| <i>Mai pipe,</i> | <i>Mai pipe,</i> |
| <i>vil du gå for meg i år</i> | <i>should you peel for me this year,</i> |
| <i>skal jei gå for dei et ann't år.</i> | <i>I shall peel for you another year.</i> |
| (From Bergen, Hordaland. ³³⁷) | |

The verb *gå*, with many various meanings derived from “go,” “walk,” “leave,” “run,” in this jingle and in many others, is presumably used metaphorically in the specific meaning of “peel.”

Jingle 8.

| | |
|---|---|
| <i>Maja maja pipa,</i> | <i>Maja maja pipa,</i> |
| <i>vil du gå eit år for meg</i> | <i>should you peel one year for me,</i> |
| <i>skal eg gå eit år for deg,</i> | <i>I shall peel one year for you,</i> |
| <i>Maja maja pipa.</i> | <i>Maja maja pipa.</i> |
| (To be sung to the tune “Fola fola Blakken.”) | |
| (From Haus, Hordaland. ³³⁸) | |

Following the melody reference in the source, a transcription of this jingle, based on a common, widely known version of the tune “Fola fola Blakken”, yields



Ill. 28.

The identity of *Mai*, *Maja*, as a reference to the month of May is substantiated in the following jingle:

Jingle 9.

| | |
|--|--|
| <i>Mai mai maone,</i> | <i>May May month,</i> |
| <i>vi du komma te meg dette aoret</i> | <i>should you peel for me this year,</i> |
| <i>ska eg komma te deg neste aor.</i> | <i>I'll peel for you next year.</i> |
| (From Evanger, Hordaland. ³³⁹) | |

The girl's name *Mari*, occurring in the following jingles, may reasonably be interpreted as a derivation of *Mai* or *Maia*.

337 Høeg 1976:580.

338 Ibid.

339 Ibid.

Jingle 10.

| | |
|---|-----------------------------|
| <i>Mari mari heppe,</i> | <i>Mari mari heppe,</i> |
| <i>vil du ikkje sleppe,</i> | should you not peel, |
| <i>skal eg sleppe deg til neste år.</i> | I shall peel you next year. |

(From Stryn, Sogn og Fjordane.³⁴⁰)

The word *heppe* fits well in the rhythm and rhyme; it also means good luck, success, or fortune, which in this context makes reasonable sense. Additionally, it also occurs in jingle no. 71 and curiously reminds one of terms such as *pipe happe* (cf., e.g., nos. 34–36, and 74).

The expression *skorstein og livrabein*, which occurs in the following two jingles, is not easily comprehensible but is more likely to be understood as a play on words, a nonsense addition that fits well into the rhythm and rhyme, and perhaps with some local associative reference.³⁴¹ Perhaps the expression simply has metaphoric references to the flute body?

Jingle 11.

When they made *selje-* or *rauneflytor* during springtime, they used to speak this formula:

| | |
|--|--------------------------------------|
| <i>Mari, Mari-pipa,</i> | <i>Mari, Mari-pipa,</i> |
| <i>skorstein og livrabein,</i> | chimney and <i>livrabein</i> , |
| <i>vil du gå fyr meg i år,</i> | should you peel for me this year, |
| <i>so ska eg gå fyr deg eit anna år.</i> | then I'll peel for you another year. |

(Rhythmically, keeping time with the pounding.)

They would only stop, one after the other, when the bark had loosened.

(From Fana, Hordaland, after Even Heimdal (aged 71 years), 1940.³⁴²)

Jingle 12.

Seljefløytestev (Willow flute verse):

| | |
|--|--------------------------------------|
| <i>Mari, Mari metta,</i> | <i>Mari, Mari metta,</i> |
| <i>skorstein og livrabein;</i> | chimney and <i>livrabein</i> , |
| <i>vil du gå for meg i år,</i> | if you peel for me this year, |
| <i>so ska eg gå for deg eit anna år.</i> | then, I'll peel for you another year |

The little boys were singing this verse while pounding with the knife handle on the bark, which they were spitting on to make it peel.

(From Valderøy (?³⁴³), Møre og Romsdal.³⁴⁴)

Considered in the ritual context of magic bark-stripping jingles, expressions such as *fugla pipa* and *fugla-fløyta* evoke the idea of totemistic links between flute and bird, as pointed out by Moeck (1951:85). Another interpretation relates to the hunter's use of flutes to attract game.

340 Høeg 1976:580.

341 The element "*livra*" in *livrabein* possibly derives from *lever* (liver), whereas *bein* has different meanings, including bone, foot, or leg.

342 AB.Yt:391.

343 Provenance not clearly stated on record.

344 AB.Yt:1035.

Jingle 13.

| | |
|--|--------------------------------------|
| <i>Fugla fugla pipa,</i> | Bird bird pipe, |
| <i>vil du gao for meg i aor</i> | if you peel for me this year, |
| <i>so ska eg gao for deg eit anna aor.</i> | then I'll peel for you another year. |
| <i>Fugla fugla pipa.</i> | Bird bird pipe. |

(From Hafslo (Urnes), Sogn og Fjordane.³⁴⁵)

Jingle 14.

(Melody: *Skjera, skjera havre:*)

| | |
|--------------------------------|-------------------------------|
| <i>Fugla-, fugla-fløyta,</i> | Bird-, bird-flute, |
| <i>vi du gao fyr meg i aor</i> | if you peel for me this year, |
| <i>so ska æg gao fyr dæg</i> | then I'll peel for you |
| <i>eit onnort, onnort aor.</i> | another, other year. |

(From Sogndal, Sogn og Fjordane.³⁴⁶)

Following the melody reference in the source, a transcription based on the song “Skjera, skjera havre”³⁴⁷ (Støylen 1959:73), may yield a result such as as shown in Ill. 29.

Ill. 29.

The following jingle is exceptional in several respects. The flute is referred to in the third person, instead of being addressed directly, whereby the mutual relationship between maker and made is disturbed. This is further emphasized by past tense and the reference to *this* year only, not the next. The text loses its action character; it merely reports a past event, or contemplates experience made some time ago, notwithstanding that bark peeling elements are clearly recognizable.

Jingle 15.

| | |
|--------------------------------------|----------------------------------|
| <i>Eg klakka pao mi fuglafløyta,</i> | I pounded on my bird flute, |
| <i>so tile so ho gaor,</i> | as early as she peels, |
| <i>so tile so ho gaor,</i> | as early as she peels, |
| <i>eg klakka pao mi fuglafløyta,</i> | I pounded on my bird flute, |
| <i>so tile so ho gaor i aor.</i> | as early as she peels this year. |

(From Haugesund, Rogaland.³⁴⁸)

345 Bugge 1919:84.

346 NFS Kjell Bondevik 4.8.

347 cf. the “Fola fola Blakken” version presented above.

348 NEG 18459.

II. Jingles promising a reward or penalty

Whereas a mutual relationship between the maker and the made of an abstract, although personal kind, is established through type I jingles, type II jingles center on promising a reward if the bark peeling process proves successful, or a penalty if not. Almost half the jingle corpus belongs to this type, making it the most well-documented and probably the most widespread, occurring all over the southern part of Norway.

While many jingles of type II include a material reward or promise, the individual kind of reward varies considerably. Thus, the subdivision of this type takes the specification of the reward as its distinguishing criterion. By far the most common enticement is “Meat and soup in the King’s Mansion” and the like. This kind of encouragement puts emphasis on immediate, every-day, basic needs, in striking contrast to the more abstract year-cycle reference of type I. It occurs in a variety of connections and is widely documented.

Jingle 16.

*Pipe pipe
vil du sva, skal du få
kjøtt å kål
i kongens gård.*

(From Eidanger, Telemark.³⁴⁹)

Pipe pipe
if you peel, you shall get
meat and soup
in the King’s Mansion.

Jingle 17.

*Pipe pipe
vil du sva ska du få
kjøtt å kål
i kongens gård.*

(From Larvik, Vestfold.³⁵⁰)

Pipe pipe
if you peel, you’ll get
meat and soup
in the King’s Mansion.

Jingle 18.

*Pip, pip
vil du sva skal du få
kjøtt og flesk
i kongens gård.*

(From Eidsfoss, Vestfold.³⁵¹)

Pip, pip
if you peel, you shall get
meat and bacon
in the King’s Mansion.

Jingle 19.

*Pippel pippel
vil du gå
mat og drikke skal du få,
kjøtt og kål
i kongens gård.*

(From Kråkerøy, Østfold.³⁵²)

Pippel pippel
if you peel,
food and drink you shall get,
meat and soup
in the King’s Mansion.

349 Høeg:579.

350 Ibid.

351 Jan Brøgger, Trondheim, letter dated January 30, 1990.

352 Høeg 1976:578.

Jingle 20.

*Pikk pakk
vil du gå, skal du få,
kopp og skål
i kongens gard.
(From Gran, Oppland.³⁵³)*

*Pikk pakk
if you peel, you shall get,
cup and saucer
in the King's Mansion.*

Sometimes the breezy reference to the “King’s Mansion” is replaced by more hefty material benefits. Karl Hjelle (born 1914) used to make flutes from rowan or willow as a boy. When he pounded on the bark, he would sing the following words (i.e., in jingle 21) in a melody such as “*Fola, fola Blakken*” (cf. Ill. 28):

Jingle 21.

*Fløyte, fløyte vil du gå,
fire skilling skal du få,
fløyte, fløyte vil du gå,
fire skilling skal du få.
(From Ørskog, Møre og Romsdal.³⁵⁴)*

*Flute, flute, if you peel,
four shillings you shall get,
flute, flute, if you peel,
four shillings you shall get.*

Jingle 22.

*Fløyte fløyte
vil du sva, skal du få,
kjøtt og kål
og fire skilling attpå.
(From Skien, Telemark.³⁵⁵)*

*Flute flute
if you peel, you shall get,
meat and soup
and four shillings besides.*

Jingle 23.

*Pip pip
vidu sva, skadu få
kjøtt å kål
å åtte øre attpå.
(From Brunlanes, Vestfold.³⁵⁶)*

*Pipe pipe
if you peel, you'll get
meat and soup
and eight øre besides.*

The øre used to be a Scandinavian monetary unit since the Middle Ages.

Jingle 24.

*Pipe pipe
vil du gå, skar du få
kjøtt og kål
i kongens gård
og to skilling attpå.
(From Stor-Elvdal, Hedmark.³⁵⁷)*

*Pipe pipe
if you peel, you'll get
meat and soup
in the King's Mansion
and two shillings besides.*

353 Ibid.

354 Letter from Erling Flem, December 1988.

355 Høeg 1976:579.

356 Ibid. 578.

357 Ibid.

Jingle 25.

*Pipe, pipe,
vil du gå, vil du gå,
so ska du få
kurv og flesk
i kongens gard
o fire skilling atte.*

(*Kurv* = smoked sausage.)

(From Vestre Slidre, Oppland.³⁵⁸)

*Pipe, pipe,
if you peel, if you peel,
then you'll get
smoked sausage and bacon
in the King's Mansion
and four shillings besides.*

Jingle 26.

*Pippil, pippil,
vil du gå skal du få
kjøtt og kål
i kongens skål
og fire skilling attpå.*

(From Fåberg, Oppland.³⁵⁹)

*Pippil, pippil,
if you peel, you shall get
meat and soup
in the King's bowl
and four shillings besides.*

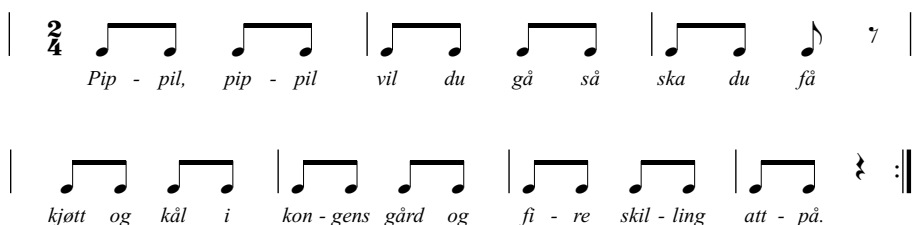
Phonetically, the expressions *kongens skål* (the King's bowl) and *kongens gård* (the King's Mansion) sound almost identical in some dialects. Thus, it is possible that the latter, perhaps a more close-at-hand interpretation, has been mistakenly rendered in some written-down jingle versions. The use of the term *gård* to fit the rhyme in localities where the correct dialect rendering would be *gard*, points in the same direction. Incidentally, the term *skål* (bowl) is possibly derived from *skåle*, an archaic word meaning "dwelling house; house containing large hall for festive use" (Haugen 1984:379) (also, cf. jingle no. 56).

Jingle 27.

*Pippil, pippil,
vil du gå så ska du få
kjøtt og kål
i kongens gård
og fire skilling attpå.*

(From Øyer, Oppland.³⁶⁰)

*Pippil, pippil,
if you peel, then you shall get
meat and soup
in the King's Mansion
and four shillings besides.*



III. 30.

358 Ibid.

359 Sevåg 1973:110.

360 Marit Dahle, conversation, Namsos June 17, 1990. Dahle learned the jingle from her father, Per Rusten, born in Øyer 1920. Per Rusten had used the jingle when he made *pippil*.

Jingle 28.

*Pipill pipill
vi'ru gå, ska'ru få
kjøtt å kål
i kongens gård
og fire sjelling attpå*

*Pipill pipill
if you peel, you'll get
meat and soup
in the King's Mansion
and four shillings besides.
(From Fåberg, Oppland.³⁶¹)*

Jingle 29.

*Pippil, pippil
vil du gå, ska du få,
kjøtt å kal
i kongens gard
å fire skilling attpå.*

(From Lillehammer, Oppland.³⁶²)

*Pippil, pippil, if you peel,
vil du gå, you'll get,
meat and soup
in the King's Mansion
and four shillings besides.*

Jingle 30.

*Sva sva
fløyta mi,
så skal du få
kjøtt og kål på en skål,*

(There are several variants, but only one is remembered and still in use.)

(From Langesund, Telemark.³⁶³)

*Peel peel
my flute,
then you shall get
meat and soup in a bowl.*

Jingle 31.

*Sva sva pipe,
vi du svar så ska du få
kjøtt og kål
i kongens gård
sva sva pipe.*

(The word *pipe* is interchangeable with *fløyte*.)

(From Sannidal, Telemark.³⁶⁴)

*Peel peel pipe,
if you peel, then you'll get
meat and soup
in the King's Mansion
peel peel pipe.*

Jingle 32.

*Jerpepipe, jerpepipe,
vil du gå
ska du få
kjøtt og kål
i kongens gård
og to skjelling attpå.*

(From Jevnaker, Oppland.³⁶⁵)

*Jerpepipe, jerpepipe,
if you peel,
you shall get
meat and soup
in the King's Mansion
and two shillings besides.*

361 Høeg 1976:578.

362 Ibid.

363 Ibid. 579.

364 Ibid.

365 Erling Flem, Trondheim, conversation September 29, 1996.

Jingle 33.

| | |
|-------------------------------|------------------------------|
| <i>Pelarpipe, pelarpipe,</i> | <i>Pelarpipe, pelarpipe,</i> |
| <i>vil du låte,</i> | should you sound, |
| <i>så ska du få</i> | then you'll get |
| <i>kjøtt å kål</i> | meat and soup |
| <i>i kongens gård</i> | in the King's Mansion |
| <i>å fire sjelling attpå.</i> | and four shillings besides. |

(*Kål* is a soup made from boiled cured meat, root vegetables, peas, and grain.)
(From Sør-Fron, Oppland.³⁶⁶)

Jingle 34.

| | |
|--------------------------------|--------------------------------|
| <i>Pipe happe, pipe happe,</i> | <i>Pipe happe, pipe happe,</i> |
| <i>vil du gå</i> | if you peel, |
| <i>skal du få</i> | you shall get |
| <i>kjøtt og kål</i> | meat and soup |
| <i>i kongens gård</i> | in the King's Mansion |
| <i>og ti skilling attpå.</i> | and ten shillings besides. |

(From Øvre Eiker, Buskerud.³⁶⁷)

The *pipe happe* phrase naturally leads to the *hippen happen*, *hippe happe*, *hippo happe*, motive group. Remarkably, *hippe happe* and the like are more than just rhythmic nonsense expressions; they are applied as a real name for short bark flutes (Høeg 1976:574).

Jingle 35.

| | |
|-------------------------------|-----------------------------|
| <i>Hippen happen</i> | <i>Hippen happen</i> |
| <i>vil du gå, skal du få</i> | if you peel, you shall get |
| <i>kjøtt å kål</i> | meat and soup |
| <i>i kongens gård</i> | in the King's Mansion |
| <i>og fem skilling attpå.</i> | and five shillings besides. |

(From Drammen, Buskerud.³⁶⁸)

Jingle 36.

| | |
|---------------------------------|-----------------------------|
| <i>Hippo happe</i> | <i>Hippo happe</i> |
| <i>vi' du gå sko du få</i> | if you peel, you'll get |
| <i>kjøtt og kål</i> | meat and soup |
| <i>i kongens gård</i> | in the King's Mansion |
| <i>og fire skjelling attpå.</i> | and four shillings besides. |

(From Hvitvingfoss, Buskerud.³⁶⁹)

366 Høeg 1976:578.

367 Ibid.

368 Ibid.

369 NEG 18575.

Jingle 37.

*Hipp happ
vi'du sva, inte sprekke,
ska du få,
kjøtt å kål
i kongens gård
og fire skjelling attpå.
(From Tjøme, Vestfold.³⁷⁰)*

*Hipp happ
if you peel, not split,
you'll get,
meat and soup
in the King's Mansion
and four shillings besides.*

This unusual occurrence of the “not split” expression is somehow clarifying and confirms what the jingle is all about: to avoid the bark splitting.

Jingle 38.

*Kjipp kjapp
vi du sva, ska du få
kjøtt å kål
i kongens gård
å sju skilling ovapå.
(From Brunlanes, Vestfold.³⁷¹)*

*Kjipp kjapp
if you peel, you'll get
meat and soup
in the King's Mansion
and seven shillings on top of.*

Jingle 39.

*Pikk pakk
vidu sva, skadu få
kjøtt å kål
i kongens gård
å fire skilling attpå
til tobakk.
(From Røyken, Buskerud.³⁷²)*

*Pikk pakk
if you peel, you'll get
meat and soup
in the King's Mansion
and four shillings besides
for tobacco.*

Jingle 40.

*Viva, vidu sva, ska du få,
kjøtt og kål
i kongens gård
og fire skilling attpå.
(From Larvik, Vestfold.³⁷³)*

*Viva, if you peel, you'll get,
meat and soup
in the King's Mansion
and four shillings besides.*

Jingle 41.

*Viddu sva, viddu sva,
ska du få grøt og mjelk
i kongens gård
og fire skilling attpå.
(From Tjølling, Vestfold.³⁷⁴)*

*Will you peel, will you peel,
you'll get mush and milk
in the King's Mansion
and four shillings besides.*

370 Høeg 579.

371 Ibid. 578.

372 Ibid.

373 Ibid.:579.

374 Ibid.

Jingle 42.

*Tvi sva,
vi du gå, ska du få,
kjøtt og kål
i kongens gård
og fire skilling attpå.*

*Tvi sva,
if you peel, you'll get,
meat and soup
in the King's Mansion
and four shillings besides.
(From Larvik, Vestfold.³⁷⁵)*

The benevolent address of the following jingles (nos. 43–52) seems to emphasize a friendly, human-like relation between the maker and the made, thereby attributing a psychic dimension to the flute.

Jingle 43.

*Kjære Fløite
vi du svaa saa ska du faa
Kjøtt aa Flesk
i Kongens Gaard
Aa fire skjelling etterpaa.*

*Dear flute
if you peel, then you'll get
meat and bacon
in the King's Mansion
and four shillings afterwards.*

(From Telemark, recorded by Halvor T. Nordbø, 1878.³⁷⁶)

Jingle 44.

*Kjære fløyte,
vil du gå, skal du få
kjøtt å kål
i kongens gård
å enda en pølsebit attpå.
(From Flå, Buskerud.³⁷⁷)*

*Dear flute,
if you peel, you'll get
meat and soup
in the King's Mansion
and even a sausage bite besides.*

Jingle 45.

*Kjære lille pip,
vil du gå, skal du få
kjøttåål
i kongens gål
å fire skilling attpå.*

*Dear little pip,
if you peel, you shall get
meat and soup
in the King's Mansion
and four shillings besides.*

(The words *kjøttåål* and *kongens* were pronounced with heavy stress on the first syllable, and the two last syllables light and speedy, thus creating a lively rhythm.)

(From Modum, Buskerud.³⁷⁸)

375 Ibid.

376 NFS M. Moe 69, 28.4.

377 Høeg 1976:578.

378 Ibid.

Jingle 46.

*Kjære min pip
vil du gå skal du få
kjøtt og kål
i kongens gård
og to skilling attpå.*

(From Modum, Buskerud.³⁷⁹)

*My dear pip
if you peel, you shall get
meat and soup
in the King's Mansion
and two shillings besides.*

Andreas Bloch Hellum demonstrated the pounding and chanting, by starting with a little searching, but ending up with the pattern shown in Ill. 31.

Ill. 31.

Chanting

2/4

Kjæ - re min pip vil du gå skal du få

Pounding

2/4

kjøtt og kål i kon - gens gård og to skil - ling at - på.

Jingle 47.

*Kjære kjære hjelpepip
vil du gå, skal du få
kjøtt og kål
i kongens gård
og tolv skilling attpå.*

(According to the same informant, another time it was two shillings.)

(From Hole, Buskerud.³⁸⁰)

*Dear dear hjelpepip
if you peel, you shall get
meat and soup
in the King's Mansion
and twelve shillings besides.*

The term *hjelpepip* is intriguing, meaning literally “helping pipe.” Comparison with jingle no. 52 indicates that the term is a corruption of *jerpepipe*.

In the following jingles, several intensifiers are applied to enhance the enticement: the ingratiating “dear” address and, in addition to the standard meal, money for some specified extra treatment. Do we here encounter an instance of children’s creative use of orally transmitted lore?

379 Andreas Bloch Hellum, interview December 9, 1986. Bloch Hellum learned the jingle as a boy between the ages of eight and ten years, from his father around 1920.

380 Høeg 1976:578.

Jingle 48.

*Kjære min pip,
vi du gå, vi du gå,
ska du få, ska du få,
kjøtt å kål
i kongens gård
å toskilling attpå
til tobakk.*

(From Norderhov, Buskerud.³⁸¹)

My dear pipe,
if you peel, if you peel,
you'll get, you'll get,
meat and soup
in the King's Mansion
and two shillings besides
for tobacco.

Jingle 49.

*Kjære min pip,
vi du gå, vi du gå,
ska du få, ska du få
kjøtt og kål
i kongens gård
og fire skilling attpå
til tobakk i pipa.*

(From Norderhov, Buskerud.³⁸²)

My dear *pip*,
if you peel, if you peel,
you'll get, you'll get
meat and soup
in the King's Mansion
and four shillings besides
for tobacco in the pipe.

In this context of children's lore, tobacco and pipe stand out as clear-cut attributes of adult life. Even more daring is the appended reference to hard liquor:

Jingle 50.

*Kjære min pip,
vil du gå, skal du få
kjøtt å kål
i kongens gård
og fire skilling attpå
til tobakk og brennevin.*

(From Oslo.³⁸³)

My dear *pip*,
if you peel, you shall get
meat and soup
in the King's Mansion
and four shillings besides
for tobacco and brandy.

A dash of snuff adds to the excitement:

Jingle 51.

When one makes *søljupip* (*seljefløyte*) in the spring, it might be difficult to make the bark loosen. It helps then to hold the *tølakniven* [sheath knife] by the blade and pound on *søljukvisten* [the willow twig] while saying aloud the following verse:

*Kjære pip,
vil du gå ske du få
kjøtt og kål*

Dear *pip*,
if you peel, you shall get
meat and soup

381 Ibid.

382 Ibid.

383 Høeg 1976:575.

| | |
|------------------------------|-----------------------------------|
| <i>i kongens skål</i> | in the King's bowl ³⁸⁴ |
| <i>og ti skjelling attpå</i> | and ten shillings besides |
| <i>te tobakk og snus.</i> | for tobacco and snuff. |

First, one must moisten the twig well in the mouth, and then one must turn it around steadily while pounding.

(From Modum, Buskerud.³⁸⁵)

Most jingles refer to the common or standard kind of short bark flute. The following jingle is exceptional in that it names a more specialized kind of flute:

Jingle 52.

| | |
|--------------------------------|------------------------------|
| <i>Kjære jerpepipe</i> | Dear <i>jerpepipe</i> |
| <i>vil du gå skar du få</i> | if you peel, you shall get |
| <i>kjøtt og kål</i> | meat and soup |
| <i>i kongens gål</i> | in the Kings Mansion |
| <i>og tolv skjelling attpå</i> | and twelve shillings besides |
| <i>te kritt-pip og tobakk.</i> | for a clay pipe and tobacco. |

(From Sognsbygda, Nordre Jevnaker, Oppland.³⁸⁶)

Erling Flem recalled his grandfather chanting this jingle while pounding on the piece of wood with the knife handle. The following transcription is based on my tape recording of Flem's demonstration.

Ill. 32.

| | |
|----------|--|
| Chanting | |
| Pounding | |

The “strip off your skin” motive is not the only characteristic feature of the following jingles. Another one is the *Pikk pakk pinne* or *Pippil pinn* formula. Whereas *pikk pakk*, can be readily understood as the name for the flute, *pinne* or *pinn* refers to the piece of wood, which has not yet been turned into a flute. Thus, apart from rhyming with *skinn(e)*, *pinn(e)* points to the unfinished state of the piece of wood before it becomes a flute. Therefore, the seemingly contradictory expression *pikk pakk pinne* points to

384 The ordinary meaning of *skål* is bowl. However, in the context of the jingle, *skål* may alternatively be construed as the archaic *skåle*, meaning “dwelling house; house containing large hall for festive use” (Haugen 1965:373), cf. the more common “King’s Mansion” (*kongens gård*).

385 Samuelsen 1966:138f.

386 Erling Flem, Trondheim, interview August 9, 1988.

the dual, malleable nature of the material object as it goes through a transformational process from a piece of wood to a bark flute.

Jingle 53.

*Pikk pakk pinne,
flå av deg skinn
... kjøtt å kål.*

(From Hvaler, Østfold.³⁸⁷)

*Pikk pakk pin,
strip off your skin
... meat and soup.*

From the way it is recorded, the above jingle appears incomplete. It is perhaps a fragment, related to the following more complete versions:

Jingle 54.

*Pikk pakk pinne,
flå ta dei skinn
så ska du få gå
i kongens gård
å eta kjøtt å kål.*

(From Borge, Østfold.³⁸⁸)

*Pikk pakk pin,
strip off your skin,
then you may walk
into the King's Mansion
and eat meat and soup.*

Jingle 55.

*Pikke, pakke, pinne,
få av meg skinn.
Så ska du få kjøtt og kål
i kongens gård!*

(From Risør, Aust-Agder.³⁸⁹)

*Pikke, pakke, pinne,
strip off my skin.
Then, you'll get meat and soup
in the King's Mansion!*

Jingle 56.

*Pippel pippel, pinne,
flår du a deg skinn'
går du opp
i kongens gård
så får du både kjøtt å kål.*

(From Borge, Østfold.³⁹⁰)

*Pippel pippel, pin,
if you strip off your skin,
you may walk up
into the King's Mansion,
then you get both meat and soup.*

Jingle 57.

*Pippil pippil pinn,
vil du gå av skinn,
skal du få kjøtt i kål
i kongens gål
på en gammel gullskål.*

(From Fredrikstad, Østfold.³⁹¹)

*Pippil pippil pin
if you peel off skin,
you will get meat in soup
in the King's Mansion
in an old golden bowl.*

387 Høeg 1976:575.

388 Ibid.

389 Ommundsen 2009:44.

390 Høeg 1976:578.

391 Ibid.

The following jingle does not specify the reward:

Jingle 58.

| | |
|-----------------------------|--------------------------|
| <i>Pitt patt</i> | <i>Pitt patt,</i> |
| <i>vil Du gå ska Du få.</i> | if you peel, you'll get. |
| <i>Pitt patt, etc.</i> | <i>Pitt patt, etc.</i> |

This is spoken in Lommedalen and Ringerike when bark-stripping *fløyter*.
(From Akershus and Buskerud.³⁹²)

The variety of extra rewards include symbols of wealth, such as silver or money, but also necessities such as food, trouser or the like. In rural society in the past, only affluent people could afford clothes with silver button. Not surprisingly, the same symbol of wealth pops up in our jingle corpus:

Jingle 59.

| | |
|---|-------------------------------------|
| <i>Tvitt tvitt,</i> | <i>Tvitt tvitt,</i> |
| <i>vil du gå</i> | if you peel, |
| <i>skal du få ein sylvknapp attepå.</i> | you'll get a silver button besides. |

(From Volda, Møre og Romsdal.³⁹³)

Jingle 60.

| | |
|------------------------------|------------------------------|
| <i>Tvitt – tvitt – tvitt</i> | <i>Tvitt – tvitt – tvitt</i> |
| <i>lat tvittinj minj gå</i> | Let my <i>tvittinj</i> peel |
| <i>med rjømegraut på!</i> | with cream porridge on! |

(From Haddalsbygda, Ulstein, Møre og Romsdal³⁹⁴)

A much-mentioned reward is money. The widespread mention of *skilling* points back in time. *Skilling* was a Norwegian monetary unit from the fourteenth century until 1875; it was minted as a coin after 1515 (Skaare 1980:518). Although *skilling* is no longer used as coinage, the concept persists in adages, fairytales, everyday language – and in bark-stripping jingles.

Jingle 61.

| | |
|----------------------------------|-------------------------------|
| <i>Fløyte, fløyte</i> | Flute, flute |
| <i>vil du gå,</i> | if you peel, |
| <i>fire skilling skal du få.</i> | four shillings you shall get. |
| <i>fløyte, fløyte ...</i> | flute, flute ... |

(From Sjøholt, Møre og Romsdal, after Karl Hjelle 1988.³⁹⁵)

392 NFS Delgobe 32, 22.

393 Høeg 1976:580.

394 Fet 1999:86.

395 Erling Flem, Trondheim, personal communication 1988.

According to the informant, this jingle was chanted to a tune resembling “Fola fola Blakken,” presumably as shown in Ill. 33:



Jingle 62.

| | |
|-------------------------------|----------------------------|
| <i>Kjære fløyte,</i> | Dear flute, |
| <i>vi du sva</i> | if you peel, |
| <i>sko du få</i> | you'll get |
| <i>fire skjeling etterpå.</i> | four shillings afterwards. |

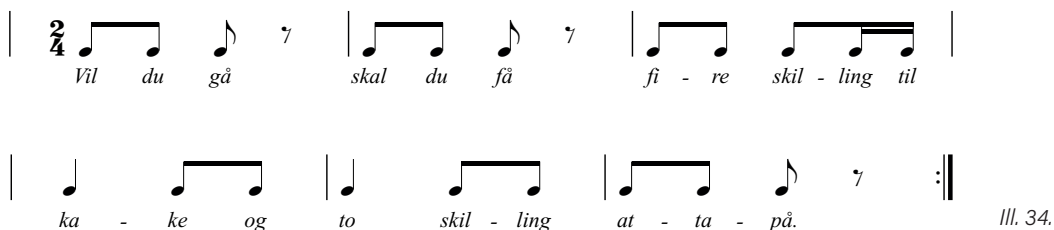
(From Rauland, Telemark.³⁹⁶)

The short-time perspective of type II jingles is emphasized in references to food as a reward, appealing to the most immediate needs or desires.

Jingle 63.

| | |
|----------------------------------|--------------------------------|
| <i>Vil du gå</i> | If you peel, |
| <i>skal du få</i> | you shall get |
| <i>fire skilling til kake og</i> | four shillings for cookies and |
| <i>to skilling attapå.</i> | two shillings besides. |

(From Oslo.³⁹⁷)



Jingle 64.

| | |
|------------------------------|--|
| <i>Banka, banka rø rø,</i> | Rap, rap peel peel, |
| <i>du ska få rommakodla</i> | you shall get <i>rommakodla</i> , ³⁹⁸ |
| <i>sølvskjei og brø brø.</i> | silver spoon and bread bread. |

(From Fjell, Hordaland.³⁹⁹)

³⁹⁶ NEG 18315.

³⁹⁷ Anne Swang, Oslo, conversation 1985, referring to Lilly Steen (b. 1892).

³⁹⁸ *Rommakodla* is a dialect form of *rømmekolle*, a “dish, consisting of clabbered [curdled] whole milk strewn with sugar and crumbs” (Haugen 1965:339).

³⁹⁹ NEG 18302.

In the bark-peeling-jingle context, it is natural to understand “pants” and the like as a metaphor referring to the bark tube, as shown in the next jingle:

Jingle 65.

| | |
|---------------------------------|------------------------------|
| <i>Rauna, rauna,</i> | Rowan, rowan, |
| <i>vil du gå</i> | if you peel, |
| <i>ska eg gje deg bukse på.</i> | I'll give you pants to wear. |

(From Sør-Audnedal, Vest-Agder.⁴⁰⁰)

The replacement of “pants” with the more daring “underpants” was perhaps inspired by children’s unforeseeable imagination, harmless humor, and sense of excitement:

Jingle 66.

| | |
|-------------------------------------|-----------------------------------|
| <i>Seljepibe, seljepibe</i> | <i>Selje-pibe, selje-pibe</i> |
| <i>vil du gå,</i> | if you peel, |
| <i>så skal du få</i> | then you shall get |
| <i>Sille-Marias underbukser på,</i> | Sille-Maria’s underpants to wear, |
| <i>bare du vil gå,</i> | if only you will peel, |
| <i>bare du vil gå!</i> | if only you will peel! |

Sille-Maria was a commonly used dialect version of the name *Cecilie-Maria*. Occasionally, when the flute was made from *raune* (rowan), the first line would be exchanged with *Raune-pibe, raune-pibe*.

(From Søgne, Vest-Agder, current during the early 1920s.⁴⁰¹)

Mrs. Esther Corneliusen still remembered how the children used to sing while pounding on pieces of willow. She performed the song as shown in Ill. 35.

Ill. 35.

Sel-je pi-be, sel-je-pi-be, vil du gå, så skal du få Sil-le Ma-ri-as

un-der-buk-ser på, ba-re du vil gå, ba-re du vil gå!

The occurrence of the name *Sille-Maria* as a local variant of *Cecilie-Maria* curiously suggests possible relatedness to type III jingles. Perhaps simply a case of borrowing?

400 Høeg 1976:579.

401 Esther Corneliusen (b. Bjaanes), Seattle, USA, interview 1985.

The obscure threat in the following jingle is reminiscent of common rhymes:

Jingle 67.

| | |
|---------------------------|-----------------------|
| <i>Pikk pakk pinne,</i> | <i>Pikk pakk pin,</i> |
| <i>flå ta deg skinne.</i> | strip off your skin. |
| <i>Det skal du ha,</i> | That you shall have, |
| <i>ditt stygge troll</i> | you ugly troll, |
| <i>for du inte kunne</i> | because you couldn't |
| <i>telle til tolv.</i> | count to twelve. |

(Then the maker counted and tested to see whether the bark had loosened.)
(From Torsnes, Østfold.⁴⁰²)

In general, jingles that include a threat are sparsely documented. It may be significant that they all reveal similar characteristic features, despite the fact the different versions are found at locations dispersed among different regions in the northwestern part of Norway.

Jingle 68.

| | |
|-----------------------------------|---|
| <i>Løype, løype,</i> | Peel, peel, |
| <i>vil du kje løype</i> | won't you peel, |
| <i>så ska e kaste de</i> | then I'll throw you |
| <i>i romdallen na hannar mor.</i> | into mother's sour cream <i>dall</i> . ⁴⁰³ |

If the bark does not peel after this, the verse is repeated in the following way:

| | |
|--------------------------------------|---------------------------------|
| <i>Løype, løype vil du kje løype</i> | Peel, peel won't you peel, |
| <i>så ska e kaste de</i> | then I'll throw you |
| <i>i tjærådallen hass far.</i> | into father's tar <i>dall</i> . |

(From Øre, Møre og Romsdal.⁴⁰⁴)

Jingle 69.

The knife handle was used to beat the time against the bark.

| | |
|----------------------------------|-----------------------------------|
| <i>Mai mai løpø mai mai løpø</i> | <i>Mai mai peel mai mai peel.</i> |
| <i>løpe du 'kje no</i> | If you don't peel now, |
| <i>så stekk e' de' ni</i> | I'll put you into |
| <i>rømm'daill'n na mor</i> | mother's sour cream <i>daill</i> |
| <i>løpø du 'kje da</i> | if you don't peel, then |
| <i>så stekk e' de ni</i> | I'll put you into |
| <i>tjørrudaill'n hass far</i> | father's tar <i>daill</i> |
| <i>mai mai løpø mai mai løpø</i> | <i>mai mai peel mai mai peel.</i> |

(From Surnadal, Møre og Romsdal.⁴⁰⁵)

402 Høeg 1976:578.

403 *Dall* is "a round, wooden container" (Haugen 1965:96).

404 Høeg 1976:580.

405 Dordi Glærum Skuggevik, letter dated February 2, 1985.

Ill. 36.

The *Till till tâte* formula in the following two jingles is reminiscent of a similar, common formula known from nursery rhymes and children's songs (cf. comments relating to jingle no. 2). Contrary to common practice, this one does not refer to the bark-stripping operation but to the sound of the flute. The “won't you sound” formula and the like are also known from jingles related to making reed pipes (cf. nos. 128–131).

Jingle 70.

| | |
|--|---|
| <i>Till till tâte, vil du kje låte,</i> | <i>Till till tâte, won't you sound,</i> |
| <i>så ska e stekk de</i> | <i>then I'll put you</i> |
| <i>ni tjærådallen hass far.</i> | <i>into fatherk's tar dall.</i> |
| <i>Till till tâte, vil du kje låte,</i> | <i>Till till tâte, won't you sound,</i> |
| <i>så ska e stekk de</i> | <i>then I'll put you</i> |
| <i>ni grautgrytå næ mor.</i> | <i>into mother's porridge pot.</i> |
| (From Gjemnes, Møre og Romsdal. ⁴⁰⁶) | |

The initial *mara* motive in the following jingle is possibly derived from the *Mai* motive. The whipping threat is strikingly suggestive of the pounding procedure:

Jingle 71.

When the children were trying to make *seljefløyter* – “*piste*” – and the bark would not loosen from the wood, they pounded on the flute with the knife-handle and said:

| | |
|---|-----------------------------------|
| <i>Mara mara heppe,</i> | <i>Mara mara heppe,</i> |
| <i>ve du ikkje sleppe,</i> | <i>if you won't peel,</i> |
| <i>so ska du få pisk</i> | <i>then you'll get a whipping</i> |
| <i>på berre rumpene din!</i> | <i>on your bare rump!</i> |
| (From Innvik, Nordfjord, Sogn og Fjordane. ⁴⁰⁷) | |

⁴⁰⁶ Høeg 1976:580.

⁴⁰⁷ Borchgrevink 1956:103.

In the following jingle, the “chop your head off” threat is suggestive of the whittling process, and thus providing evidence of the closeness between jingle content and flute-making action:

Jingle 72.

| | |
|---|-------------------------|
| <i>Piba mi, piba mi,</i> | My pipe, my pipe, |
| <i>vil du ikkje låde,</i> | won't you sound, |
| <i>så legg eg deg</i> | then I'll put you |
| <i>på hoggestabben</i> | on the chopping block |
| <i>og hogg av deg håve.</i> | and chop off your head. |
| (From Farsund, Vest-Agder. ⁴⁰⁸) | |

Jingle 73.

| | |
|---|----------------------------------|
| <i>Seljefløyta, seljefløyta,</i> | <i>Seljefløyta, seljefløyta,</i> |
| <i>let du ikkje no</i> | won't you sound now |
| <i>(så) legg eg deg</i> | [Then] I'll put you |
| <i>på hoggestabben</i> | on the chopping block |
| <i>og hogg deg i to.</i> | and cut you into two. |
| (From Turøy, Fjell, Hordaland. ⁴⁰⁹) | |

The following jingle adheres to the “King’s Mansion” reward, but the threat appears like an amusing addition – perhaps a parody – of the threat motive. Presumably, the scatological penalty reflects children’s daring humor and imagination.

Jingle 74.

| | |
|---|---------------------------------|
| <i>Hippe happe</i> | <i>Hippe happe</i> |
| <i>vi du gå</i> | If you peel, |
| <i>ske du få kjøtt å kål</i> | you'll get meat and soup |
| <i>i kongens gård</i> | in the King's Mansion |
| <i>å endæ to skjelling attpå.</i> | and even two shillings besides. |
| <i>Men vi du itte gå,</i> | But if you don't, |
| <i>ske du få en lort attpå.</i> | you'll get a “turd” besides. |
| (From Ytre Sandsvær, Buskerud. ⁴¹⁰) | |

A mild threat occurs in the following jingle, which might be regarded as an expanded version – simply a negation – of the common type II pattern.

Jingle 75.

| | |
|--------------------------------|-----------------------------|
| <i>Pipil, pipil,</i> | <i>Pipil, pipil,</i> |
| <i>vil du gå, ska' du få</i> | if you peel, you'll get |
| <i>kjøtt og kål</i> | meat and soup |
| <i>i kongens gård</i> | in the King's Mansion |
| <i>og fire skilling attpå.</i> | and four shillings besides. |

408 Høeg:580.

409 Atle Ove Marthinussen, personal communication May 15, 2014.

410 Høeg:578.

*Pipil, pipil,
vil du itte gå, ska' du itte få
kjøtt og itte kål
og itte kongens gård
og itte fire skilling attpå.
(From Lillehammer, Oppland.⁴¹¹)*

*Pipil, pipil,
if you won't peel, you'll get
no meat and no soup
and not the King's Mansion
and not four shillings besides.*

Jingle 76.

*Hipp – happ,
vil du kje gå
so kasta ej dej
nedi dasskomminj!*

(From Fet, Luster, Sogn og Fjordane.⁴¹²)

*Hipp – happ,
if you won't peel,
then I'll throw you
into "the can"!*

III. Jingles addressing Cecilia or equivalent designations

Jingles invoking Cicilia or a similar addressee are usually interpreted as prayers or invocations to Saint Cecilia, the catholic patroness of music and musicians. It is not difficult to recognize Saint Cecilia as the addressee of jingle 77 below, a straightforward prayer:

Jingle 77.

*O cicilia bombilia,
la barken gå a.
(From Tjølling, Vestfold.⁴¹³)*

*Oh cicilia bombilia,
let the bark peel off.*

In its content, this jingle gets down to the essentials of the bark-stripping operation: a direct call for help from Saint Cecilia to let the bark peel off from the wood. The puzzling word *bombilia* serves to establish a good rhyme and rhythm. Olsen, commenting on a similar jingle (no. 105), suggested that *Pompilla Sisilla* was a “corruption of ‘Pompilia Cæcilia,’ [the] name of the patron saint of music” (Bugge & Olsen 1917:706). However, one year later he rejected that interpretation, referring to it as possibly “a conjecture by a now deceased philologist” (Olsen 1918:77); he added that Saint Cecilia’s family name was not known from legend, and that there appeared to be no evidence supporting the conjecture that she was a member of the Pompilii family. Broderick (1982) stated that Saint Cecilia’s historical existence was validated by the celebration of a feast in her honor in Rome in the fourth century AD, but that little was known about the details of her life. He suggested that she might have been a Christian member of the Caecilii family.

411 Sidsel Levin, letter dated September 21, 1990. After Mona Lie Thommessen, who learned the jingle from her grandfather in Lillehammer.

412 Fet 1999:86.

413 Høeg 1976:579.

Thus, the term *bombilia* (or *Pompilla*) remains enigmatic. Whether it is just a nonsense word derived from its euphonic and musical qualities, or residua from a prayer formula, is an open question.

Jingle 78.

*Cecilia bombilia,
la barken gå a,
går'e hol på,
sett en lapp på,
så er a like bra.*

(From Larvik, Vestfold.⁴¹⁴)

*Cecilia bombilia,
let the bark peel off.
If a hole occurs,
place a patch upon,
then she's just as good.*

Jingle 79.

Asbjørn Østerholt (b. 1942), who was born in the town of Risør, held that he had learned the following jingle from his family “in the countryside.”

*Sisilia, bombilia
La fløyta mi sva.
Svar ho 'kje i morra
Så svar ho i dag.*

*Sisilia, bombilia
Let my flute peel.
If she doesn't peel t'morrow,
then she peels today.
(From Risør, Aust-Agder.⁴¹⁵)*

Jingle 80.

*Sesilia sesilia,
la blåsa mi sva,
la det renne i en bekk,
la det pisse i en sekk,
sesilia sesilia, la blåsa mi sva.
(From Risør, Aust-Agder.⁴¹⁶)*

*Sesilia sesilia,
let my whistle peel,
let it run in a brook,
let it piss in a sack,
sesilia sesilia, let my whistle peel.*

Seemingly meaningless derivatives of *Cecilia* and *bombilia* occasionally create a good rhythm for the jingle, thus supporting the pounding process:

Jingle 81.

*Si silja - bom bilja,
la fløyta mi sva.
La det rinne i en bekk,
la det pisse i en sekk,
om 1-2-3-4-5
er fløyta mi sva.
(Provenance unknown.⁴¹⁷)*

*Si silja - bom bilja,
let my flute peel.
Let it run in a brook,
let it piss in a sack,
in 1-2-3-4-5
my flute is peeled.*

⁴¹⁴ Ibid.

⁴¹⁵ Ommundsen 2009:43.

⁴¹⁶ NFS Joh. Agerholt 2, 78.

⁴¹⁷ Sidsel Levin, letter dated September 21, 1990. She had learned it from a friend.

Jingle 82.

| | |
|---|---------------------------------|
| <i>Si de' silja</i> | <i>Si de' silja</i> |
| <i>vi' de' vilja.</i> | <i>Vi' de' vilja.</i> |
| <i>La faulepipa sva.</i> | Let the <i>faulepipa</i> peel. |
| <i>La det renne i ein bekk,</i> | Let it run in a brook, |
| <i>la det pisse i ein sekk.</i> | let it piss in a sack. |
| <i>Om fem minutter</i> | In five minutes |
| <i>er faulepipa svadd.</i> | the <i>faulepipa</i> is peeled. |
| (From Risør, Aust-Agder. ⁴¹⁸) | |

Jingle 83.

| | |
|--|----------------------------|
| <i>Svadijlja svadijlja</i> | <i>Svadijlja svadijlja</i> |
| <i>La fløyta mi sva</i> | Let my flute peel |
| <i>La det renn' i en bekk</i> | Let it run in a brook |
| <i>la det tiss' i en sekk</i> | let it pee in a sack |
| <i>Om to minutter</i> | In two minutes |
| <i>er fløyta mi svadd</i> | my flute is peeled |
| <i>Om to minutter</i> | In two minutes |
| <i>er fløyta mi svadd</i> | my flute is peeled. |
| (From Risør, Aust-Agder ⁴¹⁹) | |

The flutist and *seljefløyte* performer Hans Fredrik Jacobsen had learned this jingle from his grandmother Ingeborg Hansen in Risør in the mid-nineteen-sixties, when he was a boy.

Jingle 84.

| | |
|---|-------------------------------|
| <i>Sesilia, bombilia,</i> | <i>Sesilia, bombilia,</i> |
| <i>vil du ikkje sva</i> | if you won't peel, |
| <i>så kapper jeg deg av</i> | then I'll cut you off |
| <i>og hiver deg langt ud</i> | and throw you far out |
| <i>i Storelva.</i> | into Storelva. ⁴²⁰ |
| (From Tvedestrand, Aust-Agder. ⁴²¹) | |

Jingle 85.

Prayer to the holy Cecilia.
(Noted down after oral tradition by Reverend G. Jensen).
Arendal 1889.

| | |
|------------------------------|--------------------------|
| <i>Bombilla Sesilla,</i> | <i>Bombilla Sesilla,</i> |
| <i>lad Fløita gaa vel!</i> | Let the flute peel well! |
| <i>Gaar der Hul paa,</i> | If a hole occurs, |
| <i>sæt en Lap paa,</i> | place a patch upon, |
| <i>saa gaar det saa vel.</i> | then it works out well. |

418 Ibid.

419 Hans Fredrik Jacobsen, e-mail dated May 10, 2021.

420 The name Storelva (literally, "Great River") probably refers to a river so named in Aust-Agder.

421 Høeg 1976:579.

(Was used by young boys during the writer's childhood, when they made flutes and were beating the bark with a knife to make it peel).

(From Arendal, Aust-Agder.⁴²²)

Jingle 86.

In Arendal, as boys, while beating a piece of willow or rowan with a knife handle to make the bark loosen more easily, we used to sing this little verse to a very monotonous tune:

*Bombilla sesilja,
la fløita gaa vel!
Gaar der hul paa,
sæt en lap paa,
saa gaar a saa vel!*

(From Arendal, Aust-Agder.⁴²³)

*Bombilla sesilja,
let the flute peel well!
If a hole occurs,
place a patch upon,
then she peels so well!*

The tune is transcribed as shown in Ill. 37.



Ill. 37.

Jingle 87.

*Bombilla Cæcilla –
La' Fløita gaa vel
Gaar der Hul paa
sæt en Lap paa
Saa laat' hu ligvel.*

*Bombilla Cæcilla –
let the flute peel well
If a hole occurs
place a patch upon,
then she sounds anyway.*

The jingle, which is still used by boys in and around Arendal when they make *siljefløiter*, clearly dates from Catholic times (i.e., when it referred to Cæcilia, protector of music).

H[efferme]hl. 1890

(From Arendal, Aust-Agder.⁴²⁴)

Generally, the bark-stripping jingle corpus points to the use of a single jingle during the bark-flute making process. One single source describes a more elaborate procedure, during which up to three different jingles were involved. The local historian and botanist Daniel Danielsen, responding to Olsen 1918:76, (cf. jingle no. 87 above) reported as follows:

422 Bang 1901:623.

423 Jensen 1918:75.

424 H[efferme]hl 1918:76.

Home at Askerøya [...] we used, and still use, the verse in this form:

Jingle 88a.

| | |
|--|---------------------------|
| <i>Bombelia, Seselia,</i> | <i>Bombelia, Seselia,</i> |
| <i>Karabastaua,</i> | <i>Karabastaua,</i> |
| <i>La' fløyta mi sva'!</i> | Let my flute peel! |
| <i>Går der holl på 'ner</i> | If a hole occurs on her |
| <i>[eller 'a eller 'o]</i> | [or "a" or "o"] |
| <i>Sett ein lapp på 'ner,</i> | Place a patch upon her |
| <i>Hell' så fryser ho 'ihel.</i> | or she freezes to death. |
| (From Askerøya, Tvedestrand, Aust-Agder ⁴²⁵) | |

In his commentary, Danielsen specified that sometimes, *Karabastaua* was sung as *Karibastaua*, possibly meaning *Karibastua*, i.e., *Kari-sauna*. Moreover, he presented the tune as shown in Ill. 38.

Moderato.



Bom - be - li - a, Se - se - li - a, Ka - ra - ba - stau - a,
 la' fløy - ta mi sva'! Går der holl på 'ner, sett ein
 lapp på 'ner, hell' så fry - ser ho i - hel.

Ill. 38.

Additionally, Danielsen reported two other jingles. He said that one was used,

sometimes before and sometimes after the "Bombelia" verse. It went at a completely different pace (*takt*) and the content preferably indicates that this verse is made as a kind of parody of the other:

Jingle 88b.

| | |
|------------------------------------|-----------------------------|
| <i>Fløyte, fløyte vi' du sva'?</i> | Flute, flute will you peel? |
| <i>Ja, ja, vil eg så!</i> | Yes, yes, so I will! |
| <i>P... i ein sekk,</i> | P... in a sack, |
| <i>La' de' gå i ein rennebekk!</i> | Let it run in a gutter! |

Sometimes we ended the singing with these strophes:

Jingle 88c.

| | |
|--------------------------------------|--|
| <i>Og vi' du så 'kje sva',</i> | And won't you peel, |
| <i>Så kapper e de a'</i> | Then I cut you off |
| <i>Og hiver de langt hen i elva!</i> | And throw you far off into the river! ⁴²⁶ |

⁴²⁵ Danielsen 1920:125.

⁴²⁶ Idem.

It is remarkable that the “hole ... patch” motive in jingle no. 88a, the “p... in a sack” in no. 88b, and the “cut you off” and “throw you far off into the river” motives in no. 88c occur frequently in type II jingles. In a contemporary perspective, they appear like decorative (and exciting) elements that reinforce the basic ritual quality of the bark-stripping practice. Another interpretation is also possible: these and similar motives might have derived from an older – more elaborate – and long-forgotten bark-stripping ritual. Regrettably, these and related questions must be left beyond the research horizon of this monograph. One may hope that in the future such questions might be investigated in a more international, ethnomusicological, or anthropological project.

Jingle 89.

| | |
|------------------------------------|------------------------------------|
| <i>Bom bom bila si si sila</i> | <i>Bom bom bila si si sila</i> |
| <i>Kalli bastaua Nils rødhauea</i> | <i>Kalli bastaua Nils readhead</i> |
| <i>vi'kje fløyta sva</i> | won't the flute peel |
| <i>så tar mi og kapper haue av</i> | then we take and cut the head off |
| <i>og kaster det</i> | and throw it |
| <i>langt nedi dalen.</i> | far down into the valley. |

(From Fjære by Grimstad, Aust-Agder.⁴²⁷)

Torbjørn Helle, who learned and used this jingle as a ten-year old boy around 1950, explained *Kalli bastaua* as meaning *Karl i badstua* – “Karl in the sauna.” He said the jingle was performed in a way different from everyday speech, more like chanting, while beating the bark with the handle of the sheath knife. The piece of wood was held against the inner side of his heel, which he had laid across his knee. Helle chanted the jingle as follows:

The musical notation for Jingle 89 consists of three systems. Each system has a 'Chanting' part (treble clef, 4/4 time) and a 'Pounding' part (4/4 time, represented by quarter notes). The lyrics are written below the chanting staff.

System 1:

Chanting: *Bom bom bil - la si si si - la Kal - li bas - tau - a*

System 2:

Chanting: *Nils rød - hau - a vi - kje fløy - ta sva så tar mi og kap - per*

System 3:

Chanting: *hau - e av og kas - ter det langt ne - di da - len.*

/// 39.

427 Torbjørn Helle, Trondheim, conversation during an Oslo Trondheim flight, 1986.

Jingle 90.

From my father, Tellef Ommundsen, born in Risør 1901, I learned a variant ...:

*Bombelia, Sesilia,
La fløyta mi sva!
Går det hol på,
Sett lapp på,
Så går det så bra!*

(From Risør, Aust-Agder.⁴²⁸)

*Bombelia, Sesilia,
Let my flute peel!
If a hole occurs,
place a patch upon,
then it works out well!*

Jingle 91.

*Bombela Sesela
Bak fløyta
La gaa.*

(From Åseral, Vest-Agder.⁴²⁹)

*Bombela Sesela
Rub the flute
Let peel.*

Jingle 92.

*Bom bom bila, si si sila,
la fløyta sva vel.*

(From Tvedestrand, Aust-Agder.⁴³⁰)

*Bom bom bila, si si sila,
let the flute peel well.*

Jingle 93.

*Bom bom belia.
La nå fløyta sva!*

(From Risør, Aust-Agder.⁴³¹)

*Bom bom belia.
Now let the flute peel!*

A majority jingles within the Saint Cecilia type include a variant of the expression “if a hole occurs, place a patch upon.” In this context of bark-flute making, the very concept of mending a hole in the bark by placing a patch upon it seems somewhat artificial or inconvenient. Is it perhaps to be understood as a metaphor? Alternatively, does it refer to the simple way of temporarily “mending” tiny holes or fissures in the bark wall by means of saliva – a close at hand procedure that would appear obvious to any bark-flute maker? I sometimes employ this method myself to improve flute sound and do not know whether I have learned it from others or just stumbled across it.

Within the subtype, the jingles are grouped according to the initial formulas and interpreted as more or less remote derivations of Cecilia (*bombilia*). These initial formulas seem to reflect various stages of a linguistic process, where play with words gradually takes over more and more, whereas the presumably original prayer aspect is weakened. However, the basic design of a prayer is recognizable throughout the whole Saint Cecilia corpus.

Use of the initial formula “Cecilia *bombilia*” and similar leaves little doubt as to whom the prayer is directed and furthermore establishes a rhythmic flow that makes

428 Ommundsen 2014:42.

429 Olsen 1918:77, whose source was Professor Knut Liestøl.

430 Høeg 1976:579.

431 Ommundsen 2009:43.

good support for the pounding procedure. The initial formula *Bombilla sesilja* is documented in several variants:

Jingle 94.

Sung when one bark-strips flutes:

Bom bila sesila

la fløyta gå vel,

går der holl på,

sett ein lapp på,

så ly'er 'o lievel.

Går der holl på,

sett ein lapp på,

så ly'er 'o lievel.

Bom bila sesila

let the flute peel well,

if a hole occurs,

place a patch upon,

then she sounds anyway.

If a hole occurs,

place a patch upon,

then she sounds anyway.

(From Østre Moland, Aust-Agder.⁴³²)

Jingle 95.

Bombila, sisila

la fløyta sva væl.

Går de hål på a

så lappar æ a

so låter a like væl.

Bombila, sisila

let the flute peel well.

If a hole occurs

then I'll mend her

then she sounds anyway.

(From Vegårdshei, Aust-Agder.⁴³³)

Jingle 96.

Bombila sesella,

la fløyta sva vel,

går det hol på,

sett ein lapp på,

så lyder ho ligevel.

Bombila sesella,

let the flute peel well,

if a hole occurs,

place a patch upon,

then she sounds anyway.

(From Østre Moland, Aust-Agder.⁴³⁴)

Kirsten Sollid (b. Torbjørnsdal, 1949) wrote down the following jingle after her mother Anne Torbjørnsdal and her aunt Vesla Myhren:

Jingle 97.

Bombilia, Sisilia.

La fløyta mi sva.

Og svar ho 'kje nå,

så lar e ho gå.

Bombilia, sisilia.

Let my flute peel.

And if she doesn't peel now,

then I let her go.

(From Risør, Aust-Agder.⁴³⁵)

432 NFS K. Weierholt 2, 12.

433 NFS H. Delgobe 28, 5.

434 Høeg 1976:579.

435 Ommundsen 2009:42.

The *Bom bom bilia si si silia* formula occurs in several variants:

Jingle 98.

Bom bom bilia si si silia

la fløyta sva vel

gaar der h  l p   den

sett en lapp p   den

s   l  ter den like gott igjen.

(From Flosta, Aust-Agder.⁴³⁶)

Bom bom bilia si si silia

let the flute peel well

if a hole occurs

place a patch upon it

then it sounds just as good again.

Jingle 99.

Bom bom bila, si si sila,

la fl  yta sva vel.

G  r der h  l p  ,

sett en lapp p  ,

s   gr  r ho igjen.

(From Flosta, Aust-Agder.⁴³⁷)

Bom bom bila, si si sila,

let the flute peel well.

If a hole occurs,

place a patch upon,

then she heals again.

Jingle 100.

Bom bom bila, si si sila,

la fl  yta g   vel.

G  r det hol p  , s  

sett en lapp p  ,

s   l  -ter ho al-li-a-vel.

(From Str  mmen, Arendal, Aust-Agder.⁴³⁸)

Bom bom bila, si si sila,

let the flute peel well.

If a hole occurs, then

place a patch upon,

then she sounds anyway.

Ill. 40.

Chanting

Bom bom bi-la, si si si-la, la fl  yt-ta g   vel. G  r det

Pounding

hol p  , s   sett en lapp p  , s   l  -ter ho al-li-a-vel.

436 NFS H. Delgobe 28, 30.

437 H  eg 1976:579.

438 Johan Corneliusen, Seattle, interview 1985. Corneliusen learned the jingle from his father around 1914.

Jingle 101.

| | |
|--------------------------------------|---------------------------------------|
| <i>Bom, bom, bila se, se, sila,</i> | <i>Bom, bom, bila se, se, sila,</i> |
| <i>la fløita gaa vel.</i> | let the flute peel well. |
| <i>Gaar de' hol paa,</i> | If a hole occurs, |
| <i>sæt en lapp paa,</i> | place a patch upon, |
| <i>saa er fløita like god igjen.</i> | then the flute is just as good again. |

(From Tvedestrand, Aust-Agder.⁴³⁹)

Jingle 102.

| | |
|---------------------------------------|----------------------------------|
| <i>Bim bom bila, sidde sila,</i> | <i>Bim bom bila, sidde sila,</i> |
| <i>la fløyta gå vel.</i> | let the flute peel well. |
| <i>Er det hull på,</i> | If a hole occurs, |
| <i>sett en lapp på,</i> | place a patch upon [it], |
| <i>så den ikke skal spring ihjæl.</i> | then it should not quickly die. |

(From Østre Moland, Aust-Agder.⁴⁴⁰)

Jingle 103.

| | |
|------------------------------|------------------------------|
| <i>Bom bom bom bom bila,</i> | <i>Bom bom bom bom bila,</i> |
| <i>si, si, si, si, sila,</i> | <i>si, si, si, si, sila,</i> |
| <i>la fløyta gå vel.</i> | let the flute peel well. |
| <i>Går det holl på,</i> | If a hole occurs, |
| <i>sette lapp på,</i> | place a patch upon, |
| <i>og så lyyaø alliavel.</i> | and then she sounds anyway. |

(From Arendal, Aust-Agder.⁴⁴¹)

The following jingle opens with an unusual and more remote variant of *Bombilla* Sesilja:

Jingle 104.

| | |
|--------------------------------|--------------------------|
| <i>Bombyda, sesyda,</i> | <i>Bombyda, sesyda,</i> |
| <i>la fløyta gå vel.</i> | let the flute peel well. |
| <i>Går der hull på,</i> | If a hole occurs, |
| <i>sett da en lapp på,</i> | then place a patch upon, |
| <i>så lyder den alligevel.</i> | then it sounds anyway. |

(From Herad, Vest-Agder.⁴⁴²)

The following jingle is an exceptional one of type III, in which the flute is addressed directly. The feature probably reflects an influence from one of the other types, a case of hybridization:

439 Olsen 1918:77, referring to university fellow S. Pantzerhielm Thomas.

440 Høeg 1976:579.

441 Idem.

442 Idem.

Jingle 105.

... the song used in Norway among children, in spring, when they “*sva’r*” [bark-strip] flutes from willow sprigs the bark of which is loosened and can be peeled off, after it has been pounded upon for a while with the side of the knife handle:

| | |
|---|----------------------------|
| <i>Pom-</i> <i>pil-</i> <i>la</i> <i>Si-</i> <i>sil-</i> <i>la</i> , ⁴⁴³ | <i>Pompilla Sisilla,</i> |
| <i>Kjære</i> <i>Fløi-</i> <i>ta</i> <i>vi’ du</i> <i>sva’!</i> | dear flute, will you peel! |
| [<i>pause</i>] | [rest] |
| <i>gaar der</i> <i>Hol</i> <i>paa</i> , | If a hole occurs, |
| <i>sæt en</i> <i>Lap</i> <i>paa</i> , | place a patch upon, |
| <i>saa</i> <i>gaar</i> <i>det</i> <i>saa</i> <i>bra.</i> | then it works out well. |

This verse (here rendered in the form, in which I know it from Arendal) exists only in song, and (short) syllables, which are otherwise unstressed both in speech and in ordinary verses, may here constitute a strongly stressed syllable in its own bar.

(From Arendal, Aust-Agder.⁴⁴⁴)

Thus, Olsen’s scanned rendering of this jingle can be represented in musical notation as shown in Ill. 41.

Ill. 41.

The next jingle is atypical in several respects. The initial formula is exceptional: its piece of wood is addressed directly (“my willow”), whereas the flute is referred to in the third person (“she sounds”); and expressions such as *fort og godt* (“fast and well”) and *flott* (“grand”) deviate from the common linguistic stock of the jingle corpus. These features – particularly the inconsistency in the way the material object is referred to – suggest that the jingle is a hybrid, presumably of recent origin. However, since the hole/patch motive is clearly present, and since the initial formula reveals a slight resemblance to the *bombilla sesilja* motive, it seems justifiable to classify the jingle as belonging to type III.

Jingle 106.

| | |
|--------------------------------------|-----------------------------------|
| <i>Barn-bi, sva selja mi</i> | <i>Barn-bi, peel my willow</i> |
| <i>fort og godt.</i> | fast and well. |
| <i>Går der et lite hol på,</i> | If a little hole occurs, |
| <i>så sett eg ein liten lapp på.</i> | then I place a little patch upon. |
| <i>No lyer ho like flott.</i> | Now she sounds just as grand. |

(From Froland, Aust-Agder.⁴⁴⁵)

443 “Considered as distortion of ‘Pompilia Cæcilia’, the name of the patron saint of music.”

444 Bugge, and Olsen 1917:706, cf. Heffermehl 1918:75f.

445 Høeg:579.

Barn-bi, the rhythmical as well as rhymed counterpart of *selja mi*, has no obviously recognizable meaning. Literally, *barn* means “child, baby, infant, descendant” [singular or plural] (Haugen 1984:68), and the archaic meaning of *bi* is “wait.” Phonetically interpreted, *bi* might also be exchanged with *bie*, meaning “bee.” None of these possible interpretations makes any sense, and therefore the most plausible conclusion is that “Barn-bi” is a nonsense word, possibly related to other variants of *bombilia*.

Jingle 107.

| | |
|---|------------------------------------|
| <i>Pippi pinne,,pippi pinne.</i> | <i>Pippi pinne, pippi pinne.</i> |
| <i>La fløyta sva vel.</i> | Let the flute peel well. |
| <i>Går det hol på, sett ein lapp på</i> | If a hole occurs, put a patch upon |
| <i>så svar ho vel.</i> | then she peels well. |

(From Søndeled, Aust-Agder.⁴⁴⁶)

Several jingles start with the invocation formula and the hole/patch motive but add an extra part in the form of a threat if the flute does not peel well. In various ways, these jingles evoke the cluster of elements in the interconnected jingles 88a, 88b, and 88c.

Jingle 108.

| | |
|------------------------------|----------------------------------|
| <i>Bombom bila sisisila,</i> | <i>Bombom bila, sisisila,</i> |
| <i>la fløyta sva vel</i> | let the flute peel well |
| <i>Går det hol på,</i> | If a hole occurs, |
| <i>set ein lapp på,</i> | place a patch upon, |
| <i>så lyer ho alliavel</i> | then she sounds anyway |
| <i>Men vi' ho 'kje sva,</i> | But, if she won't peel, |
| <i>så kapper mi ho a'</i> | then we cut her off |
| <i>å hive' o langt</i> | and throw her far |
| <i>udi Nidelva.</i> | out into Nidelva. ⁴⁴⁷ |

(From Arendal area, Aust-Agder.⁴⁴⁸)

According to Sevåg (1973:110), the following jingle is known in many variants around Arendal and is still in use. I have only been able to discover one other variant of the prayer/threat combination:

Jingle 109.

| | |
|--|-----------------------------------|
| When one bark-strips flutes [sing], | |
| <i>Bombilla, sisilla,</i> | <i>Bombilla, sisilla,</i> |
| <i>la fløyta gaa glatt</i> | let the flute peel smooth |
| <i>ellers kommer ... Bastue</i> ⁴⁴⁹ | otherwise <i>Bastue</i> ... comes |
| <i>og hugger hodet udav dig (?)</i> | and chops off your head (?) |
| <i>Gaar der hòll paa,</i> | If a hole occurs, |
| <i>sæt en lapp paa *</i> | place a patch upon * |

446 Ommundsen 2014:42.

447 Nidelva is the name of a river in Aust-Agder.

448 Sevåg 1973:110.

449 cf. jingle nos. 108 and 117.

| | |
|---|--------------------------------------|
| <i>sò gaar fløyta lie glatt.</i> | then the flute peels just as smooth. |
| *Ego infans sic audivi. | *I heard it thus as a child. |
| (From around Arendal area, Aust-Agder. ⁴⁵⁰) | |

Jingle 110.

| | |
|---------------------------------|---|
| <i>Bom bom bela si si sela,</i> | <i>Bom bom bela si si sela,</i> |
| <i>vi'kkje fløyta sva,</i> | won't the flute peel, |
| <i>så legger eg ho</i> | then I put her |
| <i>på hoggestabben</i> | on the chopping block |
| <i>og hogger ho a!</i> | and chop her off! |
| | (From Lillesand, Aust-Agder. ⁴⁵¹) |

Jingle 111.

Jan-Erik Hellerdal (b. 1952) recounted the jingle as follows:

| | |
|----------------------------|------------------------|
| <i>Sva, sva fløyta mi.</i> | Peel, peel my flute. |
| <i>Sva, sva fløyta mi.</i> | Peel, peel my flute. |
| <i>Og vi' du 'kje sva,</i> | And won't you peel, |
| <i>så kapper e de' a'</i> | then I cut you off |
| <i>og hiver de' lokst</i> | and throw you straight |
| <i>ut i Sønd'li-elva.</i> | into Sønd'li river. |

His two sisters, Kirsten and Ingunn, remembered the same verse, but with “*Bombilia, Sesilia, la fløyta mi sva*” as the first link. Their aunt, Ragna Hellerdal (b. Løkketangen, 1922), too, remembered the jingle, but slightly differently; in the first line she said “*Bomilia, Pamfilia*.”

(From Søndeled, Aust-Agder.⁴⁵²)

Jingle 112.

I obtained this jingle from Yngvar Øigarden (b. 1935), which he had learned from his father, Halfdan Ellingsen (b. 1896):

| | |
|---|---------------------------------------|
| <i>Bomelia, Sesilia.</i> | <i>Bomelia Sesilia.</i> |
| <i>La fløyta mi sva.</i> | Let my flute peel. |
| <i>Hvis ho ikkje vil sva,</i> | If she will not peel, |
| <i>så kapper e ho a'</i> | then I cut her off |
| <i>og hiver ho langt ut i storelva.</i> | and throw her far into the big river. |

(From Risør, Aust-Agder.⁴⁵³)

Jingle 113.

| | |
|----------------------------------|----------------------------------|
| <i>Bom bom bila, si si sila,</i> | <i>Bom bom bila, si si sila,</i> |
| <i>vi du kje sva</i> | won't you peel |
| <i>så kaster vi deg</i> | then we throw you |
| <i>langt ud i Nidelva</i> | far out into <i>Nidelva</i> . |

450 NFS Joh. Agerholt 2, 78.

451 Sidsel Levin, letter dated September 21, 1990. After a woman aged 80 years in Lillesand.

452 Ommundsen 2014:42.

453 Ommundsen 2014:43.

(From Arendal, Aust-Agder.⁴⁵⁴)

Jingle 114.

| | |
|-------------------------------------|-------------------------------------|
| <i>Bom bom bela, sikk sikk sela</i> | <i>Bom bom bela, sikk sikk sela</i> |
| <i>går du kje vel,</i> | if you don't peel well, |
| <i>så slår æ dæ i hel,</i> | then I'll kill you off, |
| <i>å hivår dæ langt</i> | and throw you far away |
| <i>ner i kakloms Krogen.</i> | down in the chimney corner. |

(From Vestre Moland, Telemark.⁴⁵⁵)

The mention of "chimney corner" is unique.

The "run in a brook/piss in a sack" formula (jingle 115) is intriguing. An idea which immediately suggests itself might be to interpret "brook and sack" as implying storage of the flute, immersed in running water. Alternatively, the meaning of this formula might be related to the widespread practice of moistening the bark with water or saliva before the pounding procedure.

Jingle 115.

... the variant which my mother, Tora Ommundsen, meant it was unnecessary to teach us, but which, of course, we children found most funny to say:

| | |
|--------------------------------|---------------------------|
| <i>Bombelia, Seselia.</i> | <i>Bombelia, Seselia.</i> |
| <i>La fløyta mi sva!</i> | Let my flute peel! |
| <i>La det renne i en bekk,</i> | Let it run in a brook, |
| <i>la det pisse i en sekk.</i> | let it piss in a sack. |
| <i>Om ti minutter</i> | In ten minutes |
| <i>er fløyta mi svadd!</i> | my flute is peeled! |

(From Risør, Aust-Agder.⁴⁵⁶)

Jingle no. 116 is a related version without opening address:

Jingle 116.

From Annlaug Gjernes (b. Lundberg 1940), grown up in Risør, I obtained a slightly "nicer" verse:

| | |
|---------------------------------------|---|
| <i>Sva fløyta, sva fløyta!</i> | Peel flute, peel flute! |
| <i>La det renne i en bekk,</i> | Let it run in a brook, |
| <i>la det tisse i en sekk - - -</i> | let it pee in a sack ... |
| <i>"og så dikta jeg litt videre,"</i> | "and then I trumped up a little further," |
| <i>forteller hun.</i> | she tells. |

(From Risør, Aust-Agder.⁴⁵⁷)

454 Ibid.

455 Høeg 1976:579.

456 Ommundsen 2009:42.

457 Idem.

Jingle 117.

*Bombelja, seselja
la fløyta mi sva.
La de renne i en bekk;
la de pisse i en sekk;
om ti minutter
so er fløyta mi svadd.*

*Bombelja, seselja
let my flute peel.
Let it run in a brook,
let it piss in a sack,
after ten minutes
then my flute is peeled.
(From Risør, Aust-Agder.⁴⁵⁸)*

Jingle 118.

*Bombelja, seselja,
la fløyta mi sova,
la de renne i en bekk,
la det pisse i en sekk,
om ti minutter
so er fløyta mi svadd.*

*Bombelja, seselja,
let my flute sleep,
let it run in a brook,
let it piss in a sack,
after ten minutes
then my flute is peeled.
(From Risør, Aust-Agder.⁴⁵⁹)*

Apparently, a curiosity, the latter jingle constitutes an amusing case of how just a subtle phonetic change may affect the overall meaning. The version is possibly a faulty rendering based on the above-quoted source (jingle no. 115). By adding the letter o, *sva* (peel) is changed to *sova* (sleep), which not only drastically affects the meaning, but also mars the rhythm and rhyme.

Jingle 119.

*Bombelia, sessesila,
Kari Bastua, Nils Gjennesta,
Går der hål på 'o så piss på 'o,
så blir 'o til go.*

*Bombelia, sessesila,
Kari Bastua, Nils Gjennesta,
If a hole occurs, then piss on her,
then she recovers.
(From Arendal, Aust-Agder.⁴⁶⁰)*

Commenting upon this jingle, Høeg mentioned that there was also “another variant of the verse, in which ‘Kari Bastua, Nils Gjennesta’ was included” and he identified Bastua as a small island outside Arendal. His allusion to “another variant” is not further documented.

Jingle 120.

*Bim bam belia, sim sim selia.
Vi'kje fløyta sva,
så kapper vi haue a',
og hiver ho langt ut i elva.
(From Risør, Aust-Agder.⁴⁶¹)*

*Bim bam belia, sim sim selia
won't the flute peel,
then we cut the head off,
and throw her far out into the river.*

458 NFS H. Delgobe 28, 2, whose source was painter Emil Johansen.

459 Høeg 1976:579.

460 Ibid.

461 Ommundsen 2009:43.

The following jingle is an extreme case of hybridization:

Jingle 121.

| | |
|--|---------------------------------------|
| <i>Fløyte, fløyte, vil du sva,</i> | Flute, flute, will you peel, |
| <i>ja, ja, ja.</i> | yes, yes, yes. |
| <i>Bare vent til jeg får</i> | Just wait until I get |
| <i>mine pissebukser på.</i> | my “peeing” trousers on. |
| <i>La det regne i en bekk,</i> | Let it rain in a brook, |
| <i>la det susle i en sekk.</i> | let it gurgle in a sack. |
| <i>Bom, bom, bilia, si, si, silia,</i> | <i>Bom, bom bilia, si, si, silia,</i> |
| <i>la fløyta sva vel.</i> | Let the flute peel well. |
| <i>Og vil ho ikkje sva,</i> | And won’t she peel, |
| <i>så hiver vi ho</i> | then wi throw her |
| <i>langt uti Storelva.</i> | far into <i>Storelva</i> . |

[...] or into Lillelva, or Orkla, or Hurunda [local names]. After my father (b. 1904), in the late nineteen-forties.

(From Tvedestrand, Aust-Agder.⁴⁶²)

The jingle, with its extreme length and messy rhythm, could hardly be used sensibly in a traditional bark-stripping context. It appears more like an accidental fusion of jingle fragments.

Bark-stripping jingles with both alternatives of promise and threat are only sparsely documented. It is worth mentioning, though, that this typological construct is also known from jingles used in connection with making reed pipes (see jingle no. 132). Creative hybridization occasionally leads to obscure constructs, as shown in the following jingle:

Jingle 122.

| | |
|---|------------------------------------|
| <i>Fløyte, fløyte, vi’ du sva?</i> | Flute, flute, will you peel? |
| <i>Ja, vi’ e det?</i> | Yes, will I? |
| <i>Kom siljen, kom piljen,</i> | <i>Kom siljen, kom piljen</i> |
| <i>la fløyta mi sva.</i> | let my flute peel. |
| <i>Går det hol på, set en lapp på</i> | If a hole occurs, put a patch upon |
| <i>ellers fryser ho ihjel.</i> | Otherwise, she freezes to death. |
| (From Risør, Aust-Agder. ⁴⁶³) | |

Presumably, both *siljen* and *piljen* most likely refer to willow.

The following two jingles are characterized by the unusual and puzzling *langemann* motive.

462 Tora Husan, interview, Rennebu, August 2006; also an SMS from Tora, August 28, 2006.

463 Ommundsen 2009:43.

Jingle 123.

| | |
|--|--------------------------------|
| <i>Bom bom bela,</i> | <i>Bom bom bela,</i> |
| <i>sikke sikke sila,</i> | <i>sikke sikke sila,</i> |
| <i>langemann i sjurta,</i> | <i>langemann in the shirt,</i> |
| <i>la fløyta mi gå.</i> | <i>let my flute peel.</i> |
| (From Vennesla, Vest-Agder. ⁴⁶⁴) | (<i>Sjurta</i> = the shirt.) |

Langemann is a well-known word for the “middle finger,” used in common language, particularly speech directed at children. Thus, the expression *langemann i sjurta* (“middle finger in the shirt”) could be interpreted as a metaphor: a creative image of the piece of wood wrapped in the bark tube.

A similar possibility applies to the expression *Langemann i Skottehola* (“*Langemann* in the Scotte cave”) in the following jingle (no. 124). On the other hand, such expressions might also be a more accidental outcome of children’s creativity, based on some local inspiration and with no connection whatsoever to flute making.

Inconsistency arising from the reference to the flute both in the third person and directly addressed in the same jingle indicates hybridization, in which two different jingles, both known within the same area, have been fused together.

The following two jingles are more examples of hybrids.

Jingle 124.

I can remember [...] they sang a little verse while doing their work [loosening the bark], [...]:

| | |
|--|-------------------------------------|
| <i>Bom.bom Bæla, sy, sy sela,</i> | <i>Bom.bom Bæla, sy sy sela,</i> |
| <i>Langemann i Skottehola</i> | <i>Langemann in the Skotte cave</i> |
| <i>fløyta gå væla,</i> | <i>the flute peels well,</i> |
| <i>Vil du gå for me i år</i> | <i>If you peel for me this year</i> |
| <i>ska eg gå for deg neste år</i> | <i>I’ll peel for you next year.</i> |
| <i>Bom Bob. Bæla.</i> | <i>Bom Bob. Bæla.</i> |
| (From Spangereid, Vest-Agder. ⁴⁶⁵) | |

Starting (and ending) with the *bom-bom-bæla* variety of the Cecilia prayer, this version surprisingly includes the year reference typical of type I jingles.

Jingle 125.

| | |
|---|---------------------------------------|
| <i>Fløyte, fløyte, vil du sva?</i> | <i>Flute, flute, will you peel?</i> |
| <i>Ja, ja, bare vent til jeg får</i> | <i>Yes, yes just wait until I get</i> |
| <i>mine gamle skinnbukser på.</i> | <i>my old leather pants on.</i> |
| <i>La det renne i ein bekk,</i> | <i>Let it run in a brook,</i> |
| <i>la det pisse i ein sekk.</i> | <i>let it piss in a sack.</i> |
| <i>Bombilia, Singsilia.</i> | <i>Bombilia, Singsilia.</i> |
| <i>Ola Basstaua.</i> | <i>Ola Basstaua.</i> |
| <i>La fløyta sva vel.</i> | <i>Let the flute peel well.</i> |
| (From Risør, Aust-Agder. ⁴⁶⁶) | |

464 Høeg 1976:579.

465 NEG 18219.

466 Ommundsen 2009:44.

IV. Related jingles

Available documentation does not provide any evidence of general practice of singing in connection with *seljefløyte* making and playing. However, a few sources report that singing sometime occurred. Within a social, shared context of *seljefløyte* making, singing has presumably been close at hand as a welcome spontaneous part of the shared activities:

Jingle 126.

They played and sang:

Kan 'kje eg'n så kan vel du'n,

kan du bære så lær du meg'n

Fivrilikk, kan du den du!

Fivrilikk, kan du den du!

(From Bø, Telemark.⁴⁶⁷)

If I don't know 't perhaps you do,

if you know 't then teach it to me.

Fivrilikk, do you know it!

Fivrilikk, do you know it!

The song possibly refers to a tune to be played on the flute.

The following two jingles, documented as used in connection with bark-flute making, are obviously borrowed from other contexts. The first one was originally a common children's nonsense verse, with no reference to bark stripping or to the *seljefløyte* tradition.

Jingle 127.

Akka bakka bonka rakka

[Nonsense text]

etla metla sjong dong fillifong

issa bissa topp.

(This jingle, being an ordinary children's counting rhyme ("eenie-meenie" type), is transferred from other games.)

(From Bærum, Akershus.⁴⁶⁸)

The second jingle seems to have had its origin as a work song:

Jingle 128.

Slå folære, slå halære,

Beat faster, beat harder,

så får du'n mye snarære.

then you'll get him much sooner.

(*folære* = faster; *halære* = harder. "Perhaps something from a stonecutter's song.")

(From Stokke, Vestfold⁴⁶⁹.)

The jingle, although borrowed from stoneworkers' repertoire of work songs, seems quite appropriate for the bark-flute making context, except for its rather incongruous injunction to beat harder.

Idioglot reed pipes made from straw are well known in Norway. The use of magic jingles in connection with making such pipes is documented in various locations. The

467 NEG 18337.

468 Høeg 1976:578.

469 Ibid.:579.

most common procedure has probably been to recite the jingle while rolling the pipe between the palms of the hands.

The following jingle is in the form of an enticement, reminiscent of jingle no. 64, classified under type II above.

Jingle 129.

When they cut åkerlåte, they said:

Åkerlåta, åkerlåta

låt, låt, låt!

Du ska få rommakodla

og søllskjei attåt.

(From Austevoll, Hordaland, recorded 1930/31.⁴⁷¹)

Åkerlåta, åkerlåta

sound, sound, sound!

You'll get *rommakodla*⁴⁷⁰

and silver spoon besides.

The following jingle-for-making-reedpipe is in the form of a threat, designed much like bark-stripping jingles of similar kind:

Jingle 130.

Aagerpibe, Aagerpibe,

vil du ikkje laade,

saa ska æ bryd' a dæ Hove

aa kaste dæ i 'i Saade.

(From Vest-Agder, recorded by P. Holmesland, 1913.⁴⁷²)

Aagerpibe, Aagerpibe,

won't you sound,

then I'll break your head off

and throw you into a stack.

The following two jingles are in the form of both a threat and an enticement, thus conceptually related to jingle nos. 74–75.

Jingle 131.

If the [åkre] *piba*⁴⁷³ did not sound, one believed it would help to roll the finished *piba* between the hands and say:

Piba Piba

vil du inkje låda,

ska me kasta deg

*i gloande*⁴⁷⁴ *logen,*

vil du låda,

*ska du*⁴⁷⁵ *få søde sauemjolk.*

(From Gyland, Vest-Agder.⁴⁷⁶)

Piba Piba

if you won't sound,

we'll throw you

into the glowing blaze,

if you sound,

you'll get sweet sheep milk.

Jingle 132.

Tull tull åkerpip

vil du låt',

Tull tull åkerpip

if you sound,

⁴⁷⁰ *Rommakodla*, cf. footnote 414.

⁴⁷¹ NFS K. Nauthella I, 54.

⁴⁷² NFS Magnus Olsen:9b.

⁴⁷³ A single-reed pipe made from oat straw.

⁴⁷⁴ Misspelled *gloanse* in the record.

⁴⁷⁵ Misspelled *fu* in the record.

⁴⁷⁶ NEG 18320.

| | |
|----------------------------------|--|
| <i>ska vi stekk-de</i> | we'll put you |
| <i>ni rømm dall'n-na mor,</i> | into mother's sour cream <i>dall</i> , |
| <i>vil du kje låt',</i> | if you won't sound, |
| <i>ska vi stekk-de</i> | we'll put you |
| <i>ni tjørrudall'n hass far.</i> | into father's tar <i>dall</i> . |


(From Øksendalen, Møre og Romsdal.⁴⁷⁷)

Also, double-reed pipes from bark are known. The *dritar* – a humorous, daring and rather disrespectful name meaning one who “farts” – refers to a tube that is 5–10 cm in length and made from the bark of *rogn* (rowan), with the walls thinned out at one end and pressed together as a double-reed mouthpiece. Its name probably refers to the obtrusive, “fart”-like sound produced on the instrument. The following bark-stripping jingle is reported as having been used in connection with making the *dritar*. To loosen the bark, one pounded with regular strokes of the knife handle, while saying the following:

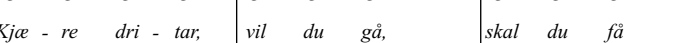
Jingle 133.

| | |
|---|---|
| <i>Kjære dritar, vil du gå, skal du få kjøtt og kål i kongens gål og fire kyllinger attpå.</i> (From Geithus, Buskerud. ⁴⁷⁸) | <i>Dear dritar, if you peel, you shall get meat and soup in the King's Mansion and four chickens besides.</i> |
|---|---|

♩ = 100

Chanting $\frac{2}{4}$ 

Kjæ - re dri - tar, vil du gå, skal du få

Pounding $\frac{2}{4}$ 

kjøtt og kål i kon-gens gål og fi - re kyl-lin-ger att - på.

Ill. 42.

In its form, the jingle (no. 133) is almost identical to bark-stripping jingles type II. Viewed together, these jingles evidence a regional tradition (Oppland, Buskerud), where the making of flutes (*pippil*, *pelarpipe*) and double-reed pipes (*dritar*) from bark call forth a common jingle subtype. Against this background, the phrase *fire kyllinger* (four chickens) appears not only as a creative conceptual variation, but possibly also as being phonetically related to *fire skilling* (four shillings).

The idea of animals acting, talking, and thinking like humans is found in Norwegian folk tales as well as in the so-called *dyreveriser*, “animal songs,” a folk song

477 Tor Erik Jenstad, letter 1989. Jenstad had learned the jingle from his mother.

478 Rolf Diesen, conversation, Trondheim June 7, 1990. Diesen had learned the jingle as a boy in the nineteen-fifties, and the jingle was much used at that time.

genre. Such concepts are deeply rooted in Scandinavian culture. A relevant, ancient source is the *Historia de gentibus septentrionalibus* by the Swedish history writer Olaus Magnus (1490–1557):

It is a well-known fact that bears, as well as dolphins, deer, sheep, and calves, and even lambs, take great pleasure in harmonious melodies, but that by means of the terrifying tones from certain horns or *lurs*, they can be kept at a distance from the cattle, in that as soon as they notice the sound therefrom, they flee far into the deep forests. (Magnus 1555, Book VXIII, Chapter 31, p. 628)

The widely documented practice of performing *skræmelåt* (“terrifying sound”) on a billy goat horn to frighten away beasts of prey doubtless originates far back in time. On the other hand, the quotation from the work by Olaus Magnus indicates that also the complementary notion of wild animals being attracted by “harmonious melodies” has ancient roots. Against this background, the corpus of jingles concerning the bear’s opinion about music and other instrumental sounds is more readily accessible. Such jingles convey interesting fragments of traditional beliefs constituting a conceptual and philosophical background for bark-flute making and playing, particularly in the context of herding. This is exemplified by the following five jingles.

Horn and gunshots juxtaposed with jingling bells and flute indicated a similar mode of reasoning as that reflected in the above quotation from Olaus Magnus’s work:

Jingle 134.

An old jingle on what the bear meant about music [is]:

| | |
|--------------------------------------|-------------------------------------|
| <i>Bukkehønn og børsskot</i> | Billy goat’s horn and gunshots |
| <i>de skorrer felt i mi øre</i> | they grate on my ears |
| <i>men bjølleklang aa fløitelaat</i> | but jingling bells and flute sounds |
| <i>de vil eg gjerne høre.</i> | these I would like to hear. |

NB Flute sounds were sounds from *siljefløyte*.

(From Østre Moland, Aust-Agder.⁴⁷⁹)

Similarly, horn and *lur* sounds are juxtaposed with bark-flute sounds and babies’ cries:

Jingle 135.

| | |
|--------------------------------------|---|
| <i>Bukkehonne aa Langelur,</i> | Billy goat’s horn and long <i>lur</i> , |
| <i>de vi e inkje høire;</i> | that I don’t want to hear, |
| <i>men Seljepibe aa Baadneskrig,</i> | but <i>Seljepibe</i> and babies’ cries, |
| <i>de klinge saa let i mit Øire.</i> | they sound so gently in my ear. |

(From Vennesla, Vest-Agder.⁴⁸⁰)

479 NEG 795.

480 Ibid.

Jingle 136.

| | |
|---|---------------------------------|
| <i>Baanegraat aa Fløitelaat,</i> | Babies' cries and flute sounds, |
| <i>det triller saa godt i mit Øire;</i> | they trill so well to my ear, |
| <i>men Langeluren</i> | but the long <i>lur</i> |
| <i>og Bukkehonne,</i> | and billy goat's horn, |
| <i>det gjet eg aldrig høre.</i> | that I hope I'll never hear. |

(From Åmlid, Nedenes, Aust-Agder.⁴⁸¹)

In the following jingle, differences in the way instruments are traditionally used implicitly seem to hold equal, if not greater, importance than the differences between the instruments themselves:

Jingle 137.

From an old woman from Henning, Innherad, my wife as a child heard that the bear [...] would say the following:

| | |
|-------------------------------|----------------------------------|
| <i>Bukkehorn og lur</i> | Billy goat's horn and <i>lur</i> |
| <i>fører sådan tur.</i> | make such a noise. |
| <i>Fiolin og fløytespill</i> | Violin and flute-playing |
| <i>lyder godt i mitt øre.</i> | sound good to my ear. |

(From Overhalla, Nord-Trøndelag, recorded by Johs. Fuglår 1947.⁴⁸²)

As opposed to the noise associated with horns and *lurs* in some jingles, one can also find jingles in which the billy goat's horn is associated with musical sound, like the *seljefløyte*. Thus, the dual nature of the horn, which can be used both for producing terrifying sounds and for music making, is acknowledged.

Jingle 138.

| | |
|-------------------------------|--|
| <i>Langlur, Langlur</i> | Long <i>lur</i> , long <i>lur</i> |
| <i>vil jeg ikke høre!</i> | I don't want to hear! |
| <i>Bukkehodn og Seljepibe</i> | Billy goat's horn and <i>Seljepibe</i> |
| <i>triller for mit Øre.</i> | trill to my ear. |

(From Søgne, Vest-Agder.⁴⁸³)

The distinction between sound source per se and the sound quality, appears significant. Whereas gentle human sounds such as instrumental music and babies' cries are supposed to attract the bear, loud and terrifying sounds – regardless how they are created, made by firing a gun or by blowing horns or *lurs* – supposedly frighten the bear. The notion of *skræmelåt* ("terrifying sound") and *bukkhornlåt* ("billy goat's horn tune") as two distinctly different kinds of sound making on a billy goat's horn, the former extramusical and the latter musical, obviously reflect the same conceptual construct.

The ritual use of magical jingles is doubtless a significant part of traditional flute-making. A tentative analysis and discussion based on simple models for the bark-flute making ritual is presented in the next section.

⁴⁸¹ Ibid.

⁴⁸² NEG 765.

⁴⁸³ Storaker 1928:110.

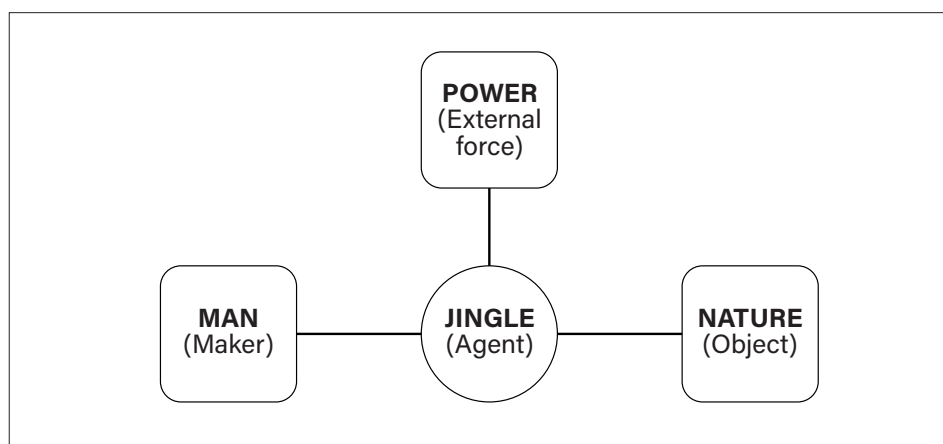
The Flute-Making Ritual

Text and Narrative: A Human-Nature-Power Construct

In the following analysis and discussion, I draw on introspection and contemplate my own relevant experience with regard making bark flutes.⁴⁸⁴ My background, rooted in the shared experience of a local bark-flute tradition in my native town, Namsos, and of using jingle no. 4 within this vernacular context, thereby gives my analysis its direction, whereas the entire jingle corpus and related evidence lend it substance.

My approach has certain risks, such as distortion of evidence through loss or errors of memory and the treacherous pitfall of nostalgia. On the other hand, I never ceased making *plysterpipe*, and annual opportunities for bark-flute making and playing have kept my early childhood memories alive and vivid. Surprising as it may seem, my own magic jingle has been on my lips more or less annually since I learned it as a young boy. Probably, I will never outgrow this puerile habit as long I go on contemplating it. In sum, the ensuing analysis must be understood against the background of a lifelong fascination, one profoundly related to the emotional and cognitive facets of my own culture.

From a general point of view, my understanding is that, basically, the corpus of bark-stripping jingles brings to life mankind's perpetual aspiration to control nature. In their content and use, the jingles revolve around the human-nature-power complex. On the textual level, the jingles can be conceived as expressing a human desire or intention to control nature. On the contextual level, each jingle functions simply as a tool, activated to attain this goal. On the textual level, the jingles reveal distinctive sonic qualities that emphasize their tool-like character. From these concepts, the following *situational model* emerges (Ill. 43), in which jingle performance assumes the role of the unifying, central agent connecting human, nature, and power.



Ill. 43. The situational model of bark-flute making and jingle performance.

The model affords an overall view of the actual situation of bark-flute making, in which the jingle is conceived as the principal agent holding the human-nature-power complex together. It is intended as an analytic device, furnishing the basis for a holistic approach. Such a view can be accomplished to its full extent only through an

⁴⁸⁴ A similar approach is applied in my article 'Magic, Means, and Meaning' (Ledang 1990).

analytic process, in which the diverse elements and aspects of the study object must be taken apart and analyzed more or less in isolation. Emboldened by Alan Dundes (1980:22f), I include various aspects of text, texture, and context in my discussion. Finally, I endeavor to synthesize the various pieces of information and understanding.

Thus, I take the situational model as my point of departure, and as an organizing device for the ensuing discussion. My analysis, focused on the jingle within the human-nature-power complex, revolves around one basic question: How does this come about? Although my analysis draws on structuralist concepts, my approach is essentially pragmatic. Thus, my use of introspection may also involve impressionistic elements and, to a certain extent, an element of intuition. Broadly speaking, I aim to utilize and combine a cluster of ideas tailored for my specific analytical purposes.

Potentially, the situational model might be most useful for assisting in establishing a conceptual universe, within which the jingle corpus can be meaningfully approached and analyzed. This conceptual universe also encompasses bark-stripping jingles as a folklore genre, by specifying the jingles' mode of existence through defining the situational reference of jingle performance. Thus, a semantic analysis of the jingle corpus is put into perspective by the situational elements of the model: maker, object, and external force.

A fundamental related issue is the question of what constitutes a bark-stripping jingle. Against the background described above, this question may be adequately addressed from a unified text-texture-context view.

The situational model is essentially valid in the sense that it represents the traditional setup of jingle performance, including the implied actions (pounding on the bark and reciting, chanting, or singing the jingle). As the jingle in this model is conceived as the principal agent within a specific human-nature-power complex, one would expect to find unity of meaning behind the variety of expressions within the jingle-text corpus. Assuming that structure is based on meaning, one would expect to find also structural unity.

Thus, a basic question arises: Is each jingle a manifestation of a common sign system or semantic structure, reflecting the conceptual universe and the jingle's function within it? If so, can this fundamental underlying structure be identified? Such questions imply communication of a particular kind, not a communication system fully apprehended with reference to perceptible realities, but a system-bridging human-in-nature and supernatural domain. I contemplate a system based not on one-dimensional interpersonal human-nature-power communication but rather on two-dimensional human-nature-power communication. One part of this system, related to a verbal message passed from maker to material object, is perceptible, whereas another, related to a message passed to an external power, is imperceptible. While transcending perceptible realities, this system may be conceived as a reality for the jingle practitioner.

One way to approach the problem associated with unity of meaning versus variety of expression might be to establish a semantic model for the jingle. I address this topic initially from the general perspective of the situational model. When considering the corpus of jingle texts viewed against this model, three interconnected questions related to what might be called the communication system invite particular attention: First, who is sender and who is the receiver? Second, what is the message? Third, how is the message communicated?

If there exists some underlying semantic structure that is common to all jingles, that structure must be manifested in every jingle, including the most abbreviated

ones. So, let us start by considering the most embryonic of them all, jingle no. 1: *Sva sva pipi* [...]. Literally, this jingle contains two elements, the verb *sva* (peel) and the noun *pipi*, which is the designation of the flute or, strictly speaking, the piece of wood to be turned into a flute.

By focusing on the question of sender and receiver, one may distinguish three communicative modes drawn from the jingle text. In the present context, I use the term “mode” to distinguish among various domains where communication of one kind or another, not necessarily specified, is assumed possible and indeed implied. (The concept of “communication channel” would appear constrained and thus inadequate in the present context, drawing as it does upon communication theory focused on perceptible realities.)

The jingle text never explicitly mentions the sender; he/she is merely implied. Obviously, the sender must be understood as the performer of the jingle, the person who by uttering the jingle makes it operate and is identical to the bark-flute maker.

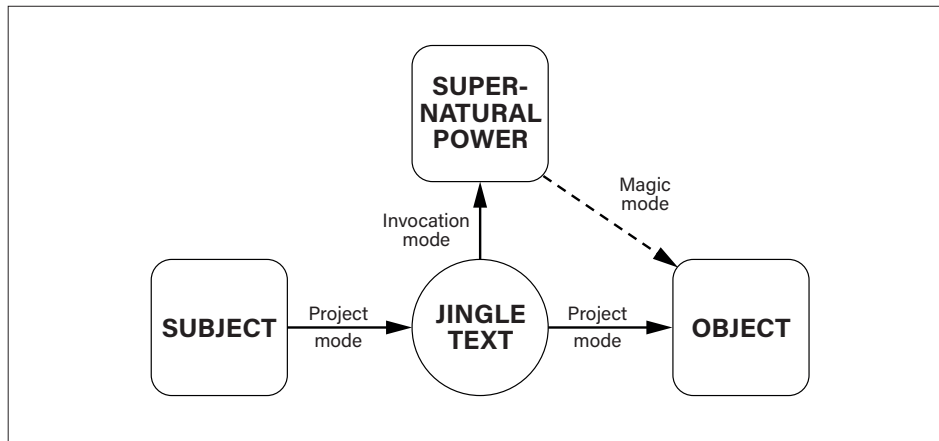
Through the address *pipi*, the maker is speaking, chanting, or singing directly to the made; thus, the performed text establishes communication between maker and made, between subject and object. As this communicative mode most directly reflects the implied subject’s project, to make a bark flute, I call it the *project mode*. This communicative mode is confirmed through *sva*’s denotative meaning, which is related to the bark-stripping operation. Significantly, the transfer is based on a common human mode of communication: word of mouth.

However, in addition to its denotative meaning, the implied, imperative form *sva!* achieves a connotation that stretches far beyond the physical processing of the designated object. In a wider sense, the imperative *Sva sva pipi!* takes on the meaning of an appeal or command, addressed at once to the object and to some supernatural power. Such meaning is literally emphasized and maintained through an unrestricted and unpredictable number of repetitions of the short text phrase, imbuing the message with potent redundancy. Strictly speaking, the jingle concept itself presupposes such endless repetitions; thus, the jingle text must ultimately be defined as the complete repetition chain of the phrase *Sva sva pipi*. Consequently, from the connotative meaning of *sva!* as appeal, reinforced by text repetitions, communication is undertaken between subject and the supernatural domain; I call this communicative mode the *invocation mode*. Although the transfer is still based on oral communication, the performance now takes on a quality beyond everyday speech; the chanted, sung, or recited words become a means to communicate with some undefined external power.

Significantly, the invocation’s content makes no sense except to the practitioner, who instinctively may feel that the unknown supernatural power thus addressed might have an impact on the bark-stripping operation. As an unavoidable logical cause, another connotation of *sva* is established: the concept that by addressing a supernatural power, that power will make its influence felt in such a way as to promote success in the bark-peeling process. From my own childhood, I recall clearly how I regarded using the right words in the right way as essential to the efficacy of my task, thereby unconsciously reflecting the concept of my jingle as a magic spell.⁴⁸⁵ Thus, the jingle may be conceived as a catalyst, ultimately triggering a response between the supernatural and the material object; I call this the *magic mode* of communication.

⁴⁸⁵ Frankly speaking, I still experience some vestige of magic when reciting my jingle in the authentic context of bark-flute making. Regardless, this experience clearly violates the rationalistic bias of my culture.

Thus far, my analysis has led to the conclusion that the two text elements in the jingle *Sva sva pipi* – the verb *sva* and the noun *pipi* – manifest a basic semantic structure and reveal a communication system, as well as a conceptual universe (which may or may not be consciously recognized by the jingle performers). This system, represented in what I call the *communication model*, involves the same elements as the situational model. However, whereas the latter merely delineates a complex of interrelated elements, the communication model specifies a set of directional relations among those elements, as depicted in Ill. 44.



Ill. 44. The communication model.

It turns out that not only does the communication model mirror the setting of jingle performance, but also that the corresponding meaning, embedded in each, and every jingle, in effect transcends the jingle's text itself and calls forth the conceptual universe of the human-nature-power complex. It is also noteworthy that this textually deep structure is manifest in elements that vary considerably throughout the jingle corpus. However, as I demonstrate in the following, these various manifestations of a common underlying structure can be readily identified and explained as related to the different jingle types.

As an unexpected and unavoidable by-product, my discussion of the sender-receiver complex touches upon the second question: What is the message? The analysis above reveals a dual-mode message of the jingle text. In the project mode, the message is basically a matter of anthropomorphizing: the jingle attributes a human-like character to the piece of wood, which is being turned into a flute. In the invocation mode, the jingle is an appeal to a higher power, ultimately a magic spell; thus, the jingle's message is revealed as a tool or instrument, directed at controlling nature by invoking the supernatural.

At this point, the answer to the third question – How is the message communicated? – appears pleonastic: the message is communicated by invocation or incantation through a multifaceted act of magic. This act ultimately implies the influence on the bark-stripping project of an external mystical force beyond the ordinary human sphere, namely magic-mode communication.

The communication model may throw light on the jingles from a general point of view, but as an analytic tool applied to the jingle text corpus it appears unwieldy. Faced with the need for a tool to analyze the entire jingle corpus, one might find a

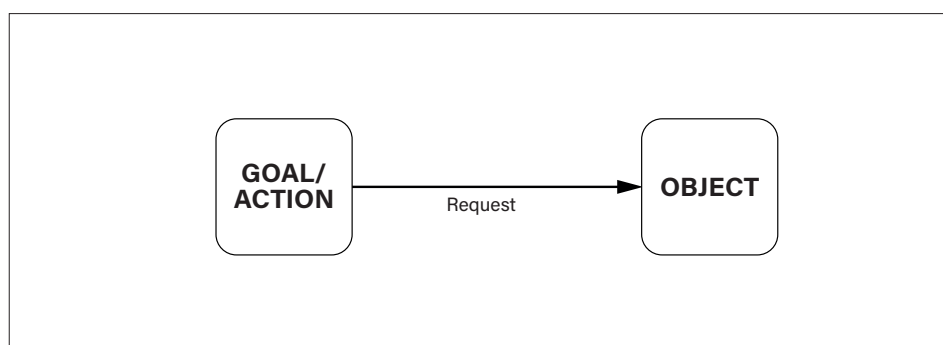
general but compact constitutional model more practicable. The complexity of the communication model reflects the general approach behind this model. Let me try to reverse this approach. Instead of starting from the outside, from the man-nature-power perspective, I venture to start from the inside, from within the microcosm of the text corpus itself. Accordingly, my strategy is directed towards reducing or eliminating redundant elements to reveal the basic underlying structure.

Upon inspection of the entire text corpus, one can discern several noteworthy features. Considered as a literary genre, the bark-stripping jingle is essentially non-narrative. Rather than comprising a self-sufficient story, the average jingle text is composed more like a sort of commentary or oath-like exclamation, in which only the object is addressed, whereas the proper subject occasionally is merely implied, not explicitly mentioned. However, in each jingle, two basic structural elements can be identified. Both usually appear in the opening part (the initial or first two phrases) of the jingle, and together they set the pivotal points around which every jingle text revolves.

One element is manifested in terms such as *sva*, *løype*, *gå*, *komma*, and *sleppe*. From a semantic point of view, these verbs may have various connotations, but exhibit the common denotation of a particular dual nature. On the one hand, they denote a future goal or condition (to have the bark peeled off the wood). On the other hand, they are readily experienced as referring to the simultaneous action (loosening the bark) that will eventually lead to that goal. Thus, I consider these verbs manifestations of a basic dual structural element, which hereafter I call the *goal/action*.

A different structural element is manifested in such terms as *pipi*, *selje*, *du*, *fuglafloyta*, and *tvitt*. These may have different connotations, but they all denote the same physical object: the piece of wood/bark being turned into a flute by the maker. For this reason, I consider this group of terms, including nouns, proper nouns, and pronouns, as manifestations of a structural element, which hereafter I call the *object*.

A common underlying structural core, manifested throughout the jingle corpus, can now be worked out in the *bipartite structural model*, as shown in Ill. 45.



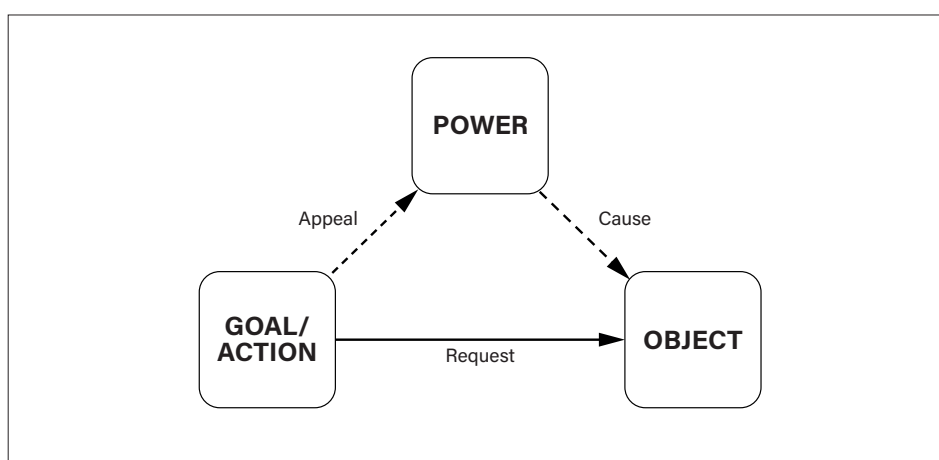
Ill. 45. The bipartite structural model.

The *request* arrow defines the implied relation between the elements. It indicates that goal/action is verbally directed towards the object, in the form of a request. This lends dynamics and directionality to the inherent structure represented in the model.

It is noteworthy that both elements of the structural model are explicitly manifested in the jingle texts; the model derives from the denotative meaning of the associated textual elements. However, as it stands, the model appears incomplete. It hardly reveals a self-contained semantic structure. One possible way to make the

model self-contained and intelligible would be to expand it. To do so, let us consider possible connotations of the textual elements.

Unlike fairytales, the jingles do not tell of any extraordinary beings or events. While implied, the extraordinary lies literally outside the text. Besides their dual denotative meaning, referring to goal and action, and addressing the object, such verbs as *sva*, *løype*, *gå*, *komma*, and *sleppe* might also have connotation of being directed towards some implied external power. Interpreted as imperatives, these verbs can be understood as addressing this external power in the form of an appeal for help to attain the denoted goal. Thus, a third element is manifested – not directly, but implied – in the jingle text. This element, which I designate as the *power*, evidently belongs to the supernatural domain. Moreover, as this power is addressed through an appeal for assistance towards a certain goal, a causal relationship between the power and the object is somehow implied. Hence, a tripartite structural model emerges (Ill. 46):



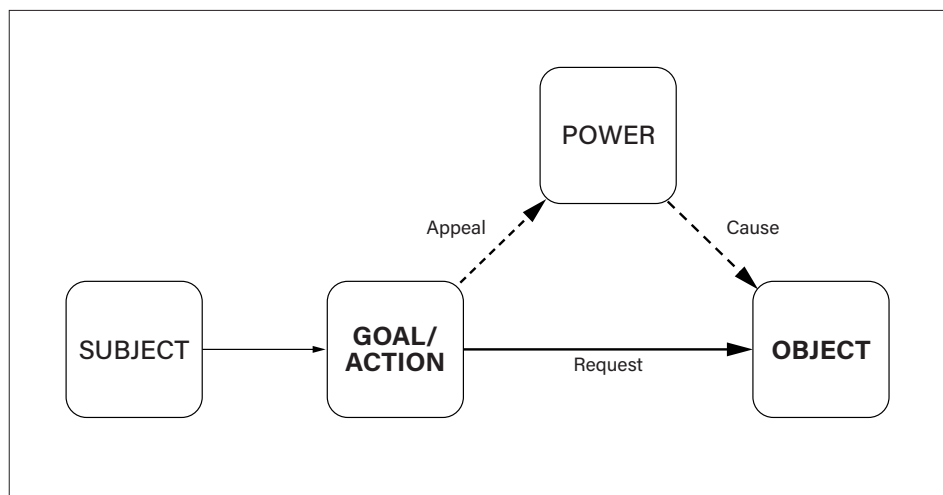
Ill. 46. The tripartite structural model.

As the *appeal* and *cause* relationships are connotatively derived from the text, they are indicated by broken arrows. Similarly, the implicit *power* element is framed by a line narrower than those for the *goal/action* and *object* elements, explicitly manifested in the jingle texts.

The tripartite structural model bridges the natural and the supernatural domains. But it lacks the active subject, who normally is not explicitly mentioned but is clearly implied. After all, without the chanting subject, the jingle text would not only be meaningless (because of its non-narrative character) but also non-existent. Therefore, to make the model complete, one must include the subject who performs the chant. The final *constitutional model* is shown in Ill. 47.

The model bears some resemblance to the communication model, but it differs significantly from it in that its structural elements are derived from, and thus directly related to, concrete features in the jingle texts. I employ the constitutional model as my analytic device for a general interpretation of the jingle corpus.

Thus, my basic assumption is that the entire jingles-for-making-bark-flutes corpus can be understood as a manifestation of a common semantic structure mirrored in the constitutional model. In the section “Traditional Practices: Magic Jingles” I have classified the corpus of jingles, documented as used only in connection with the bark-stripping procedure, into three main types, each with a cluster of variants. I now attempt to show that each of these types, notwithstanding their distinguishing



III. 47. The constitutional model.

typological features, can be explained as revealing a common semantic structure. Towards this aim, I demonstrate how the distinguishing typological features, viewed against the constitutional model, can be explained as redundant elements, and that all types can be reduced to manifestations of one common underlying semantic structure. Consequently, the different types are conceived as variations spun around this basic underlying structure, modifying it without significantly changing it. My criteria are drawn from a semantic analysis based on the constitutional model.

The typologically distinguishing features are brought out through form and expression. In relation to the common underlying structure, such expressions and motives can be viewed as non-obligatory text elements, a certain cluster of which distinguishes each jingle type. In a way, such expressions and motives occur as outcomes of a process of ornamentation or other culturally conditioned developments.

Significantly, the underlying structure represented by the constitutional model sets apart jingles-for-making-bark-flutes from other related folklore genres. If one jingle were to be conceived as an archetype, no. 1 – *Sva sva pipi* – would be close at hand. As it is stripped of culturally conditioned attributes (except for its linguistic representation), this jingle appears archetypal in its form and content. Taken to be complete and self-contained, the jingle is the inmost concise manifestation imaginable of the basic underlying structure reflected in the constitutional model.

A basic aspect is the *contractual quality* that emerges from the goal/action complex. From the underlying message of a bargain or contract between subject and object, this contractual quality is manifest, explicitly or implicitly, throughout the entire bark-stripping jingle corpus.

The promise directed at the object might be of an obscure kind related to the year cycle or to material objects. Alternatively, it might be related to the contractual relationship between the maker and made, and a part of this relationship could be of an antagonistic nature. However, a contractual mutual relationship can be discerned throughout all jingle types, even in type III.

In general, the contractual character is most distinctly revealed through an implied sense of negotiation. The latter is manifested in two ways: one revolves around a proposed exchange of favors, while the other is oriented towards threats as a negative attribute of negotiating.

In some cases, the variety of promises seems to originate from a humorous attitude among the young makers, liberating spontaneity of expression. Apparently, this

openness has produced a welcome outlet for creativity within the traditional childlore context. Similarly, the general idea of threats has inspired youthful performers to create vivid permutations of the element of punishment.

In view of the jingles' underlying structure, the contractual quality strengthens and infuses substance into the request arrow of the constitutional model, while leaving additional elements intact. In this connection, the concept of time is important. In addition to the focus on human and nature shared with jingles of type I, type II jingles introduce yet another concept: time. Three basic concepts – human, nature, and time – all represent existential categories that transcend culture. The time concept can be understood as infused into the appeal and request functions of the constitutional model. In parallel, an element of negotiation is introduced, on a non-material level.

The deeper significance of concepts of time and the year cycle may appear enigmatic and even incomprehensible to the modern, rationalistic mind. Is it merely a reflection of the seasonal matrix of bark-flute making? The year cycle globally stands out as nature's largest scale time-organizing cycle readily experienced by mankind. Conceptions of nature and human in terms of cyclical time are sometimes implied in archaic traditions, and the introduction of the year cycle in bark-stripping jingles strengthens a sense of cosmological perspective, thereby substantiating the human-nature-time complex. The seasonal scenario of the flute-making ritual incarnates the natural growing process of deciduous trees – one of the most distinct and easily comprehensible attributes of the year cycle within the temperate zone.

Conceptually, references to the year cycle may point far back in time. As associated with the bark-stripping operation as a transformational experience, this emphasis on cyclic time also points back to fundamental concepts of primeval life philosophy. The implied reciprocity between human and nature – “if you peel to me, then I shall peel to you” – further adds a sense of animism and anthropomorphizing, which is another indication of ancient roots.

Within this huge perspective, the reference to the month of May (*Mai*, with its variants *Mari* and *Maia*) can be interpreted as a culturally conditioned reinforcement of the year-cycle concept. Likewise, the use of the designations *fugla-pipa* and *fugla-fløyta* possibly points to a totemistic worldview of a longforgotten past (Moeck 1951:85).

Against such a background, jingle no. 15, with its atypical narrative form in the past tense, and its deviation from the common norm on such significant matters as the contractual quality and the reciprocity of subject and object, appears as a singular, corrupt version. The jingle, a cluster of violations against common principles of jingle design, thus appears as a recent conflation of the jingles-for-making-bark-flutes genre per se.

Despite its limited occurrence, the year-cycle reference is relatively widely documented: in the western part of Norway (Sogn og Fjordane, Hordaland, and Rogaland), as well as in the central part of the country (Trøndelag).

Jingles spun around an enticement are heavily documented in jingles from the southern central part of Norway (Buskerud, Vestfold, Telemark, Oppland, and Østfold) and more scattered in the east (Hedmark), south (Vest-Agder), and west (Hordaland, Møre og Romsdal). In addition to enjoying great popularity during recent generations, this element is also documented in the largest urban areas (Oslo and Akershus). The popularity of this type among children possibly depends on its plain, mundane qualities, as contrasted with the more contemplative and abstract character of the year-cycle reference. The main typological feature of type II jingles is

the promise of a material reward to the object if the instrument finally peels or sounds well. The tendency (as compared with type I) to substitute *lâte* (sound) for *sva* (peel) indicates a shift of emphasis from flute making to sound making. It is most likely that such change reflects a modernization process whereby the primeval focus on the bark-peeling complex gradually yields to involvement with the final goal: sound production – if not music making. This element of change does not challenge the general validity of the constitutional model. Significantly, the reward is of a kind that would be offered to a human, imbuing an organic material object – the piece of wood being transformed to a flute – with an anthropomorphic quality. In this, it also lends evidence of an act of magic.

The most common kind of reward is food – a basic necessity – while extras added *ad libitum* appear as the outcome of children's creativity. The core motive, "meat and soup in the King's Mansion," forms the common basis, from which flows a stream of local offshoots. The extras are generally of a more extravagant or luxurious kind revolving around stimulants such as alcohol and tobacco (which, of course, enhance children's excitement), material sumptuousness such as silver buttons and silver spoons, or simply money. Principally, such extras can be viewed as *enforcing* the basic promise, food, rather than replacing it. Therefore, they appear redundant. Significantly, the extras do not alter the meaning or the content of the jingle; they seem to reflect local, creative variants based on a common pattern. The extras are often of a humorous, extemporaneous, improvisational character, reflecting their nature as spontaneous additions. Moreover, as a rule, both the basic promise and the extras reflect values from the conceptual universe of the old rural society, and as such evidence a tradition of considerable age.

Opposite to enticement, the use of threats can be understood as another human strategy to influence the bark-stripping process favorably. The threats tend to pertain to physical punishment, in some instances rather heavy-handed, in others with a roguish shade of humor. A subtle denotative reference to details of the making procedure is occasionally dimly perceivable – a reminder that may reinforce the contractual character of jingle usage.

Most threats seem to reflect children's creative approach, but always with a distinct sense of towards whom the threat is directed. The tendency towards hybridization, by mixing with the Saint Cecilia motive, probably indicates more recent developments. Another striking feature is the relatively large variety of goal/action manifestations, including *lâte*, *sva*, *gå*, *løype*, *sleppe*, and *flå*, possibly a combined outcome of modernization and regional differentiation.

Although known only in ten variants, jingles spun around threats are quite widely documented, centered on the northwest (Møre og Romsdal) and more scattered in the south (Vest-Agder) and southeast (Østfold).

Like an emergency measure or last resort to ensure success in the making process, some jingles include enticement and threats alike. Such jingles are typically hybrid, with closing threat portions having no parallels among enticement jingles but appearing more like spontaneous, funny interpolations.

Like the enticement type and the threat type, the combined enticement/threat jingle type is signified by particularly negotiatory or retaliatory attributes, underlining its contractual quality. All three types in a concrete way give weight to the goal/action-object connection; they also enforce the subject-jingle-object connection represented by the project mode of the communication model (Ill. 44).

When it comes to type III, it is tempting to view jingles approaching a form of

prayer to Saint Cecilia as an instance of Christianizing: magic spell turned into prayer. According to Broderick (1982), devotion to Cecilia “spread widely after Pope Paschal I transferred her remains from the cemetery of Praetaxtus to the Church of St. Cecilia in the Trastevere section of Rome in 821.” Thus, it is possible that Saint Cecilia has been known in Norway as the patron saint of musicians since the establishment of the Roman Catholic Church during the eleventh century. However, after the Reformation in the sixteenth century, official celebration of Saint Cecilia as well as of other Catholic saints came to an end, while a great many Catholic beliefs still survived in the folk culture. Thus, it is difficult to assess the age of the Saint Cecilia jingles, but its establishment most probably dates back to before the Reformation. Apparently, Cecilia was not ranked among the most important saints in the Catholic Church in Norway; she was not included on the common calendar stick, and her celebration was not mentioned among the official feast days of the Church, on the 22nd of November. In general, she seems to have had a limited role in the Norwegian Catholic tradition (Dybdahl 2011:49f).

Considering the Saint Cecilia jingles as a Christianized transformation of an older tradition, whereby the supernatural power in the constitutional model takes on a Christian appearance, means that the supernatural power becomes transfigured into a deity. As a consequence the jingle is fitted into a cosmological framework that meaningfully interweaves pre-Christian and Christian belief systems. The appeal is thereby converted into a regular prayer, while the request is transformed towards a more referential addressee in the third person. This impairs the anthropomorphizing matrix. Even so, the jingles manifest the hidden structure represented by the constitutional model.

Significantly, the use of Saint Cecilia jingles is concentrated in the coastal area in the south of Norway (Aust-Agder and Vest-Agder), and there is only scattered documentation from Telemark and Vestfold. A wide range of variants (26 jingles) reported within that limited area and an unusual diversity of additional motives evidence a strong and colorful tradition, albeit a quite local one.

Even though the reference to Saint Cecilia is easily recognizable in only a couple of jingles, there can hardly be any doubt that the diverse variants of the *bom bom bila se se sila* pattern, when considered together, should all be conceived as linguistically derived from the name Cecilia or Cecilia *bombilia*.⁴⁸⁶ This transformation process is noteworthy because it weakens the prayer-like quality of the jingle type and deflects the forthright Saint Cecilia address towards a magic incantatory formula. Thus, a subtle linguistic variation creates a significant conceptual change – in this instance back to past usage.

In any case, the weak logical coherence in jingles between the Saint Cecilia prayer motive and the negotiatory attribute marks these jingles as examples of hybridization. An astonishing range of other attributes is included among the various subtypes, some of which seem to derive from local features that may not be immediately comprehensible to outsiders. The widespread hole/patch motive adds a playful element of self-sufficiency or pragmatism; it appears as a tacked-on attribute with little or no organic connection with the prayer-like matrix of this jingle type.

In addition to the hole/patch motive, the Cecilia/*bombilia* complex encompasses

⁴⁸⁶ Considered in isolation, and without reference to Saint Cecilia close at hand, single jingles of this type might easily call forth alternative (and dubious) interpretations, such as by emphasizing phonetic similarities between *sesilja* and *selje*, as I once did (Picken 1975:65).

a particularly rich selection of subtypes specified by such marks as the threat motive, the run/piss motive, and the *Langemann* motive. These motives, the occurrence of which is limited to subtypes of the Cecilia prayer, seem to reflect a secondary text level, only loosely associated with the basic contents, and locally created and maintained. Why, for example, should the risk of making a hole in the bark warrant mention only in this type? The Cecilia/*bombilia* complex is limited to a strictly regional tradition, the apparently local origin of which I have been unable to identify.

The threat motive most likely relates to the enticement motive and creates a conceptual conflict with the prayer motive – another instance of hybridization. The run/piss motive might be related to details of the making procedure (or to storage), but otherwise appears as a thought-provoking addition without logical ties to the basic jingle concept. The *Langemann* motive resists logical explanation and seems to be the outcome of children's free, creative linking of jingles 124 and 125 to some specific, local elements. Altogether, the Cecilia jingles reveal a variety of additional motives with little or no connection to their basic distinguishing typological feature. These motives may have been generated more like spontaneous, accidental additions. Considered from a common perspective, such variety of expressions appears most of all to be the product of a creative childlore process. Such an interpretation accords well with the fact that the hole/patch, prayer/threat, run/piss, and *Langemann* motives are associated with only remote variants of the Cecilia/*bombilia* motive.

Fragments of a broader cultural matrix of bark-stripping jingles emerge from related jingles and rhymes of various kinds. For example, the practice of substituting borrowed rhymes for genuine jingles-for-making-bark-flutes may reveal certain qualities attached to the latter. Only two scattered and unrelated instances of such substitution are documented in my material. One (no. 127) is an ordinary children's counting rhyme ("eenie-meenie" type); the other (no. 128) resembles a stonecutter's short work song. In addition to being readily identified as belonging to other folklore genres, both texts stand out due to their differentness; they could hardly be interpreted as manifestations of the common underlying structure represented in the constitutional model, which applies to the corpus of genuine bark-stripping jingles. On the other hand, the use of a counting rhyme strikingly demonstrates the emphasis on wordplay in the jingle corpus. Likewise, the use of a stonecutter's song signals the general work-song quality of jingles-for-making-bark-flutes.

The jingles-for-making-reedpipes (nos. 129–132) reveal a design much like the one ascribed to bark-stripping jingles. They mainly manifest type II, thus reflecting the general constitutional model. Thus, it turns out that the use of magic jingles in connection with making bark flutes is stunningly parallel to the tradition of making reed pipes. The simple fact that the constitutional model applies not only to bark-stripping jingles but also to jingles-for-making-reedpipes significantly expands our perspective.

A close fundamental relationship between bark-flute making and reed-pipe making is not surprising. Bark flutes and reed pipes evoke the same conceptual universe, circumscribed by the man-nature-power complex. Both instrument families share a common spiritual world of magic.

Jingles revolving around the bear's reactions and opinions about music (nos. 134–138) apparently do not have any direct relation to jingles-for-making-bark-flutes but mirror the same societal complex. The conceptual link between the bear jingles and the bark-stripping jingles is magic – jingles or magic sounds – to control nature. Thus, the bear-jingles call forth the same worldview as the bark-stripping jingles do, by highlighting another magic feature: flute sounds' potential to control animals. In a



Ill. 48. Illustration from Olaus Magnus (1555, Book XVIII, Chapter 31, p. 628), in which the bear is seen attacking a bagpipe-playing man (a herdsman?), while the horn-sounding man in the background apparently demonstrates how to frighten the animal.

way, the bear jingles evidence ancient, pre-Christian roots of bark flute related beliefs and usage.

The notion of the bear being attracted by *seljefløyte* and other “harmonious sounds” and frightened by the sound of *lurs* and other terrifying sounds accords well with Olaus Magnus’ statement “that bears [...] take great pleasure in harmonious melodies, but that by means of the terrifying tones from certain horns or *lurs*, they can be kept at a distance” (1555, Book XVIII, Chapter 31, p. 628).

Viewed together, Olaus Magnus’s statement and the jingles about the bear afford a striking instance of how common beliefs reported in the sixteenth century have been maintained in folk culture well into the twentieth century. Thus, historical documentation and folklore concur in evidencing the antiquity of magic beliefs and musical instrument usage associated with the societal complex of mountain farming, in which bark flutes appear to have played a significant role.

Thus far, my text analysis has focused on typological features. Other aspects related to the constitutional model also call for closer examination. These pertain to the model’s structural core: the goal/action and object elements, and their various manifestations within the jingle corpus.

Most bark-stripping jingles reveal a remarkable affinity between the expressed goal and the physical action or process itself. Several terms are applied as references to the bark-stripping operation; some terms are related to the process of change of the made, while others point more to the action of the maker.

The two most specific technical terms are *sva* and *løype*, both with the specialized meaning “peel” or “loosen,” thus unambiguously referring to the piece of wood and the bark. According to Aasen, *svada* (= *sva*) meant the following:

- 1) being peeled off, rip off; [...] 2) of trees: loosening the bark, so that it can easily be peeled off (that is, at foliation in spring). [...] Also, about the bark itself: get loose (1918:776).

Thus, *sva* significantly stands out as the technical term most precisely addressing the bark-detaching process of bark-flute making. It occurs in all main jingle types.

In common modern language usage, *løype* is probably most generally known from the compound *skiløype*, meaning “ski track.” However, Aasen supplied the meaning “peel, tear off. *Løypa bork*: take bark off trees. *Løypa birch bark*” (ibid.:472), notably before his reference to the skiing context. Such usage is also common in my own dialect (in Namsos, Nord-Trøndelag). *Løype* is found in type I and II jingles.

The most common replacement for *sva/løype* is *gå* (older form: *ganga*). The word *ganga* (nynorsk) is common and generally used with many different meanings, such as “go, walk, leave, run, move, slide.” Among this semantic variety one can also encounter the following specific meaning:

come into another position, run over, change. [...] The bark starts to
ganga: The bark begins to loosen (= *svada*, [...] *laupa*). (ibid.:208)

In the above quotation, Aasen established a common meaning of *sva*, *løype*, and *gå*, which confirms the basic unity of these terms as used in jingles-for-making-bark-flutes.

Unusual replacements of such terms are *komma* (“come”) and *sleppe* (“let go, loosen, drop”). Common to these terms is the fact that in the present context they are immediately comprehended as denoting the bark-stripping operation. They represent identical denotation.

The term *flå* is ambiguous, referring both to the bark-stripping process of the made and to the action of the maker. However, its core meaning – “1) flay, skin (an animal) [...] 2) strip the bark from trees” (Aasen 1918:165) – fits well into the present context. The association with the term *skinn* (“hide, skin”) amplifies the connotation of flaying or skinning, which, of course, also retains the ambiguity of referring both to the object and the action.

In general, amidst such linguistic profusion, terms such as *sva*, *løype*, *gå*, and *flå* in a variety of ways reflect the core reference to the process and/or action of peeling off the bark. Although *sleppe* and *komma* have no general, immediate signifying connection to the bark-stripping operation, the terms conveniently replace the *sva/løype* complex and take on the same meaning within the jingle and bark-flute-making context.

More radical deviations from the general reference to the state of the flute are the occurrences of the terms *banka* (“rap”) and *klakka* (“pounded”), which connote the maker, while vaguely denoting the object. Such expressions seem to be startling metaphors that do not so much deny as confirm the primary reference to the made as the general rule. Similar reasoning applies to *slå* (“beat”), which occurs in one jingle borrowed from a work song. These terms seem to reflect more recent developments, blurring the original basic meaning (as presented in the constitutional model).

A seemingly drastic departure from the bark-stripping reference is the term *låte* (“sound”), which refers to the sound-producing capacity of the flute. The term, occurring only in jingle type II, might appear as a jarring deviation from the common structure, though not entirely distant, as ultimately the goal is always to make a sound-producing tool. This emphasis on sound production is not necessarily a recent construct; it might also reflect traces of an earlier, differentiated usage.

The various *object designations* – terms referring to the half-done flute under creation – are noteworthy. This cluster of terms is a distinguishing mark of the jingles-for-making-bark-flutes genre. It also creates variety of style. This variety is not random, but seems to reflect a conceptualization process interrelated to a historical development that is also deposited in the typology.

Six kinds of object designation can be distinguished, falling into two main categories. Most common are direct address 1) by name alone (direct address implied), 2) by name and personal pronoun (you), or 3) by personal pronoun (you) alone. Less common are indirect address by 4) name alone (indirect address implied), 5) by name and personal pronoun (she), or 6) by personal pronoun (she) alone.

While direct address emphasizes the existential likeness of subject and object, indirect address points more to a referential subject–object relationship. Thus, the anthropomorphizing effect of the jingle is strengthened by direct address and weakened by indirect address. Against such a background, an overall analysis of the various forms of object designation gains importance.

Object designation by name alone appears exceptional. Since name alone is ambiguous as far as the matter of direct versus indirect address is concerned, each case must be evaluated in terms of the overall jingle design. As used in the archetype, jingle no. 1, *pipi* is clearly implied as directly addressing the piece of wood. On the other hand, *pista*, *blåsa*, and *floyta* reveal indirect or referential character, in view of the respective jingles' main object of address being the supernatural force or deity.

Direct address by name, combined with personal pronoun, is the most common object designation. The use of the second person creates a *dialogue style*: Combinations of name (*pipe*, *selje*, *fuglafloyta*) and the personal pronoun “you” in its subjective and objective case (*du* or *deg*) are common in jingle type I and occur intermittently in types II and III. Conversely, combinations of name (*floyte*, *pip*, *pippil*, *hippen happen*) and the personal pronoun “you” in its subjective case (*du*) are common in type I and occur exceptionally in type III. Direct address by personal pronoun – *du* alone or in combination with *deg* – occurs occasionally in types II and III jingles.

Indirect address is considerably less common than direct address and clusters around type III. Indirect address by using the third person creates a *reference* or *storytelling style*, which indicates a more impersonal relationship between the maker and the made, and which turns out to be easily susceptible to taking up additional items, such as the hole/patch, prayer/threat, run/piss and *Langemann* motives. Combinations of name (*floyta*) and the personal pronoun “she” (*ho*) occurs in type III and confirm the use of *floyta* alone as an indirect reference to the object. Indirect address by personal pronoun “she” (*ho*) alone is unusual; it occurs exclusively in type III.

The use of different object designations presents a quite complex picture. But the general tendency is clear: while the object is generally addressed directly in types I and II, as a rule it is addressed indirectly in type III. Thus, the anthropomorphizing effect derived from the object designation is weakened in type III. In general, Christianizing leads to a less personalized concept of the object, i.e., nature. Granted that anthropomorphizing has ancient roots, the analysis of object designation thus points out type III as of more recent origin. Considering the younger age of the term *floyte* as compared with the *pipa/pista* complex, this distribution supports the assumption that type III reflects a more recent tradition as compared with the other types. In this connection, it is also noteworthy that the presumably archaic *fuglapipa/fuglafloyta* and *Mai/Maja/Mari* patterns occur in type I only.

Through its conceptual attributes of old society and bygone lifestyles, the magic-jingle corpus calls forth noteworthy historical and sociocultural perspectives. Generally, the texts evoke a conceptual universe associated with rural society in the distant past. Viewed within this broad perspective, certain features of the magic-jingle corpus call for closer examination.

In its content, the magic-jingle corpus reflects outmoded traditions – though tenacious of life – and rural society. Reference to basic environmental factors such as the year cycle points far back in time. Within the actual context of bark-flute folklore and childlore, such attributes as *sylvknapp* (silver button), *sylvknappa vest* (silver-buttoned vest), *skilling* (shillings), and *øre* generally hark back to the Middle Ages, while terms such as *sauemjolk* (sheep milk), *grøt og mjolk* (mush and milk), *grautgrytå*

(porridge pot), *dall* (round wooden container, used for liquids such as tar and sour cream), and *rommekodla* (clabbered whole milk strewn with sugar and crumbs) additionally allude to rural society. In general, these attributes evoke a conservative lifestyle and childlore virtually unchanged since the Viking Age and surviving well into the twentieth and early twenty-first century.

Expressions such as *kjøtt og kål i kongens gård* (meat and soup in the King's Mansion), generally belong to the realm of folk tales and traditional children's songs, confirming their roots in bygone lifestyles. The following song game may serve as an illustration:

| | |
|---|------------------------------------|
| <i>Plukka, plukka bjørnebær,</i> | Picking, picking <i>bjørnebær</i> |
| | [blackberries], |
| <i>bjørnen er 'kje heime,</i> | the bear isn't home, |
| <i>bjørnen er i kongens gard,</i> | the bear is in the King's Mansion, |
| <i>ete' både kjøt og kål.</i> | eating both meat and soup. |
| <i>Bjørnen kan 'kje ta meg.</i> | The bear can't take me. |
| (From Sunnmøre, Møre og Romsdal. ⁴⁸⁷) | |

This song-game text brings together two conceptual elements related to bark flutes: the bear and the “King's Mansion – meat and soup” motive found in so many bark-stripping jingles. The occurrence of a common nonsense verse formula for the bark-stripping ritual confirms the conception of the jingle corpus as essentially childlore.

Additional connections to common children's rhymes are documented. For example, the “ugly troll [...] count to twelve” pattern occurring in jingle no. 67 occurs in ordinary rhymes, such as:

| | |
|--|--------------------------------------|
| <i>Ellinga, vellinga Vatlandsguten</i> | <i>Ellinga, vellinga</i> Vatland boy |
| <i>slo til kjerringa</i> | stroke at the old woman |
| <i>midt på truten.</i> | right on her snout. |
| <i>Dette skal du ha ditt stygge troll</i> | That you shall have you ugly troll |
| <i>fordi du ikkje kan</i> | because you cannot |
| <i>telle til tolv.</i> | count to twelve. |
| (From Mo, Rana, Nordland. ⁴⁸⁸) | |

Such motivic relationships evidence the corpus of magic jingles, in its known (i.e., more recent) mode of existence, as an integral part of children's traditional culture. Although considerable inventiveness, imagination, and creativity are displayed in this repertoire, the unity of structure and form is noteworthy. As compared with the variety of form and expression found in, for example, contemporary children's games,⁴⁸⁹ the structural homogeneity of the bark-stripping jingles is astonishing. This homogeneity is possibly best explained by reference to the ritual context, which functions as a stabilizing factor.

487 Bernt Støylen (1960:11). A local version of the jingle was known to Gunnvor Dahle (personal communication June 17, 1990, Namsos).

488 Ivar Roger Hansen, conversation Trondheim 1986.

489 For example, the annotated LP record, documenting children's song games from five Norwegian towns by Bakka, Ledang, and Østberg (1979).

Viewed as a whole, the corpus of magic jingles can be interpreted as the outcome of a long process, in which ritual practice and playful childlore represent complementary – if not opposing – influences of stabilizing and variance. While the ritual context may stimulate structural stability of form, the creativity and spontaneity of childlore have generated an abundance of contents.

The text variations of the jingle corpus are striking. As can be documented through studies of contemporary childlore, such as children's song games, the variation process may be speedy and generate a good many variants in only a few years.⁴⁹⁰ Against such a background, the magic-jingle deep structure as demonstrated in the constitutional model appears homogeneous and consistent.

Texture: Unity in Meaning – Multiplicity in Modes of Expression

The bark-stripping jingle-text corpus comprises about 125 jingles, of which a dozen are rendered in music notation as performed, whereas the majority are known only as written texts. The art and content of this basic evidence necessarily have consequences for the research strategy, warranting some methodological considerations.

Assuming significant sonic qualities of bark-stripping jingles relate to the way they are performed in the authentic context of bark-flute making, I approach texture primarily from the angle of jingle performance. Therefore, recognition of performance-related features becomes a prerequisite for the analysis of texture; written texts alone are of limited value unless interpreted in the light of performance practice as evidenced in comparable material.

I base my analysis on two main assumptions, both of which are derived from more general observations and deliberations: first, bark-stripping jingles are performed much the same way as children's rhymes in general; and second, my documentary material on jingles-as-performed is relatively representative of the genre, thus providing a dependable basis for more general deliberations. In this way, limited evidence of jingle performance becomes my key to a general interpretation of the entire jingle text corpus.

In the text analysis above, I have focused on connections and relationships between bark-stripping jingles and ordinary children's rhymes, including counting rhymes. General features of performance within this huge childlore field include the use of fixed, regular rhythmic patterns, making the text stand out as a measured sequence of beats that is fundamentally different from the flexible, unmeasured rhythms of ordinary spoken language. Bark-stripping jingles make no exception from this *regularization of the beat*, which appears as a general and significant quality of children's playful use of language in rhymes, counting rhymes, and jingles of various kinds, particularly when physical activities and movements are involved.

Authentic jingle usage may be described as a kind of chanting, structured as a vocal and verbal counterpoint to the regular, metronomic knife-handle beating pattern. Therefore, the performance situation gains importance. It may be argued that, ultimately, the pounding procedure determines the tempo, which is conditioned by a combination of physical, anatomical, and psycho-motoric factors. The weight

490 Idem.

and momentum of the knife handle as balanced subtly against the hand determines the strength of the beat, which must be carefully adjusted; beats that are too weak will not make the bark loosen, whereas ones that are too strong will make it crack. Therefore, to obtain exactly the desirable weight of the stroke and equal weight on each stroke, it is important that the maker establishes a firm rhythm in the right tempo, to coordinate the knife, hand, and bodily movements. Correct pounding frequency, defining the tempo, is of utmost importance: this frequency conditions the momentum and strength put into each stroke. The pounding procedure sets narrow limits for the optimal tempo of the metronomic pattern of regular beats. This tempo is not necessarily constant and is not defined by some fixed standard: it is determined in each case through individual competence—the tacit knowledge linked to the skill to make bark flutes.

From this follows two main conclusions. First, from a purely utilitarian point of view, the pattern of knife-handle strokes on the bark must be regular, thus defining a fixed metronomic tempo. Second, this tempo is to some extent conditioned by the physical parameters involved in the complex dynamic system of maker, knife, and piece of wood. Through practical experience and knowledge, every bark-flute maker develops an intuitive feeling for the most convenient tempo. The tempo is closely related to the individual making process. Tempo variations from one making process to another occur, but they are limited. On the other hand, the tempo may vary among different makers, with each maker using his/her own tempo, conditioned by individual factors and the qualities of the raw material.

Such situational determinants of the bark-stripping jingle performance accord well with general features of children's rhymes and games. The prevalence of rhythmic behavior related to simple, metronomic patterns is a significant attribute of children's activities. Viewed against this general background of childlore, the most particular feature of bark-stripping jingles is the importance of purely physical matters as determinants of tempo.

This perspective also extends to include adult folklore genres such as work songs, song-dance forms, and related forms, in which vocal utterances govern – and simultaneously constitute an integral part of – some sort of repetitive physical activity. Thus, bark-stripping jingles may well be imagined as having their origin in adult culture (or a past culture shared by young and told) and having survived as childlore long after they had lost their significance among adults.

What are the general features of jingle performance? First, the underlying pounding is always regular and usually in high tempo – a generalization supported by my observations among experienced makers as well as my own tradition. Second, jingle performance appears on an elevated, stylized level, different from everyday language. This is manifest in the practice of chanting, a fact stated explicitly in some written sources and indirectly in others. Most sources agree that chanting is indicated as the common performance style. My own concept (since early childhood) of the jingle as distinctly different from everyday language is confirmed throughout the empiric material. The sung versions appear as less typical, on an aesthetic level weakening the pragmatic, functional focus – but simultaneously adding solemnity to the ritual.

In a broad sense, the distinct character of jingle performance can be described as a balancing act between speech and song. Its flexible intonation patterns are more stable and standardized than in everyday spoken language, yet still they sound closer to the spoken word than to the well-defined fixed pitches of singing: the intonation

is basically logogenic. By contrast, the measured rhythm and metronomic patterns evoke the musical realm of singing, thus standing out against speech: the durational patterns are basically action generated.

My further analytic approach is focused on the sonic qualities of the jingle text, assuming that the jingles should be assessed on basis of their authentic mode of existence, as chanted against a regular pattern of knife-handle strokes against the bark. Consequently, and considering the recent existence within a childlore tradition, the liberal play on words and with elementary sonic structures and rhythms can be understood as a basic generative resource, from which more subtle combinations and structures emerge.

Not surprisingly, jingle texture focuses on musical features in the widest sense. Basically, the musical features depend on a combination of sonic qualities and verbal content of the chanted jingle texts. Thus, *sonic and verbal potentials of language* coalesce into the musical potential of the jingles. Although both elements are important, I focus on the sonic potential of language in my textual analysis. Whereas conceptual and cognitive aspects of the verbal content have been included in the preceding section on the jingle texts, I find it preferable for a discussion on texture to focus on the sonic potential as related to the musical features of jingle performance.

One basic assumption relates to my understanding of the jingle as a tool to govern a process whereby the bark is loosened from the wood. As experienced by the maker, the procedure is essentially a *dynamic process*, in which the chanting of the jingle and the physical action directed towards the piece of wood require 100 percent coordination, calling for deep concentration and involvement.

Importantly, the bark-stripping ritual coordinates the repetitive part of the flute-making process. After a couple of introductory careful strokes with the knife handle on the bark, the maker starts chanting the jingle, simultaneously establishing a firm, metronomic beat pattern. Then, the chanted words take the lead, fueling the beat pattern simultaneously as the raw material is turned slowly around to get the beats evenly distributed on the surface. After a few minutes of chanting and beating, the chanting and the jingle are terminated, occasionally followed by a couple of finishing strokes.

There is only a short preparatory or introductory part in the bark-stripping ritual with beating and chanting, the whole process is initiated within less than a second and starts immediately in a convenient tempo governed by a firm, well-defined metronomic beat, consecutively joined by the initial words of the jingle. An elementary one-beat vocal pattern, established by plain repetition is often used (*Bom bom, Pip pip, Si si, Sva sva, Till Till, Tvitt tvitt*, and the like), or simple two-beat patterns with timbral contrast through alliteration (*Hipp happ, Kjipp kjapp, Pikk pakk*, and the like), or an abundance of other variations (*Ban-ka ban-ka, Pip-pil pip-pil, Fløy-te fløy-te, Fug-la fug-la, Kjæ-re kjæ-re, Løy-pe løy-pe, Ma-i ma-i, Ma-ja ma-ja, Ma-ri ma-ri, Pi-ba pi-ba, Pi-pill pi-pill, Rau-na rau-na, Sel-je sel-je, Til-le til-le*, and the like). Tree-beat patterns are less common, and apparently are derived from the words *bombilia* and *Cecilia*: *Bom-bil-la se-sil-ja, Pom-pil-la si-sil-la*, and the like. Such patterns are easily changed to two-beat, such as *Bom-bom-bi-la si-si-si-la*. More fancy openings, such as *Kj-æ-re jer-pe-pi-pe* and *Kjæ-re min pip*, indicate rhythmic ambiguity, hence there is less emphasis on ritual and more on children's play. Non-repetitive patterns, such as *Barn-bi sva sel-ja-mi* are rare exceptions.

Compared with the initial pattern of the jingle text, there is less repetition in the continuing part, although the following text usually maintains and strengthens the initial rhythm. Thus, a *cyclic pattern*, created from the repetitions of the jingle, is

established: the initial words or phrase starts, whereas the repeated jingle elaborates the rhythm. Paradoxically as it seems, the sonic monotony established by the redundancy of the basic pattern simultaneously adds increased intensity to the motor and emotional sensation of the performer. This *redundancy paradox* ultimately stimulates an unconscious experience – perhaps a feeling of ecstasy – triggered by the bark-stripping ritual. Furthermore, the almost endless reiterations of the jingle words have considerable mnemotechnical efficiency: what appears redundant, strikingly fortifies the performer's memory of the whole setting. Usually, the termination comes rather abruptly; the process ends as it started. The whole course of events is experienced like an open, iterative form, surprisingly with a sudden ending. An oath-like quality is also felt, with exclamatory character, directly leading into the twist-and-slide bark-stripping and loosening operation, the very climax of the whole process.

Bark-stripping jingles are strikingly similar adult folklore genres such as work songs, song-dance, and the like, in which vocal utterances govern – and simultaneously constitute an integral part of – some sort of repetitive physical activity. Thus, bark-stripping jingles may well be imagined as having their origin in adult culture and having survived as childlore long after they had lost their significance among adults. In its textual design, the jingle corpus bears witness to its functional and ritual origin. The evidence points to a usage originally created and maintained as an integral part of the bark-stripping operation.

Context: Ritual Action

The preceding analysis demonstrates that text, texture, and context are closely interwoven in the bark-stripping process. As an unavoidable consequence, contextual matters have necessarily been touched upon in the discussions of text and texture. To avoid unnecessary repetitions, the ensuing discussion focuses on multileveled rhythm activity produced by the interplay between action and reaction.

The timeworn distinction between uses and functions as defined by Alan P. Merriam (1964:209ff.) may serve as a convenient starting point. Uses and functions are closely interrelated, and it is sometimes hard to see where one ends and the other takes over. When it comes to the *seljefløyte* tradition, one might say that uses pertain to the application of the magic jingles as a vocal attribute of the bark-stripping procedure. By contrast, function involves symbolic communication through multileveled rhythmic behavior fueled by actions and reactions among the participating makers and players.

The rather abstract communication model (Ill. 44) becomes more precise and substantial through reference to the context, the *ritual condition*. What the model describes is not communication in a strict sense, but rather a unique state of being or condition, a self-contained process and act of magic. This process unfolds within a context in which the jingle text and texture can be viewed as the kingpin, around which action revolves.

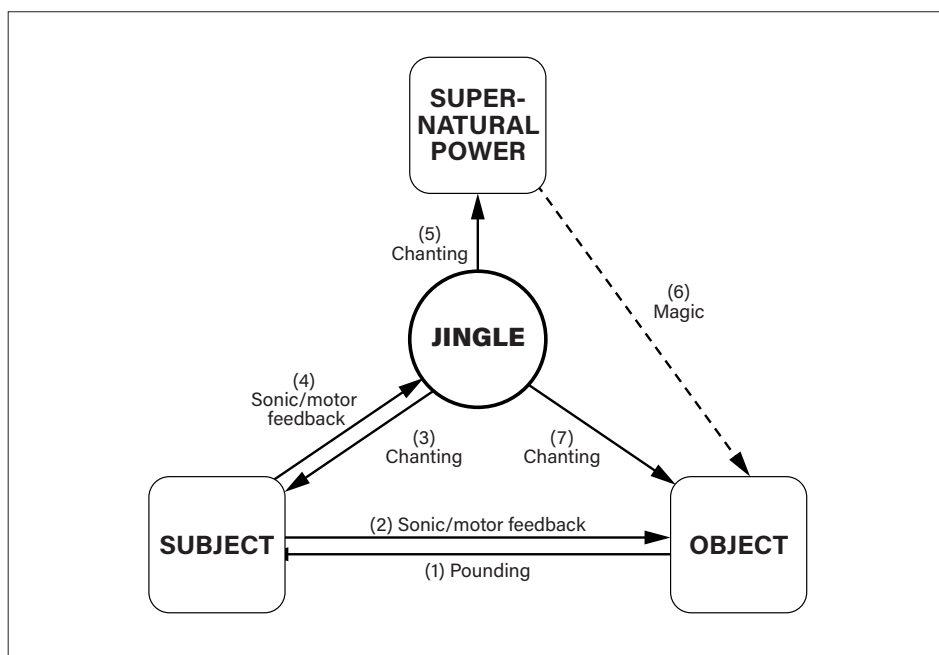
From a holistic point of view, context stands out as a complex system in which the jingle text is conceived as the kingpin agent, activating a cluster of senses and human expressions: intellectual involvement, practical dexterity, physical and motor activity, verbal, aural, auditive, tactile, and taste perception. The latter, taste perception, is particularly associated with an act occasionally following the bark when it has been peeled off: licking the sweet sap off the surface of the stripped wood. This childhood experience – which I recall with deep satisfaction – is evoked, creating an expectation

each time the bark-stripping operation is performed. The experience was also reported by Groven.⁴⁹¹

By the absence of melody (which is only exceptionally used), all textual elements converge in one multifaceted musical mode: rhythm, brought to life through performance. The basic musical dimension, particularly as embedded in the rhythm experience, is closely related to dance and – in a general sense – to religion and myth, thereby opening wide horizons. This calls forth elements of secrecy, ecstasy, and sanctity, involving all human senses and multileveled action.

One core function of the jingle text is to provide and maintain rhythm, the basic coordinating factor and activating force. Rhythm brings energy and life into an otherwise monotonous process. As conceived in relation to the jingle text, sonic repetition, creating semantic and communicative redundancy, simultaneously provides physical and mental efficacy; I regard this as a *redundancy paradox*. Other functions are related to the emotional and cognitive potential of the jingle text, addressing the maker, and enhancing the magic dimension of the ritual process. In a sum, the jingle makes up a continuous whole, one that is dance-like and essentially with a potential of ecstasy.

The bark-stripping ritual revolves around action/reaction. Some basic elements of the multileveled action are indicated in the action model (Ill. 49), in which jingle chanting is interrelated with other actions involved in the bark-stripping ritual. The model includes elements from the previous models (the situational, communication, and constitutional models) and views them under the common perspective of action/reaction on various levels.



Ill. 49. The action model.

All action ultimately originates from the subject. Through the jingle and the object, reaction impinges upon the subject. Pounding the bark (arrow 1) physically creates both sonic feedback and tactile motor feedback (arrow 2), which is an integral part of

⁴⁹¹ During our springtime *seljefløyte* excursions in the Grorud valley, Oslo, 1967–69, Groven expressed his personal fascination with the practice.

the subject's experience. The mere act of chanting the jingle (arrow 3) also creates sonic feedback and physical motor feedback (arrow 4). Additionally, chanting the jingle triggers the supernatural power (arrow 5), which supposedly makes its influence felt in a magic way (arrow 6). Finally, the chanting also addresses the object, as an act of anthropomorphizing (arrow 7). Altogether, the actions amount to a total mobilization of body and mind.

Feedback involves both a physical part, which is closely related to sense and emotion, and a cognitive part, which is related to contemplating the jingle's content – and an unconscious feeling of something intangible happening. Tactile sensation merges sonic and motor feedback. All parts of the action model share the rational and irrational premises implied by the underlying system. Active elements include subject, object, and – albeit intuitively – supernatural power. From these elements there emanates significant concepts, which deserve closer notice.

Subject-related concepts generally pertain to the human experience mirrored in the action model. Catchwords include utilitarian use, creativity, enhancement, stability, and concentration. As viewed in relation to the subject and the multileveled action, the jingle creates a welcome change, thus adding life to an otherwise monotonous, and at times routinely manual, process. Simultaneously, it facilitates concentration. This *utilitarian use* involves the unfolding of artistry: skill, and imagination, bearing on the full human potential. It also involves elements of entertainment and humor.

Viewed on basis of the action model, magic-jingle chanting operates as a kind of *creative outlet*. The panoply of text variants reflects the imaginative potential of “*homo ludens*” (man the player). Chanting the jingle adds to the excitement that the subject experiences throughout the crucial part of the making process by stimulating his/her feeling of being kept in suspense. Thus, it strengthens *enhancement*. Finally, the mere action of chanting, or speaking the jingle – with its repetitive, assertive structure – induces in the maker's mind a sense of *stability* and safety during the most critical, unpredictable, and uncertain phase of the making process.

Object-related concepts emanate from the material object and the treatment it undergoes. Although the conceptual universe related to the action model ultimately derives from the model's human component – the subject – some concepts address the object, placing it in the field of tension between man and the supernatural. Catchwords are fashioning, work song, oath, and anthropomorphizing. As demonstrated in the text analysis, the jingle frequently focuses on various aspects of the *making process*. Thus, the jingle – through its content – ultimately validates the making procedure. The *work-song* quality of the jingle has been touched upon above (see the section “IV. Related jingles”) and is confirmed from contemplating the action model. However, this quality appears subordinate to the *anthropomorphizing* quality.

Through chanting the jingle, the maker addresses the material object on which he or she is working, as if it had a human nature. Thus, the action of chanting the jingle validates and makes explicit a psychic relationship between maker and the physical object towards which the whole process is directed. This action, and the jingle content (as represented in the constitutional model), establishes a kind of contact, mutual influence, or commitment. In a general sense, as associated with the most critical phase of the bark-stripping operation, the jingle bears resemblance to an oath, words uttered spontaneously in connection with an action needing particular attention.⁴⁹²

492 I am indebted to Professor Fred Lieberman for drawing my attention to this aspect.

Thus, chanting the jingle could also be interpreted as a kind of *ritualized oath*.

Power-related concepts address the realm of the supernatural, evoked through the action of chanting. Catchwords are prayer, invocation, conjuration, magic, and ritual. Basically, chanting the jingle can be interpreted as a prayer or call for help to succeed during a critical phase of the manufacturing process – the outcome of which will depend not only on the maker's skill but also on the properties of the material object, i.e., inherent qualities of nature itself. Such qualities might be imagined as the observable outcome of supernatural phenomena. Thus, the mere action of chanting the jingle activates the human-nature-power complex. Various related interpretations could be advanced. The action might be described as an act of *invocation*: a call on a supernatural force for support. It also appears as a kind of *conjuration*: a solemn call in the form of an oath or incantation. In any case, this action supposedly triggers *magic*; chanting the jingle is a way of controlling or imposing one's own influence on nature. The practical means to do this is through *ritual*.

Thus, through the corpus of magic jingles, one can discern a common ritual practice for bark-flute making, ultimately revealed by the action model. Obviously, this kind of ritual practice is unfamiliar to modern Western society; traditional old-fashioned beliefs fall victim to contemporary enlightenment. Possibly my own interpretations are also affected by this matter.

As a young child, I experienced ritual use of my short jingle as a self-evident procedure of making a *plysterpipe*. My own childhood memories (obviously kept hidden from adults) confirm the bark-stripping ritual as being a tight symbolic system of acts based on rules, which must have been established through a long – I would say ancient – tradition. That said, a possible belief system or mythology incarnated in this system of acts was, of course, far beyond my understanding. However, I am still intrigued by the fact that as a youngster I never doubted the importance of the correct rendering of my jingle for a successful outcome of the making process. At the same time, my puerile efforts to achieve any rational interpretation of the meaning of the words always failed.

From my childhood I remember how I unconditionally conceived success in the bark-stripping operation with reference to the magic jingle, while putting the blame on myself in case of failure. The idea of testing the power of the jingle by trying to peel off the bark without using the jingle never struck my mind, although I often wondered about the hidden meaning of the words. My belief effectively inhibited critical approach to magic.

I still find it puzzling to interpret the meaning of the ritual from a rational analysis of the jingle, or to relate the content of the jingle to a belief system or mythology. However, the jingle performance itself, marks off the ritual action from ordinary activities and invests it with a differentness that could be compared to sanctity or divinity. Thus, this kind of ritual behavior is adequately understood as expressing or signifying the sacred (the realm of transcendent, ultimate, or spiritual reality). Furthermore, time (springtime) and place (in the woods, separated from adult society) are essential features of bark-stripping ritual action, defining its specific orientation and setting within the realm of myth.

Viewed against a perspective of animism, the ritual practice – conceived as a symbolic system of acts, revealed through specific observable behavior – may be experienced as contributing towards a supernatural, mythological, explanation of a natural series of events. Against this background, a mental enforcement mechanism can also be imagined. Each successful flute-making process may be conceived as

confirming the worldview behind the ritual jingle usage, whereas failure is explained by the trivial yet candid “something went wrong.” That is exactly what I did as a child.

The ultimate reality revealed by the action model can also be interpreted in terms of bridging the inner and outer world. Chanting the magic jingle is then conceived as the symbolic expression of closeness or unity between subject, object, and supernatural power. Such a view confirms the jingle as the unifying agent connecting subject, object, and supernatural power (cf. Ill. 43). Here, action is governed by an agent uniting mental and physical qualities – rhythm. Word repetition and the accents and durational patterns of the spoken or chanted jingle create a rhythmical flow, sometimes blending with, at other times standing out against, the metronomic pattern of the knife-handle rapping. By this emphasis on rhythmic interplay between the uttered sounds of language and the strictly functional rapping, an essential quality of expressive behavior is added to a technological process. Such expressive behavior incarnates the conceptual universe of the bark-stripping ritual.

As by-products of my analysis of text, texture, and context of the magic-jingle corpus, fragments of evidence have been revealed, which can be considered as the outcome of a long-lasting tradition, an evolutionary process of change in the course of time. While no exact timing of this process is possible in retrospect, the available evidence suggests a certain sequence of events, leading to changes, the products of which have been frozen and preserved in the folk tradition like kaleidoscopic traces of history. For example, the various types of bark-stripping jingles may be conceived as the outcome of a dynamic process. Just as old and new tunes or performance styles may coexist and be maintained with their individual distinguishing features within a regional folk-music tradition (even within an individual player’s repertoire), one might contemplate the typology as envisaging different historical layers, reflecting various stages of a long process of change. It is fascinating to think of traces of a centuries-long process being preserved in childlore collected during recent generations! It must be constantly born in mind, though, that our understanding of these matters rests on our ability to interpret the available evidence. As a complicating factor, some jingle types are interconnected, and mutual cross-influences may have blurred their possible differences in origin and age. The reliability of such interpretation increases if different kinds of evidence indicate compatible traces of a formative process. In the present case, it is relevant to view various kinds of evidence, such as linguistic, terminological, structural, and conceptual features and their distribution among the different jingle types. Obviously, no exact historical dating is possible with this method. The examined materials indicate a long-term stream of evolution and a tradition tenacious of life. Thus, the various jingle types may be viewed as the products of that process. Should that be the case, the individual types can be viewed as representing interrelated historical layers. Tentatively, I may suggest a broad, general interpretation.

Type I – jingles focused on the making process and the year cycle – appears as archetypal, with its focus on basic categories such as human/nature, transcending culture. Despite relatively scant occurrence, type I jingles are known within a wide coastal area from Trøndelag southwards to Rogaland. The rare and unusual *fugla pipa* concept, possibly implying a totemistic worldview, may be taken as a confirmation that this is a relict area.

Type II – jingles promising a reward or penalty – represents a turn from basic nature-derived categories to man-made material rewards and forcible means. Behind this turn one can dimly perceive a longstanding development in which an originally magic, ritual concept has been developed within a playful context of children’s culture.

It might once have been a shared concept of traditional society, but as handed down to us it is essentially childlore. The wide and varied range of rewards conceptually evokes a long period of time, from the Middle Ages – *øre* and *skilling* – to present-day attributes – *tobakk* and *brennvin* – and from the serious *kjøtt og kål* (meat and soup) to the teasing *Sille-Marias underbukse* (Sille-Maria's underpants).

Geographically, type II jingles have been found within widely dispersed coastal locations as well as inland locations of southern and central Norway, including the Oslo area. It is tempting – albeit perhaps a breezy idea – to view the popularity of various enticements as reflecting a general historical trend during recent centuries towards an increasingly materialistic mentality, brought to its peak in contemporary Norwegian welfare society. The popularity of type II jingles may also reflect the impact of childlore values in shaping a tradition; the type undoubtedly appeals a lot to children.⁴⁹³ Similarly, the surface structure of jingles involving threats has inspired the young makers to create a variety – sometimes humorous or parodic – of manifestations of the element of punishment. Presumably, the various combinations of rewards and penalties are interrelated through the shared idea of repayment.

Compared with both types I and II, the Saint Cecilia type jingles (III) may be interpreted as a Christianized transformation of jingles, whereby the supernatural power in the constitutional model (Ill. 47) is given a Christian appearance, appropriately enough that of the patron saint of musicians. Thus, the appeal is adjusted to a regular prayer, while the request is modified to a reference to the flute. Such Christianizing of an older, pagan practice by incorporating it within a Christian world of thought is not uncommon in times of changing traditions (cf., e.g., Carl-Allan Moberg's study of musical organization in mountain farming in Sweden, 1955:77). This challenges the anthropomorphizing effect. Despite its relative numerousness, type III is regionally limited; the jingles are clustered around Aust-Agder and the town of Risør and the small city of Arendal. It is not likely that a prayer to Saint Cecilia should have originated in and spread after the Reformation in Norway (1536/37), during a period when everything reminiscent of Catholic practices and beliefs was uncompromisingly condemned by the Church. More probably, the origin of type III occurred during the time when the Catholic Church was powerful in the Middle Ages.

The tendency for unexpected, surprising additions to jingles of type III may indicate a turn away from a stable ritual origin towards a more playful and humorous practice that stimulated creativity and imagination. Simultaneously, various subtypes have developed, establishing new surface structures that almost challenge the common deep structure represented by the constitutional model. Furthermore, changed rhythmical structures and sonic qualities such as the three-beat *Bom-bi-lia* pattern appear almost incompatible with the dominating one- and two-beat patterns of types I and II.

Notwithstanding its apparently younger age, the Saint Cecilia jingles paradoxically point to the basic conception of the bark-stripping jingle as a religious utterance. Thus, a general perspective can be distinguished, within which the various beliefs occurring in the jingle corpus coexist. The focus inevitably falls on ancient ritual practice, transformed and maintained up to the present day within children's traditions.

493 Such preferences were strikingly confirmed annually, when I was trying to teach children and their parents (mostly mothers) to make bark flutes at Sverresborg Trøndelag Folkmuseum, Trondheim.

The constitutional model applies to jingles for making bark flutes and double-reed pipes. Thus, bark flutes and double-reed pipes share a common usage of magic-religious spell for making sound-producing tools, indicating a possibility for cultural connections across the temperate and tropic zones.

The bear jingles illustrate another aspect: the implied potential of bark-flute sound. The concept of bark-flute music is also to be understood as an aspect of magic: the bear is supposedly attracted by the power of harmonious sounds – including bark-flute music – and frightened by the terrifying sounds of the horn, *lur*, or gunshot. Seemingly, this implies that the bear can be controlled or influenced by means of such instruments. By referring to Olaus Magnus (1555, Book XVIII, Chapter 31, p. 628), in this connection, the bear might be viewed as representing wild predators in general. It is well known that the bear plays a particularly important role in the folk tradition. Thus, it is not surprising that jingles referring to how wild animals react to music tend to revolve around the bear.

The Norwegian bark-stripping jingle tradition has ancient roots. In some places it was Christianized during Catholic time and has generally been maintained within childlore up to the present day. Presumably, this tradition reflects human's perpetual aspiration to control nature. Notwithstanding the Norwegian focus of the present work, a brief cultural side-glance deserves attention.

A Cross-Cultural Perspective

The closest relative to the Norwegian *seljefløyte* is obviously the Swedish *sälgflöjt* (Kjellström 1980:202). Emsheimer (1984:20f) has reported eleven magic jingles for the bark-stripping operation, used in Sweden. Not surprisingly, more than half of these jingles reveal close similarities to the Norwegian jingle corpus: four are in the form of a threat, one in the form of a threat and an enticement, and one is based on the “strip-off-your-skin” motive. The following jingle addresses the flute directly, like most of the Norwegian ones, and includes a reference to the church year:

| | |
|--|----------------------------|
| <i>Pilepipa, pilepipa</i> | <i>Pilepipa, pilepipa</i> |
| <i>løp din ring,</i> | peel your ring, |
| <i>løp runt ikring,</i> | peel around, |
| <i>för snart är det Pingst,</i> | then soon it is Pentecost, |
| <i>killa vipp bom hej.</i> | <i>killa vipp bom hej.</i> |
| (From Östergötland, Sweden. ⁴⁹⁴) | |

An impressive corpus of jingles from Westfalen, Germany, studied by Brockpähler (1970), is richly varied in form and content. Among the shorter ones is the following:

Sipp, sapp, Sunne,
 min Moder is ne Nunne,
 min Vader ist en Papen,
 kann alle Fleitkes maken.
 Sipp, sapp, Sonnenkrut,

⁴⁹⁴ Emsheimer 1984:21.

dat Water läöpp dor buoben ut.
(From Westphalia, Germany.⁴⁹⁵)

Among the 35 jingles from the French-speaking part of Switzerland that have been presented by J. Jeanjaquet (1905), one can find several that are similar in content to Norwegian types. This applies to jingles such as the following:

| | |
|---------------------------------|---------------------------|
| Pèle, pèle bien, | Peel, peel well, |
| Tu auras du bon vin, | You shall get good wine, |
| Si tu pèles mal, | If you peel badly, |
| Tu auras de la pisse de cheval. | You shall get horse piss. |

(From Bière, Switzerland.⁴⁹⁶)

Another variant is:

| | |
|------------------------------|-------------------------|
| Siffle, siffle, mon sifflet, | Flute, flute, my flute, |
| Si tu siffles bien, | If you flute well, |
| Je te donnerai du vin; | I will give you wine, |
| Si tu siffles mal, | If you flute badly, |
| Je te donnerai | I will give you |
| de la pisse de cheval. | horse piss. |

(From Noiraigue, Switzerland.⁴⁹⁷)

In their content, the two Swiss jingles reveal a combination of enticement and threat, reflecting type II in the Norwegian jingle corpus. However, as might be expected, the promise and threat are culturally conditioned: wine reflecting continental culture as opposed to the Norwegian meat and soup, whereas the mention of horse piss is reminiscent of the Norwegian “piss in a sack.”

The following two jingles from Spain also bear certain resemblances to the Norwegian ones:

| | |
|--|----------------------------------|
| Verses recited while hammering on the piece of willow to make the bark loosen: | |
| <i>Salivera, salivar,</i> | Spit, spit, |
| <i>sali, chifla de salgar,</i> | come out well, willow pipe, |
| <i>con salu y sin quebrantar;</i> | healthy and without breaking; |
| <i>nunca volveras a entrar.</i> | you'll never go back in again. |
| or | |
| <i>Sali, sali,</i> | Turn out well, turn out well, |
| <i>xiblatin,</i> | little pipe, |
| <i>de corteza y maderin.</i> | of bark and wood. ⁴⁹⁸ |

(From Asturias, Spain.⁴⁹⁹)

⁴⁹⁵ Brockpähler 1970:112.

⁴⁹⁶ Jeanjaquet 1905:61.

⁴⁹⁷ Idem:62.

⁴⁹⁸ I am indebted to Suzanne Petersen, Professor of Romance Languages and Literature at the University of Washington, who translated these two jingles into English, 1985.

⁴⁹⁹ Moeck 1951:125.

Strikingly, the flute is addressed directly in these two jingles, and the content is consistently focused on the flute-making process. Even more striking resemblance to the Norwegian jingles is the following one from Turkey:

| | |
|------------------|------------------------|
| Çık düdük | Come out, Whistle! |
| çık düdük | Come out, Whistle! |
| Çıkmazsan asariz | If you don't come out, |
| Keseriz senni | We shall hang [you]; |
| | We shall kill you. |

(From Kastamonu, Turkey.⁵⁰⁰)

As documented above (nos. 128–130), magic jingles are also used in connection with making reed pipes in Norway. A similar practice extends beyond the boundaries of Europe, as exemplified by the following example:

| | |
|--------------------------------|----------------------------------|
| <i>Yā zammuri</i> | Oh my <i>zammur</i> [reed] |
| <i>ṭib ṭib</i> | be good be good |
| <i>lat 'amak rizz bhalib</i> | I would feed you rice pudding |
| <i>la tayl'ak 'al 'arī shi</i> | I would take up on the grapevine |
| <i>la t'amīk qarī shi</i> | I would feed soft cheese |

(From the village of Ibl as-Saqi, South Lebanon.⁵⁰¹)

يا زموري طيب طيب
لا طعميك رز بحليب
لا طلعك عا لعريشي
لا طعميك قريشي
زمور
من قرية إبل السقي جنوب لب

The jingle transcribed to Arabic by Siham Abdo Hoff, Trondheim.

According to Professor A. Jihad Racy, the *zammur* is an idioglot single-reed aerophone, and the jingle is used while the maker-player rolls the pipe between the palms of his/her hands, to make it sound good. This manufacturing procedure is very similar the one known in Norway (cf. jingle nos. 129–132). One might argue that this technical procedure is functionally related to the material from which the instrument is made and thus could have been developed independently in different cultures. On the other hand, the coalescence of both the same technical procedure and similar cultural practice is striking.

A general pan-Euro-Asiatic perspective on the bark-stripping ritual and the making procedure has been advanced by Picken (1975:62), “established by personal observation and enquiry” during many years over a wide geographical range. He tentatively concludes:

⁵⁰⁰ Picken 1975:74.

⁵⁰¹ Profesor A. Jihad Racy, UCLA, conversation and correspondence 1985. I am indebted to him for contributing and translating the jingle.

In the Temperate Zone of the Old World, a bark-stripping operation, linked with the detachment of a cylinder of bark to be used in the making of sound-producing devices, extends throughout Eurasia: over Europe, from Scandinavia in the North to Catalonia and Turkey in the South, through Central Asia (certainly among Uzbeks and Tadjiks), into Siberia (among Yakut nomads), and into the Korean peninsula (though not – so far as my observations go – into Japan).

Throughout Europa [...], the bark-stripping operation is linked with chanted (or spoken) rhymes, the magical character of which, and the operational logic of which, are explicit in Turkish examples. In the light of these latter, the originally magical significance of the less explicit European examples cannot be doubted.

The rite revealed is, in broad terms [...], an act of fertility magic, linked with successful bark-detachment. (Picken, 1975:82)

Following up this vast perspective, the geographical range of bark flutes and related traditions is further elucidated:

there is overwhelming evidence that stripped-bark pipes, either double-reed pipes or whistles of the internal-duct type, both without and with fingerholes, are made throughout the Temperate Zone of Eurasia. (Picken 1976:303)

The ecological setting of bark flutes is largely limited to the temperate zone, defining the geographical area for the distribution of deciduous trees. On the other hand, plants used for manufacturing reed pipes are found in the natural environment, not only in the temperate zone but also in the tropical and subtropical zones. Thus, the use of magic jingles for manufacturing bark flutes and reed pipes, presumably manifesting a common conceptual universe, suggests a world of magic going beyond the domain of the bark flute. This expanded setting opens a cultural horizon towards a diversity of man's natural environments that is beyond the scope of the present monograph.

Uses and Beliefs

Fun and Pastime: The Timeless Passion of *homo ludens*

Responses to the NEG questionnaires afford ample documentation that bark flutes have been widely used as toys. The material roughly refers to the nineteenth and twentieth centuries. My own childhood memories and information gathered through informal talks with a good number of people since the 1960s confirms the striking emphasis on basic social aspects of *seljefløyte* activities. Important catchwords are fun and pastime:

Seljefløyte or flutes from *rogn* [...] were only used as toys for children, but adults would assist in making them until the children acquired sufficient skill to do so themselves. I have not heard of any other purpose for “fluting” than play.

(From Nesna, Nordland.⁵⁰²)

Seljefløyte are known from the old days everywhere [...] but mostly as a toy for children.

(From Høylandet, Nord-Trøndelag.⁵⁰³)

Blisterpipe [...] was used as a pastime for children. [...] *Seljefløyte* [...] were played for fun and satisfaction.

(From Støren, Sør-Trøndelag.⁵⁰⁴)

Blisterpipe were mostly used as a pastime for the herdboy, who made it with his knife. *Fløyte* made from *selje* [...] were also herdboy’s work and his music.

(From Haltdalen, Sør-Trøndelag.⁵⁰⁵)

Otherwise, these sounds with [...] the flute have only been for fun among children and youths.

(From Sande, Møre og Romsdal.⁵⁰⁶)

Seljefløyte [...] [and] *blistra* [...] [were] used for fun.

(From Sunndal, Møre og Romsdal.⁵⁰⁷)

Seljeflyta was used mostly for fun.

(From Sogn og Fjordane.⁵⁰⁸)

502 NEG 18381.

503 NEG 797.

504 NEG 18498.

505 NEG 18505.

506 NEG 18306.

507 NEG 18291.

508 AB.TS:94.

Plistra [...] were only made for playing and fun.

(From Balestrand, Sogn og Fjordane.⁵⁰⁹)

Seljefløyte were used for fun and pastime.

(From Tolga, Hedmark.⁵¹⁰)

Pipo, a short, small [...] these pipes [...] are practically only to be counted as children's toys.

(From Ytre Sandsvær, Buskerud.⁵¹¹)

It is noteworthy that, in general, the sources point to fun, and pastime uses as an established, perpetuating tradition. There is no indication that this has been anything other than children's lore from times in the distant past. In general, bark-flute fun making is associated with children's play, and this seems to apply also in those rare cases when children are not explicitly mentioned. Adults are never reported as having fun with bark flutes. When adults use flutes, it is usually to make music, a more serious undertaking – albeit not too formal.

Most of the references to fun are unspecified and say nothing about what kind of fun. Occasionally, the sheer fascination of sound making is pointed out:

In spring, children used to cut flutes from *raunetre* [rowan wood]. [...]

They called it å skjera fløyta [cutting flutes]. They blew into it to produce sound, really for fun.

(From Spangereid, Vest-Agder.⁵¹²)

Creativity and variety in fun making are illustrated by the occasional use of the bark tube of short flutes for shooting the end piece out, and for forcing water through a small opening in the end piece (Sogn og Fjordane⁵¹³). A pea could also be put into the resonator, which would then make a distinctive, twittering sound (Hordaland⁵¹⁴).

One might expect that children's innocent fun with bark-flute making and playing would either go unnoticed by most adults or at least would not cause any serious problem. It is the more surprising that this play with flute sounds often created a conflict between children's behavior and adults' beliefs and concepts. Such disagreement relates to a field of magic: the assumed supernatural power of sound to control nature. This topic deserves closer attention.

The idea that flute playing may influence the weather seems to be deeply rooted in Norwegian bark-flute traditions. First, bark flutes were not supposed to be used indoors; they were only to be played outdoors:

509 NEG 18459.

510 NEG 1018.

511 NEG 18575.

512 NEG 18219.

513 NEG 18475.

514 NEG 18304.

One must not blow *siljefløyte* indoors, because then it also gets cold.
(From Finnskog, Hedmark.⁵¹⁵)

Even bark-flute playing outdoors was (and still is) not an unrestricted activity. On the contrary, elderly people reacted spontaneously against children's sound making – seemingly a surprising response to innocent play with sound. Such people feared that flute playing might provoke unpleasant consequences:

It was for fun and satisfaction one played [*seljefløyte*]. However, [...] old people said: “No, stop this! You only pull rain down with it.”
(From Støren, Sør-Trøndelag.⁵¹⁶)

Respondents from various places agreed about the presumed rain-magic effect of playing bark flutes:

In good weather, older people warned the children about making themselves flutes. It would rain, they said, and it must not, at least [not] during haying.
(From Sande, Møre og Romsdal.⁵¹⁷)

As indicated in the preceding quotation, it was important to avoid rainmaking activity at certain times of the year:

Well, – “*siljupipa* must not sound as long as spring work lasted” – that used to be said in the old days, but still it sounded alright. [...]
(From Spydeberg, Østfold.⁵¹⁸)

In some cases, the blowing was bluntly attributed to creating bad weather, which, of course, would mean rain:

Old people did not like this whistling home on the farm. They readily said: “Stop this blowing, it creates bad weather!”
(From Ogndal, Nord-Trøndelag.⁵¹⁹)

The disharmony between such old traditional beliefs and Christianity is apparent in the following report, which implies that the influence on the weather from whistling or blowing bark flutes was caused by the devil:

Old women got angry when the children started this whistling in springtime. They thought this would make the weather turn cold and bad. The old *læstadianere*⁵²⁰ said it was a sin to whistle, both by mouth

515 NFS Ole Matson 1.265.

516 NEG 18498.

517 NEG 18306.

518 NEG 18427.

519 NEG 1336.

520 Adherents of a Christian religious movement especially spread across Lapland.

and on flutes. They said this belonged to the devil. [...] Other people did not consider this to be a sin. They were only irritated by the whining.
(From Skånland, Troms.⁵²¹)

Similar statements confirm the persistence of such beliefs:

To whistle was not a good thing. This is something the evil one has taught humans.
(From Salten, Nordland.⁵²²)

The rain-magic effect was also ascribed to other aerophones, such as *gjeitaul* or *sløke*, an idioglot double-reed pipe made from the plant *gjeitaul* (*angelica*, *Angelica silvestris*). Høeg (1976:220f) reported that when children played *gjeitaul*, adults would become angry and state “You mustn’t blow up bad weather!” (Leksvik, Sør-Trøndelag), or “You mustn’t whistle so much, because that causes bad weather” (Gloppen, Sogn og Fjordane). According to Høeg, the belief that blowing *sløke* (*Angelica silvestris*) would create rain was documented through the area extending from Sogn to Trøndelag and Velfjord, Nordland. Bugge (1919:84) reported: “Old people always said that we should not blow the *gjeitaul*, because that would make it rain.” Høeg (1976:367f) reported similar beliefs in connection with another primitive double-reed aerophone, made from the tips of the grass species *kvassdå* (*Galeopsis tetrahit* L.) and *guldå* (*Galeopsis speciosa* mill.). Adults did not like it when children blew that way, and it was usually said that it would bring on rain or bad weather. According to Høeg, some such expressions had become fixed:

“This sound could shout down rain” (Bjerkreim [Rogaland]), “one often called this to blow up rain” (Stjernarøy [Rogaland]), “they blew rain” (Austevoll, Bremanger [Sogn og Fjordane]), “they blow up bad weather” (Nord-Rana [Nordland]). [...] They called it *glaomepipe* [goggling pipe] or *uværspipe* [storm pipe] (Balestrand [Sogn og Fjordane]). (1976:368)

The above-quoted information is supported by other sources:

The old did not like the boys making themselves flutes from *ister* (*vidje*). The weather would turn drizzly if one blew such flutes. The same applied if one blew through the stalk of dandelion. The same if one sounded in the flower of *dåve* (*guldå*⁵²³).
(From Salten, Nordland.⁵²⁴)

If you blow *åkerpiba* or *siljefløyda*, it will soon become rainy.
(From Ryfylke, Rogaland.⁵²⁵)

521 NEG 18212.

522 Mo 1957:117.

523 *Galeopsis speciosa* mill.

524 NFS R. Moe 4. cf. Mo 1957:117.

525 NFS Tor Skiftun 8.142.

A deep, conceptual conflict between children's sense of sound-making fun and adults' serious beliefs in sound's nature-controlling potential can be discerned behind the incidents referred to above. All the reports point in the same direction: adults becoming angry because of children's supposed misconduct. Children's concept of playing with sound apparently was not in accordance with adults' concept of the power of sound.

It is a thought-provoking fact that our knowledge of bark-flute playing's attributed rainmaking potential originates almost exclusively in reports of elderly people becoming angry at children whistling, when they (the adults) hoped to avoid rain or bad weather. I do not know of any instance when bark-flute playing was intended to produce – not to say really produced – rain. On the other hand, there is ample evidence that older persons were deadly serious about this. How is this conflict to be understood and resolved?

First, what is said in numerous sources merely indicates the existence of a firm belief among adults that flute sounds may affect the weather and create rain. This belief seems to have been widespread in most parts of Norway. Second – and this is a purely accidental coincidence of two mutually independent aspects of the year cycle – the season for making bark flutes overlaps the haymaking season. If the rainmaking effect of flute sounds are taken for granted, it is only to be expected that elderly people might have reacted against such hazardous activity at a time when rainless weather was needed in order for the hay to dry.

It is tempting to view this conflict in terms of children's lore as reflecting ancient practices – rain magic performed to procure rain and an abundant harvest – which have long since lost their relevance in adult society. Traces of such beliefs have survived, and have been periodically activated by children's annual flute-making and playing, coinciding with the haymaking activities at the same time of the year. Thus, we have the strange situation that traces of old practices are brought to life negatively and a forgotten rainmaking practice is reflected through its negation. The fact that elderly people associate an ostensible rain magic with the devil's work suggests this interpretation is a Christian reaction to a pre-Christian magical (and possibly ritual) practice. These conflicting phenomena can also be viewed as a persistent cultural clash caused by the simultaneous existence of Christian and non-Christian belief systems within the same society and brought to life annually.

The folklore collector Johan Th. Storaker described different traditional ways of creating wind. His account may serve as an analogous and clarifying background to the attributed power of bark flutes. Storaker (1924:15f) described no less than eleven ways to affect weather (creating wind, rain, or good weather), most of which reflect a kind of sorcery. Against this general context, bark-flute playing's attributed rain- or storm-making potential appears closely related to its power of producing high-pitched, powerful sound. This refers bark flutes and their traditional setting in a magico-sorcerous universe, in which imitation of sounds of nature is conceived as a means of controlling or exerting one's influence on nature.

Viewed from a common angle, my discussion of various aspects of the jingle corpus supports a general interpretation in terms of a message on two levels. On the surface, one can find the denotational meaning of the jingles, but deeper, one can find a hidden level, accessible only through the connotational meaning of the jingles. Whereas variations on the surface generate the different types and subtypes of jingles-for-making-bark-flutes, the deep-level message remains invariant for the magic-jingle corpus.

However, using once more my own childhood memories as a reference point, I simply took the ritual use of my jingle for granted. To me as a child, the bark-stripping operation was an exciting, mysterious experience. Whenever I got tired of reciting my jingle loud, I would continue to repeat it silently (i.e., say it in my head) until I had finished pounding. This, my in situ experience indicates that the jingle's function is essentially ritual and magical, while its use is strictly utilitarian. Through contemplating that experience, and by drawing on the evidence that emanates from the whole Norwegian jingle corpus, I realize that additional functions in terms of analytic evaluation can be discerned, ones that are related to aspects pointed out above, such as personalizing, the prayer or call for help, the effect of enhancement, and the emotionally stabilizing effect.

Ultimately, the ritual use of magic jingles seems to function as a device to influence nature. Possibly, this traditional practice also reveals a surviving residual function: the heralding of spring and of fecundity in nature through a seasonal ritual. Viewed against related genres, jingles-for-making-bark-flutes (and jingles-for-making-reedpipes) stand out as the outcome and attribute of a huge, magico-sorcerous universe. Thus, bark-flute making practice is immersed in the larger drama of the rite, reflecting life.

A world apart from rainmaking is self-contained music making. While the topic of rainmaking in general reflects an inconsistency between established beliefs and children's inclination for fun and toying with sounds, music-making as such is never reported as controversial and is only rarely associated directly with children. Considering the extra skill that it takes to make and play upon a long *seljefløyte* as compared with a short one, it is understandable that the long flute should be associated more with adults and, to some extent, youngsters.

In the light of the abundant evidence of *seljefløyte* music-making, questioning the age of this usage appears irrelevant. However, by posing this problem one calls to attention the music-making concept itself. Notwithstanding the fact that Groven (1927) did not explicitly clarify any repertoire of *seljefløyte* tunes, he referred to a considerable number of transcriptions (vocal and instrumental tunes from printed sources), which he described as so-called *formelmelodiar* (formula melodies), i.e., melodies based on melodic formulas derived from the *seljefløyte*. Thus, he developed a concept of a particular melodic style associated with this instrument and found in folk tunes, without reference to any *seljefløyte* repertoire per se.

Thus, even if Groven's concept of the long *seljefløyte* as a genuine musical instrument involves the idea of music making on a certain technical level, the idea of a particular *seljefløyte* repertoire seems to be lacking. The notion of a traditional musical instrument with its own idiomatic qualities but without a repertoire may seem odd and contradictory. In the case of the *seljefløyte*, an appreciation of what such a combination means is of significance to gain insight into the realm of music making for this instrument.

The present section is devoted to available evidence of music making within the traditional context of folk culture. Contemporary uses, directed at mass media, tourism, and folk-music organizations, is only briefly touched upon in Part III of this monograph.

The source material supplies ample evidence of music making on the *seljefløyte*, although it is often difficult (occasionally impossible) to assess what kind of musical sound has been involved, or at what technical level the performance has occurred. Music making might be implied by reference to playing music or from a description of

the playing technique. As a starting point, it might be suitable to note how traditional players hold the long *seljefløyte*, with a solid grip around the bark tube in proximity of the sound hole (Ill. 8, 14, 15, 18, 20, 21, 22, 25, and 26).

Some sources both describe playing technique and explicitly mention music making. The most specific ones refer unambiguously to the long flute without finger holes, played by fingering at the end opening. It is noteworthy that in many reports only the easily observable manifestations of music making are mentioned; the technique of varying the blowing pressure, which is an indispensable element, seems to have gone unnoticed by many informants. This indicates that those informants reported what they had seen and heard: that the only way to learn about the blowing technique is through the practical experience of playing itself:

The common way to play the *seljefløyte* was to blow into the flute. That way one produced sound, and by putting the finger at the open end of the flute one could create different tones by covering the open end, more, or less with the fingertip. Not much variation in the music was accomplished. However, there came some '*våelige*' ['daring'] pretty tones and these were played in slow tempo, as for a song strophe, or in a lighter time as in a small snatch of *springar* or *halling*.

(From Laudal, Vest-Agder.⁵²⁶)

Accordingly, one blows at the side of the flute and [with] *prillar* [fingers] at the end with the right hand. If the flute is long – about 70 to 80 cm – delicate, touching tunes come into existence. I remember many old people who made themselves *langfløitur* [long flutes] in spring and sat trolling [working magic] at them. I do not remember them sounding *laattar* [dance tunes], they were various other *trallar* [humming] from the delicate tones. However, there was one fault with *seljefløyter*, [which was] that they could only be used in spring because when the bark dried out, the sound came to an end.

(From Ål, Buskerud.⁵²⁷)

Seljefløyta was much used before. [...] One raised the flute to the mouth and blew more strongly or weakly and *prilla* [fingered] at the open end. They could play melodies, *hallingar* and *springarar* [dance tunes] on it. A strange feeling of spring arose when the flute sounded on the farm and in the neighborhood.

(From Krødsherad, Buskerud.⁵²⁸)

526 NEG 18458.

527 NEG 811.

528 NEG 763.

Yes, to be sure, *seljefløyter* have been made and played here for generations [...] One could play entire tunes on it, but usually good players had their own curious, alluring repertoire. [...] Thus, one always blew on the side of the *seljefløyte*. To change the sound, one used one's finger at the open end.

(From Gjerpen, Telemark.⁵²⁹)

Despite being a little vague, sources such as the following one probably should be interpreted as referring to the long flute without finger holes:

Then they could blow into the mouthpiece and with the finger regulate the sharp sound that emerged. There were also those who could play pretty tunes on these flutes!

(From Sande, Møre og Romsdal.⁵³⁰)

Other sources address performance activity in terms of playing technique only.

Yes, *seljefløyter* without finger holes were made. The pitch was changed by closing or opening the outlet with the finger and by means of the blowing pressure.

(From Sunndal, Møre og Romsdal.⁵³¹)

Seljefløyter of lengths 50 cm or more, without finger holes, on which one changed the sound by varying the blowing pressure and fingering at the open end, are known. There is so much good willow on the hillside, and along the river and the shore, that this kind of flute, too, used to be common.

(From Fossand, Rogaland.⁵³²)

[We] blew, while fingering on the end of the flute.

(From Gjøvdal, Aust-Agder.⁵³³)

The "*seljefløyte*" had no *prillehull* [fingering hole], thus the tone was made by one's finger at the end opening and by the blowing pressure.

(From Sigdal, Buskerud.⁵³⁴)

Several sources mention music making in terms of performing tunes, without specifying whether a flute with or without finger holes is meant:

Seljefløyte was much used in West Telemark, particularly some 20 to 30 years ago. Almost every boy could make *seljefløyte*, and many taught

529 NEG 18216.

530 NEG 18306.

531 NEG 18364.

532 NEG 18360.

533 NEG 18218.

534 NEG 1450.

themselves to play pretty melodies on it. Now this is more laid aside, but there are still some who engage in it.

(From Telemark.⁵³⁵)

The *seljefløyte* was used during springtime when the sap was rising. It was used for “crooning” *slåttar* [dance tunes].

(From Bø, Telemark.⁵³⁶)

They played songs and dance tunes on *halmpipe* [straw pipe] and *søljufloyte*.

(From Hallingdal, Buskerud.⁵³⁷)

Røyselagje. *Springar* [dance tune]. Originally, a *seljeflyte* tune that was used for *stev* [folk verse] and songs in olden times.

(From Valdres, Oppland.⁵³⁸)

Occasionally, one also encounters evidence of music making specifically on a bark flute with finger holes:

Flutes for musical use had the usual 6 holes. [...] Only one could not master the tuning – it went in both major and minor and right in the middle, in-between just as well. After all, the main thing was to reel off a song or a dance tune.

(From Tolga, Hedmark.⁵³⁹)

Some sources mention the use of *seljefløyte* alongside other traditional musical instruments such as Jew’s harp and ram’s horn:

They also used the Jew’s harp, which they bought in the town. *Seljeflyta* was also used.

(From Nordmøre, Møre og Romsdal.⁵⁴⁰)

They used the Jew’s harp a lot. [...] *Seljeflyta* was also used.

(From Nordfjord, Sogn og Fjordane.⁵⁴¹)

One also used *søljefløyta*, and ram’s horn, and Jew’s harp for playing, otherwise – not at weddings.

(From Suldal, Rogaland.⁵⁴²)

535 AB.ST:112.

536 NEG 18201.

537 AB.THI:71.

538 AB.TV:20.

539 NEG 18503.

540 AB.Yt:220.

541 AB.TN:58.

542 AB.Yb:941.

They also were excellent in blowing *seljeflyta* in Valdres. Likewise, the Jew's harp.

(From Valdres, Oppland.⁵⁴³)

A single reference to a popular radio music program seems to suggest a certain level of performance, although in a highly informal context:

In spring it was customary to make oneself *seljefløyter*. [...] and it was a sheer request program on Saturday to sit together and try out the various *seljefløyter*. They could be small ones of 5 to 10 cm [length], to big ones of half a meter.

(From Voss, Hordaland.⁵⁴⁴)

Some sources are less explicit but possibly refer to music making. The use of the complimentary address “master” for the performer indicates a certain level of performance:

Seljeflyta was more used previously than now, and many were regular masters playing upon them.

(From Nordhordland, Hordaland.⁵⁴⁵)

A few sources refer to individual *seljefløyte* players in a way presumably implying that they really played:

Seljeflyta was much used here. One, named Torsvikjen, in Sande, played old *slåtta* [dance tunes] on *flyta*.

(From Sunnfjord, Sogn og Fjordane.⁵⁴⁶)

The herdboy Ola i Rabben, Jølster, was good at blowing *seljeflyta* when he herded in springtime.

(From Sunnfjord, Sogn og Fjordane.⁵⁴⁷)

Seljefløytor were much used when I was young.⁵⁴⁸ [...] They made fine tones, those who had the gift for it. I never heard prettier playing than what I heard on an *orefloyte* [flute made from *older*, i.e., alder]. Håvard Urheim (1813–98) really played well on the flute.

(From Kvam, Hordaland.⁵⁴⁹)

543 AB.TV:39.

544 NEG 18202.

545 AB.SNh:116.

546 AB.TS:59.

547 AB.TS:81.

548 Informant born 1859.

549 Opedal 1954:113f.

Simon S. Kleppe, b. 1856. *Seljeflyteblåsar*.
(From Osterøy, Hordaland.⁵⁵⁰)

The designation *seljeflyteblåsar*, meaning “*seljeflyte*-blower,” i.e., “one who blows *seljeflyte*,” is ambiguous, since *blåsar* implies both playing music and simply blowing. However, in the present context, when used as a name for an occupation (although in a modest sense), it most likely refers to music making.

In some cases, also persons known otherwise are credited with being gifted *seljefløyte* players. It was considered extraordinary for a mayor to play *seljefløyte*:

Tjerand Sunde [...] was farmer, and postmaster, and merchant, etc., besides, he was *ordfører* [mayor] of Skånevik in 1890–1895 and 1911–1916.

Tjerand Sunde was a virtuoso on the *seljefløyte* and often played for his own pleasure and for people who came to him on various errands and on visits. He always kept the *seljefløyte* in an underground spring on the farm, and when people came to him – either summer or winter – he would hurry to the spring to fetch the *seljefløyte*, then he came in and sat down to play.

Ivar Brække, b. 1867 [...] told me this. He himself had in his younger days gone on an errand to the mayor, Tjerand Sunde, and he was well received there. What he remembered particularly was that the mayor hurried to the spring for his *seljefløyte* and sat down, playing fine *slåttar* and tunes after business was finished and Ivar had been seated at a table. He played marvelously well, Ivar said.

(From Etne, Hordaland.⁵⁵¹)

The above quotation evokes an image of an elderly man’s fascination with *seljefløyte*-playing. It indicates that *seljefløyte* playing might have been aesthetically rewarding, technically challenging, and not less valued as the maker-player grew older, almost like some form of life-long refreshment.

For a fiddle player, who became a religious man and ceased playing dance music, the *seljefløyte* might have afforded a welcome opportunity for a more innocent, hence socially acceptable, kind of music making:

“Frangards-Lars Petter” – Lars Petter Valldal [...] lived 1842–1930 [...] Lars Petter was probably the best [fiddle] player who has lived in Valldalen. [...]

Many years afterwards he became “converted” and almost completely ceased playing, but the melodies still lived inside him. When his daughter’s son Petter Berli was 12 years, he stayed with Lars Petter one day, seeding potatoes. In the middle of the økt [between-meal period] the horse was going to take a rest. Then Lars Petter cut himself a *seljefløyte*, sat down against the plough and let the prettiest tones sound

550 AB.Yt:276.

551 NEG 18402.

into the spring day. There was truly *songbotn* [literally “song-bottom,” i.e., resonance bottom] in “Frangards-Lars Petter.”
(From Norddal, Møre og Romsdal.⁵⁵²)

Thus, for a former fiddle player, whose basic need to express himself through music had been obstructed by society’s moral restrictions, the *seljefløyte* might have provided an outlet for musical self-expression.

Also, persons without any status as musicians could be recognized as bark-flute performers. Being a master of the *seljefløyte* alone might have been reason enough for a person to be remembered:

Magnus Dagestad was a master of making and playing *seljefløyte*. He made them very large and had made [them] every spring since he was a small boy until his last spring when he was 92 years.
(From Voss, Hordaland.⁵⁵³)

For the following case, the information was confirmed by the master himself:

I make *seljuflyta* every spring. Its music is not unlike that of the Jew’s harp, since the mouth is the main sound chamber in both.
(From Voss, Hordaland.⁵⁵⁴)

Reference to “a-man-and-his-music” is also found in the following quotation:

I remember an old man who was exceptionally good at making *fløydre*. [...] Such a *fløydre* could produce a nice sound, and old Karel⁵⁵⁵ could blow pretty *sullar* [lilts]. I remember a *sull* he often played. The words were: “Ola, Ola, *kjyræ di æ dau-e. Nå sleppe du å rusla i laue.*” [Ola, Ola, your cows are dead. Now you won’t have to amble in the foliage.] The melody was in *halling* rhythm.
f a f c f e f a f c f f a f c f f a f c [...] I, and the neighbor boys also made *fløydre*. However, in the art of playing, we never went as far as old Karel.
(From Laudal, Vest-Agder.⁵⁵⁶)

From the series of pitches reported and the natural metric pattern of words and phrases, the *sull* may be reconstructed as shown in Ill. 50.



Ill. 50.

552 Kleiva 1976:197f.

553 NEG 18304.

554 AB.Yt:477b, reported by Magnus Dagestad 1940.

555 Born at Gletne in Eiken, probably in 1830 (NEG 18458).

556 NEG 18322.

This lilt can easily be played on a long *seljefløyte*.

Some significant characteristics are revealed in the sources about players quoted above. First, they are about individuals, without reference to any succession of players, or to groups of players representing a common “school” or local tradition, such as fiddle players’ lineages. Second, though contextual matters are only arbitrarily touched upon, it seems clear that playing has been an informal activity, done at one’s leisure, often outside, and in a herding or other open-air working context. Third, the sources imply a common heritage of *seljefløyte* making and playing, shared by all or most members of the local community. Particularly, adult makers-players referred to in these sources can be viewed as individuals who, drawing on a common heritage of knowledge and practical dexterity, employed the *seljefløyte* like an artistic implement for cultural expressions. Such usage reflects the function of the *seljefløyte* as a kind of last resort for persons for whom other possibilities for music making were non-existent or could only be achieved through greater effort. Thus, the *seljefløyte* afforded a welcome opportunity for creative activity that required no other material resources than those easily obtainable in the immediate neighborhood. Therefore, the widespread, non-specialized knowledge of *seljefløyte* making and playing could be used as the starting point for individuals with special talents and interests in music. Moreover, through it all runs the oneness of maker and player.

Although some sources mention dance tunes such as *hallingar* and *springarar* being played, only one informant claimed that players had “their own, alluring repertoire.”⁵⁵⁷ In general, the concept of a particular repertoire of *seljefløyte* tunes is almost absent. This topic is touched upon in Part III of this book.

The term *signalpipe* points to signaling as a utilitarian function of bark flutes. Such usage, which might have been of some importance, is only fragmentarily documented. A single source points unambiguously to the use of flutes for signaling:

These *vidjefløytene* [willow flutes] [...] could be made in different varieties, long and short ones all mixed, and some could be made quite short, only a couple of inches long. [...] There were pipes that could be used as signal flutes [...] [with] a high and very piercing sound.

(From Tolga, Hedmark.⁵⁵⁸)

A related usage is reflected in terms such as *jerpepipe* and *jærp*. *Jerpepipe* clearly denotes a small whistle flute, used by hunters to attract *jerpe* (hazel hen, *Bonasa bonasia*). It is noteworthy that bark flutes, despite their seasonal and short-lived existence, have been used to attract birds, notwithstanding that similar, more durable, bone flutes can be used all year around.

557 NEG 18216.

558 NEG 18503.

Children's Lore – Echo from a Distant Past?

The documentation on the use of bark flutes for fun and pastime reported above also abounds with evidence of bark flutes as children's lore.

The widespread use of flutes among herders in the distant past was witnessed by the medieval Swedish history writer Olaus Magnus (*Historia de gentibus septentrionalibus* Book XVII, Chapter 2, p. 3), who stated that music would make the sheep graze more willingly, so that "shepherds are usually depicted as flute players." Although bark flutes are not mentioned explicitly by Olaus Magnus, his general reference to the use of flutes among shepherds is in good agreement with traditions surviving up to the twentieth century. Herdboys are frequently mentioned as bark-flute makers:

Seljefløyte was usually made every spring, particularly by the herdboys.
(From Nordland.⁵⁵⁹)

Herdboys made themselves *seljefløyter* previously.
(From Egge, Nord-Trøndelag.⁵⁶⁰)

Seljefløyte. It was made by herdboys in spring. [...]
(From Ogndal, Sparbu, Egge and Beitstad, Nord-Trøndelag.⁵⁶¹)

Likewise, herdboys are also referred to as bark-flute players:

Blisterpipe [...] was mostly used as pastime for the herdboy, who made it with his knife. [...] *Fløyte* from *selje* [...] about 30 centimeters long (with four or five finger holes) was also herdboy's work and his music.
(From Haltdalen, Sør-Trøndelag.⁵⁶²)

The *seljefløyte* was used mostly by herdboys, but many others also cut *seljefløyter* for themselves to play upon.
(From Vågå, Oppland.⁵⁶³)

I have seen only one *seljefløyte*, in my childhood. [...] It was a herdboy who came to my father, who brought it with him.
(From Selje, Sogn og Fjordane.⁵⁶⁴)

Within the societal complex of mountain farming, also girls were known for using *seljefløyte*:

In olden times there was much blowing on the *lur*. It was particularly the *stølsjentene* (the girls on the mountain summer farm). [...] They

559 NEG 1278.

560 NEG 940.

561 NEG 1336.

562 NEG 18505.

563 NEG 18497.

564 NEG 18422.

had billy goat's horns, too. Much *seljeflyta*.
(From Nordfjord, Sogn og Fjordane.⁵⁶⁵)

The fact that both boys and girls took their share in looking after the livestock supports the general notion that herders of both genders were involved in bark-flute making and playing:

They also used *seljefløyta*, particularly in springtime when they herded.
(From Sunnfjord, Sogn og Fjordane.⁵⁶⁶)

Occasionally, individual herdboys are mentioned as bark-flute players:

The herdboy Ola i Rabben, [from] Jølster, was good at blowing *seljeflyta* when he herded at springtime.
(From Sunnfjord, Sogn og Fjordane.⁵⁶⁷)

I shall relate a little from my father Zakkarias Johnsen Døsen's course of life. He was born [...] March 15, 1840, and as a small boy he showed talent for music. He then started to make himself flutes from *selje* and expanded this until he was confirmed. At that time, he had already been out as a herdboy for several years [...]
(From Gloppen, Sogn og Fjordane, recorded by J. S. Døsen.⁵⁶⁸)

The children cut *seljefløyte* during springtime when they were herding.
I have cut many a flute in my time.
(From Ullensvang, Hordaland, recorded by Osmund Lekse.⁵⁶⁹)

Ample sources provide testimony as to the use of bark flutes among children, with no reference to mountain farming or herding activity:

The children used to make "*seljefløyter*.
(From Øymark, Østfold.⁵⁷⁰)

We made many *seljefløyter* when we were small
(From Volda, Møre og Romsdal.⁵⁷¹)

Seljeflyta is made nowadays, too, typically by youths and children.
(From Hardanger, Hordaland.⁵⁷²)

565 AB.TN:48.

566 AB.TS:85.

567 AB.TS:81.

568 AB.Yb:741.

569 AB.Yb:374.

570 NEG 1096.

571 NEG 1253.

572 AB.TH:91.

Seljefløyte or flute from *rogn* [...] was used only as a toy for children, but the adults helped to make them until the children became skilled enough to do it themselves.

(From Nesna, Nordland.⁵⁷³)

Seljefløyte [...] was mostly used by children and youths for fun and it is still used occasionally.

(From Velfjord, Nordland.⁵⁷⁴)

There can hardly be any doubt that in these records, terms such as “children,” “youths,” and “we” include both genders. An informant who was a woman, referred to her “own experience” as follows:

Sitting together and trying out the various *seljefløytene*. They could be small ones from 5 to 10 centimeters [length], to big ones of half a meter.

(From Voss, Hordaland.⁵⁷⁵)

According to Brockpähler (1970:85), bark-flute making was a typical boys’ activity in Westphalia, Germany; girls were never explicitly mentioned as bark-flute makers. In Norway, the situation appears a little different: bark flutes have been used by both genders, although boys are most frequently mentioned in the source material:

Seljefløyter were made and used by boys alright, here like other places. [...]

(From Strinda, Sør-Trøndelag.⁵⁷⁶)

Syljupipe. They make it in spring when the sap is rising in the willow. All boys and even adults make *syljupipe*.

(From Høland, Akershus.⁵⁷⁷)

Several sources point out the young age of boys using bark flutes, through expressions such as “little boys” and “small boys”:

Bark flutes were made in spring. [...] We little boys soon learned to make such flutes.

(From Kvernes, Møre og Romsdal.⁵⁷⁸)

The *seljefløyte* is used and made [...] by small boys.

(From Nes, Hedmark.⁵⁷⁹)

573 NEG 18381.

574 NEG 1526.

575 NEG 18202.

576 NEG 1314.

577 Refsum 1935:150.

578 NEG 18222.

579 NEG 803.

Fløite has, of course, been used here from the old days. It was rather the *seljefløyte*, which is made by small boys during spring. [...]

(From Ål, Buskerud.⁵⁸⁰)

Siljupipen was exclusively the little boy's "instrument."

(From Spydeberg, Østfold.⁵⁸¹)

Although boys are more often referred to as bark-flute makers and players than girls, no source even hints girls did not share in the tradition. The fact that recently boys have played a more prominent role than girls is likely to reflect more recent changes in gender roles in the Norwegian society, related to the process of urbanization.

Since the Viking Age, the knife was an indispensable tool to all men, and every man, even if he was a slave, would have carried a sheath knife. Possibly, such usage was not quite as widespread among women, but nevertheless the use of knives by women is also documented. The older iconographic sources reflect how a wife carried her sheath-knife underneath her belt, besides the keys that symbolized her housewifely rank (Breivik 1982:70). The term *kvinnekniv* (literally, woman-knife) still refers to knives that are slightly smaller than men's knives, and usually more lavishly decorated on the handle and the sheath. Sociocultural changes during recent centuries might have caused a decline in the use of sheath knife by women. In contemporary rural Norway, the knife is considered mainly a tool for men. This is likely to be the principal reason that, in more recent sources, boys are generally assigned the role of bark-flute makers. Even the only female player I have met, Marie Vøllestad (1889–1981), admitted that as a girl, she used to play upon *seljefløyte* made by male relatives. Recent sociocultural changes might have created a new situation. The folklorist Velle Espeland has noticed that mothers often help their children to make small *seljefløyter*.⁵⁸² This also accords well with my own experience from annual demonstrations of bark-flute making at Sverresborg Trøndelag Folkemuseum, Trondheim.

The pervasive use of the past tense in the sources generally implies a bygone existence of the traditions mentioned. In some cases, a drastic decline of old traditions is explicitly declared:

Seljeflyta [...] has been abandoned for 60–70 years, I think.

(From Osterøy, Hordaland, 1940.⁵⁸³)

Seljeflyta and the Jew's harp were much used. About 50–60 years ago they ceased this.

(From Sunnfjord, Sogn og Fjordane, 1941.⁵⁸⁴)

580 NEG 811.

581 NEG 18427, cf. also NEG 18331.

582 Conversation June 1991.

583 AB.Yt:276.

584 AB.TS:68.

Seljefløyta was used in the old days but, to be sure, laid aside in the [eighteen-]forties and fifties.

(From Hardanger, Hordaland, 1942.⁵⁸⁵)

Seljeflyta was laid aside around 1900.

(From Eksingedalen, Hordaland.⁵⁸⁶)

Some sources are not quite as confident about the speed of the dwindling process and report that traces of old practices are still alive:

Seljefløyte was much used in West Telemark, especially 20 to 30 years ago. Almost every young boy could make *seljefløyte*, and many learned to play nice tunes on her. Now this is more laid aside, but some are still doing it.

(From Telemark.⁵⁸⁷)

Seljefløyte [...] was mostly used by children and youths for fun and is still used occasionally.

(From Velford, Nordland, 1948.⁵⁸⁸)

The *seljefløyte* [...] was used for “crooning” *slåttar* [dance tunes]. Was used until World War I. It has since almost gone out of use.

(From Bø, Telemark, 1964.⁵⁸⁹)

One makes *seljeflyta* in our days, too.

(From Hardanger, Hordaland.⁵⁹⁰)

Seljefløyte have been much used before, and some people really could “play” nicely on them. Children still make them.

(From Vikedal, Rogaland.⁵⁹¹)

It is not easy to assess the above-quoted sources under a common rubric. Viewed as a whole, they convey an occasionally contradictory and inconsistent picture of the *seljefløyte* tradition. In general, it appears that the disparate sources base their facts and assessments on different premises and criteria. Behind some of the reports, one can discern a widespread romantic – if not nostalgic – view that there has been a general decline in old, traditional culture. Behind others, there dimly appears a recognition that certain folk traditions are quite tenacious. Within this matrix, it is sometimes difficult to distinguish facts from assumptions and attitudes. A certain degree of caution in interpreting such data seems appropriate. With these reservations and

585 AB.TH:63.

586 AB.Yt:346.

587 AB.ST:112.

588 NEG 1526.

589 NEG 18201.

590 AB TH:91.

591 NEG 2982.

considering the sources against my own general experience from years of fieldwork, I may tentatively suggest the following.

In the first place, bark-flute making and playing have developed along several lines in different regions and local communities, and the dwindling process has developed more rapidly in some places than in others. Second, the term *seljefløyte* has at least two principally different meanings, one referring to the long, overblown types that can produce a recognizable series of pitches, and the other referring to the multitude of shorter types with or without fingerholes, which normally can produce only one or a few accidental pitches. As for the latter, the practice of bark-flute making and playing is still well known in wide circles. Short, simple bark flutes of various designs are still made each spring by eager youngsters and proud children in both urban and rural surroundings. By contrast, the long *seljefløyte* has almost been forgotten in its traditional rural context. Its longstanding stronghold – traditional mountain farming with boys and girls herding cattle – is now history. Only a few, scattered traces of the traditions embracing the instrument survived into the post-war era. It is probably because of efforts to cultivate the instrument by a few interested people that the long *seljefløyte* is in use today and recognized as a significant folk-music instrument in Norway. Its acoustical properties, musical qualities, melody repertoire, and contemporary usage are discussed in Parts II and III of this book.

II. LAWS OF NATURE: THE ACOUSTICAL BASIS

Issues and Concepts

The sonic world of the long *seljefløyte* – the most sophisticated among bark flutes – is a complex and challenging matter. My research strategy has been to apply relevant theory and empirical methods from acoustical science, merged with an investigation of playing technique and musical repertoire, to establish a basis for an understanding and appreciation of the sound-generating system at large. While addressing acoustical matters, the main object is not *seljefløyte* acoustics per se, but as a key to assess musical sound. This, of course, has significant consequences for the entire setup, thus calling for a brief comment.

Within the world of flute instruments, the long *seljefløyte* exhibits an extraordinary combination of design and playing technique: a slender, extremely long, flexible bark tube resonator that produces a series of pitches conditioned by high resonance frequencies – also called natural frequencies – sounded by means of simultaneous overblowing and alternating between open and closed tube. While the most common playing technique for the majority of the world's flutes aims at sounding a lower resonance of the air column enclosed by the tube resonator, the long bark flute is distinguished by a pitch series based on higher resonances on an open and closed tube. Thus, this unique feature also appears as a typifying characteristic. There are three main issues justifying focus on acoustical aspects of the *seljefløyte*:

- 1) Groven's idealized "nature tone" concept (1927), based on a simplistic model of flute sound – strikingly in violation of classical acoustic comprehension – has long called for revision⁶⁰⁸. This is discussed in the section "The Tube Resonator" (i.e., in Part II).
- 2) The auditory experience and playing technique of the long *seljefløyte* address – and supply unique evidence for – the sound-producing mechanism of overblown flutes. This is discussed in the section "Phenomenology of Overblown Flutes" (Part II).
- 3) A striking feature of the traditional long *seljefløyte* is the ambiguity of the perceived sound, and occasional aleatoric elements. This is commented in the section "Sound-Formative Parameters" (Part II).

The study of musical sound provides ample opportunities for hi-tech methods of acoustics, conceived as a field of natural science. However, I am reluctant to exaggerate the use of sophisticated technology. On the contrary, I prefer choosing the simplest possible strategy, which adequately addresses the problem under study. Method-generated problems are not always the most relevant or productive, and I

⁶⁰⁸ Ledang (1970, and 1971) has pointed out empirical and theoretical evidence implying considerable systematic deviations from the "nature scale" in the tone series of the long *seljefløyte*.

rather resort to problem-generated approaches and methods. Acousticians will note that some of my methods, such as the use of sonagram analysis – displaying the frequency content of a tone and its variation in time – may seem rather crude as compared with more recent developments in applied acoustical technology. However, as an integrated part of the present musicological project, my acoustical studies⁶⁰⁹ of the *seljefløyte* seem adequate to bring forward the important issues. My choices of method have mainly been based on a wish to produce material evidence, which combines acoustical significance with readiness for presentation in a musicological context. The significance of this research strategy is – hopefully – demonstrated in Part III.

I focus specifically on the typological designation *long seljefløyte* (cf. Ill. 12, A9), signifying the bark-flute subtype that Groven referred to simply as *seljefløyte*:

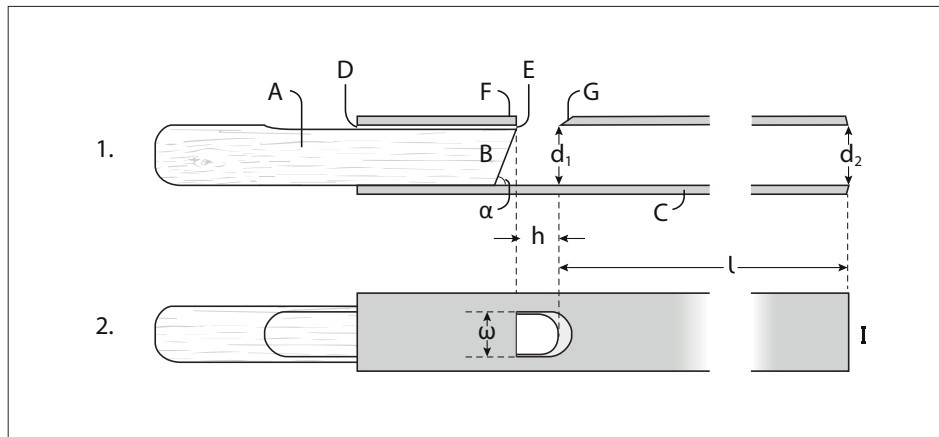
The common dimensions of the *seljefløyte* are from 40 to 80 cm in length and from 1 to 2 cm in diameter. A proportion between length and diameter 50 : 1 1/4 is very good.

This flute yields a tone series comparable to lur tones from 6 to 18 or 20. The best register is 7:8:9:10:11:12:13:14:15:16. (1927:7)

Functionally, the long *seljefløyte* is a *whistle flute*: “an end-blown flute in which the air is directed through a simple mouthpiece against the sharp edge of a hole cut in the pipe just below the mouthpiece” (Diagram Group 1976:18). In German, terms such as *Kernspaltflöte* (Moeck 1951:21, 1954:69, 1969:65), and *Endkernflöte* (Sevåg 1969:75f) were used as type designations. Moeck (1969:49), in referring to the mode of playing for purposes of classification, also suggested “*Obertonflöte*” as a distinguishing term. Generally, in music literature, the *seljefløyte*, as well as other flutes of a similar kind, have been described as “harmonic flutes” or “overtone flutes.” Such designations are questionable, presumably based on the misconception that overblowing involves selective sounding of individual partials (overtones) of a *harmonic* spectrum. But whereas harmonic partials refer to single overtones of a harmonic spectrum, tube resonances – also called preferred frequencies – denote partials whose frequencies deviate from the harmonic series. Another term, used in acoustic literature, yet with musical implication, is most apt: *overblown flute*. The term refers to the basic concept of playing technique and sound production; it does not involve any risk of misunderstanding. To be sure, a plain designation for the *seljefløyte*, addressing the playing technique and the construction, is simply *overblown whistle flute*.

Basically, the construction of the *seljefløyte* coincides with that of a circular-sectioned flue pipe (i.e., from a pipe organ). Therefore, in undertaking a technical description and analysis of the instrument, one may reasonably take the organ-builder’s terminology as a point of departure. Such nomenclature is also occasioned by the fact that within the *seljefløyte* tradition, one has no detailed technical terminology to account for all relevant design and construction details. The regrettable inconsistency arising from the use of “pipe” as though it meant “flute” seems unavoidable, since “flue pipe” and “organ pipe” are terms well established in literature on the organ. (In the organ-builder’s terminology, a “flute” is a kind of “flue pipe.”) This terminological inconsistency may seem confusing, but we have to live with and it should always be borne in mind.

⁶⁰⁹ Conducted in the late 1960s (cf. Ledang 1969).



Ill. 51. Details of the traditional long seljefløyte, with designations for significant details, largely borrowed from organ-builders' terminology. 1: lengthwise cut, 2: front view, A: mouthpiece, B: block, C: bark tube, D: duct, E: flue, F: lower lip, G: upper lip, H: mouth, I: outlet, α : angle of block, d_1 : inner diameter of the tube at the mouth, d_2 : inner diameter at the outlet, h : mouth height ("cut up"), l : length of the resonator, w : mouth width.

The main technical and acoustically relevant features of the long *seljefløyte* are shown in Ill. 51:

Particularly vital parts are the mouth and the flue. The mouth is made by making two cuts with the knife – one oblique and the other perpendicular – into the bark before the bark tube is loosened from the wood. This procedure – making the upper lip curved and the lower lip straight – makes the mouth approximately crescent-shaped, a general feature of all varieties of the Norwegian *seljefløyte*.

Compared with an organ pipe, the long *seljefløyte* is extremely slender; the length of its resonator tube is considerable, compared with the diameter. The ratio l/d_2 may vary between 30 and 40 (cf. Groven 1927:7). The combination of extremely narrow tube and alternation between open and closed outlet accommodates a considerable number of preferred frequencies that can be brought forth by overblowing.

While the technique of overblowing is largely based on the player's ability to adjust and control the blowing pressure (thus managing the velocity of the airflow through the duct), playing also involves fingering at the outlet. Hence, it is convenient to distinguish between *natural tones*, i.e., tones produced on open or closed flute, and *fingered tones*, i.e., tones produced on partially closed flute.

The standard playing technique of the long *seljefløyte* – based on natural and fingered tones – is readily recognizable in the repertoire. This was described in detail by Groven, who – disregarding fingered tones – maintained that:

there are so few and simple ways for tone changes. Because of this, only certain tone progressions are possible. A certain strength of blow gives, for example, a tone with vibration number 8. The same strength of blowing and stopped opening then gives a tone with vibration number 7. Open tube and stronger blow give a tone with vibration number 10. Same strength and stopped tube give 9. Stronger blow and open tube give 12, and same strength and stopped tube give 11. Further come 14 and 13, then 16 and 15, 18 and 17, etc., as far as one manages to blow. Those tones that are connected under the same blowing strength, then, are the tonic, 8, and minor seventh, 7 in the lower octave; further, the third and the second, the fifth and the fourth; minor seventh and sixth; octave and major seventh. To alter the blowing strength and change from open to closed tube – or vice versa – simultaneously, is difficult. In that case, one does not control the tones well enough to hit a certain

tone. This would have been possible only if all *seljefløyter* were equal, so that a fixed technique could be developed. However, there can never be any fixed rule for tone-hitting when every flute requires its adjustment of blowing strength, etc., and a single flute is so delicate. On the other hand, it comes quite easy to change blowing strength without altering between open and closed tube. Thus, ascending or descending is accommodated most easily through thirds and successive thirds.

After this, the easiest tone connections will create melodic formulas: [...] 8-7, 8-6, 8-10, 7-8, 7-9, 10-9, 10-8, 10-12, 9-7, 9-10, 9-11, 12-11, 12-10, 12-14, 11-9, 11-12, 11-13, 14-12, 14-16, 13-11, 13-14, 13-15, 16-15, 16-14, (16-18), 15-13, 15-16, (15-17).

Whereas some tones are internally connected *stepwise*, there are always others that do not slide together without problems. That would have to take place, as already stated, through simultaneous change of blowing strength and fingering. Tones that do not slide together stepwise are: 8-9, 9-8, 10-11, 11-10, 12-13, 13-12, 14-15, and 15-14. These tones are indirectly connected: 8-10-9, 8-7-9, 9-7-8, 9-10-8, 10-12-11, 10-9-11, 11-12-10, 11-9-10, 12-14-13, 12-11-13, 13-11-12, 13-14-12, 14-16-15, 14-13-15, 15-16-14 and 15-13-14. (Groven 1927:8)

This lengthy quotation might be summarized as follows. Firstly, a permanent, unalterable playing technique of the *seljefløyte* could not be developed because the season for making and playing it is too short and the inequalities among different specimens are too large. Secondly, the flute is played on simply by means of varying the blowing pressure, thirdly, alternatively stopping and opening the outlet. Fourthly, each natural frequency is constant and cannot be altered by changing the blowing pressure. Fifthly, some tones can be more easily sounded in melodic succession than others, thus melodic formulas emerge. These formulas – in the following referred to as *tone-couples* and *tone-triplets* influence the tonal resources of a *seljefløyte*, which is thus conditioned by the acoustics of the instrument.

There is extensive literature on the acoustic properties of flue pipes. Much of it is also applicable to the *seljefløyte*, which in its actual structure closely resembles the organ pipe. However, one great difference must be stressed: The organ is a musical instrument of great antiquity, which after centuries of technological sophistication reached a peak of excellence in Europe during the seventeenth century. The making and treatment of flue pipes require comprehensive knowledge of the pipe's action and of the different factors affecting it. Nevertheless, organ-building has remained a craft, based on empirical experience and hi-tech procedures handed down from generation to generation. In comparison, the *seljefløyte* seems a simple and rather primitive musical instrument. A pleasant-sounding bark flute can be made in just a few minutes. As mentioned previously, a satisfactory result depends not only on a skilled maker but also involves an element of chance. Though one must always bear this in mind, at the same time it is obvious that certain general acoustic principles apply to the functioning of the *seljefløyte*. A discussion of these principles may profitably be based upon what is already known about flue pipes.

Obviously, a thoroughgoing technical discussion, including the many different factors affecting the sound emitted from flue pipes, is beyond the scope of the present study. Making a *seljefløyte* is essentially a layman's handcraft, and the design is basically derived from individual experience, practical discretion, and skill. Normal

variations in design from one flute specimen to another are not so important as to justify a detailed inquiry into variations arising from these accidental circumstances. Such an approach might easily lead into “pocket fluff research.” Instead, an attempt is made to investigate possible acoustical dependence of some maker-controlled design factors and to assess the final output: music sound. Within such perspective of the humanities, my discussion of *seljefløyte* acoustics aims at a basic practical understanding of the long bark flute’s functioning as a sound-producing system. Therefore, mathematical calculations are included only to a limited extent, based on classical treatises such as Rayleigh’s *The Theory of Sound* (1896) and Helmholtz’s *Sensations of Tone* (1877).

There is a longstanding practice in musicology and music theory to measure musical intervals in terms of frequency ratios. Obviously, this does not imply a one-to-one relationship between frequency and pitch. It is a pragmatic approach, yet one acknowledging the fundamental dichotomy between physical and musical phenomena, reflected in concepts and terminology. I adhere to ethnomusicological practice, which has been well established for more than a century (Ellis 1885).

To avoid terminological confusion, it may be useful to define some terms. The term *tone* denotes a periodic or quasiperiodic sound vibration, which can be assigned a fundamental frequency and a harmonic or quasi-harmonic intensity spectrum. The spectrum may also include non-harmonic components up to a certain limit. Perceptually, a tone is characterized mainly by its *pitch*, *loudness*, and *timbre*. In general, the relations between acoustical parameters and perceptual qualities of a tone are extremely complicated (Winckel 1967:87–125).

The term *scale* denotes an aggregate of tones (e.g., c, d, e, ...), usually arranged in a certain order (e.g., ascending or descending). As pointed out by Sundberg (1967:119–123), the term is somewhat ambiguous, involving considerable hazard of confusing physical/acoustical with perceptual concepts. I adhere to Sundberg’s principal suggestions with some modifications.

To speak of the “scale of an instrument” is possible only if its applied *fundamental frequency resource* is acoustically limited, and/or if the player’s *modus operandi* is restricted by some other factor, such as conventions deposited in the manner of playing. The term *pitch scale* refers specifically to the perceptual impression of the scale, observed as a series of pitches. The aggregate of fundamental frequencies related to the scale is termed the *fundamental frequency series*, whose relations are represented in the *fundamental frequency system*.

One specific type of fundamental frequency system is of particular importance to the discussion of the *seljefløyte*: the so-called *harmonic scale*, denoting a system whose frequencies are integer multiples of that of a given one. The harmonic scale is identical to Groven’s “nature scale” concept.

The term *interval* or *musical interval* refers to the relative distance between two tones, conventionally measured by the ratio of their corresponding fundamental frequencies. The magnitude of an interval is measured and expressed in cyclical cents, $1 \text{ cent} = 1200\sqrt{2}$. The different pitches employed when an instrument is played upon constitute the *tonal material*. The concepts *tonality* and *tonal structure* reflect the basic musical tone relations, particularly tonal material and melodic structure.

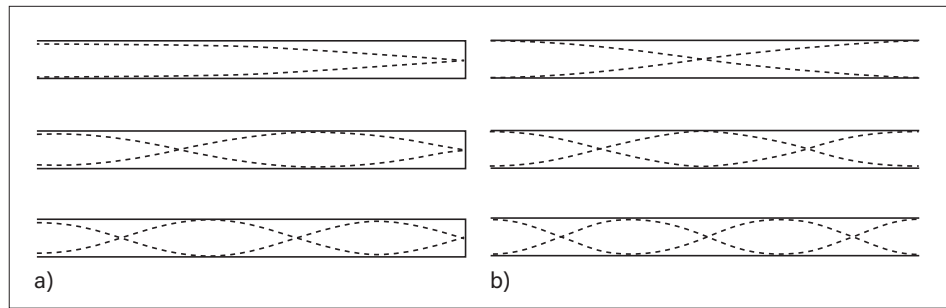
Elementary acoustical theory of longitudinal vibrations in a tube – relevant for the long *seljefløyte* – is discussed in the next section.

The Tube Resonator

First Approximation: Elementary Theory

According to elementary theory, the vibrating states by resonance of an air column enclosed by a cylindrical body can be described with reference to the physical length of the resonator. Longitudinal standing vibrations create a regular pattern, restricted only by the boundary conditions at both ends. At a closed end, there cannot be any movement, hence a velocity node. At an open end, where the air communicates freely with the (infinite) surroundings, a velocity maximum occurs, hence a velocity loop. From these boundary conditions, the lowest vibrating states by resonance can be depicted as shown in Ill. 52.

Ill. 52. Velocity amplitude distribution, standing waves of a cylindrical resonator
a open at one end and closed at the other (closed tube)
b open at both ends (open tube).



At the closed end, there cannot be any longitudinal vibrations (i.e., motion of air parallel to the axis of the cylinder); whereas at the open end, where the air column communicates freely with the outer mass of air, the velocity amplitude has a maximum.⁶¹⁰ Thus, there is always a velocity loop (a space of maximum velocity) at an open end, and a node (a space of zero velocity) at a closed one.

If c denotes the sound velocity in air, the frequency f and wavelength λ of a sound wave will be linked together by the following simple relation:

$$c = f \cdot \lambda, \text{ or } f = \frac{c}{\lambda} \quad (\text{I})$$

The resonance frequencies of a cylindrical tube of length l_{cl} , open at one end and closed at the other one, can now be easily calculated.

First state of resonance: $\lambda_{cl1} = 4l_{cl}$, (I) yields the frequency

$$f_{cl1} = \frac{c}{4l_{cl}}$$

Second state of resonance: $\lambda_{cl2} = \frac{4}{3}l_{cl}$, (I) yields

$$f_{cl2} = \frac{3c}{4l_{cl}} = 3f_{cl1}$$

⁶¹⁰ For references to the pertinent classics of acoustics and music acoustics, see Helmholtz 1877:89f, or Rayleigh 1896:50ff.

Following the same procedure, an n 'th state of resonance corresponds to frequency

$$f_{cln} = \frac{(2n-1)c}{4l_{cl}} = (2n-1)f_{cl1} \quad (\text{II})$$

where n is a positive integer: $n = 1, 2, 3, \dots$

Similarly, the resonance frequencies of a cylindrical tube of length l_{op} , open at both ends, may be calculated.

First state of resonance: $\lambda_{op} = 2l_{op}$, (I) yields the frequency

$$f_{opl} = \frac{c}{2l_{op}}$$

Second state of resonance: $\lambda_{op2} = l_{op}$ (I) yields

$$f_{op2} = \frac{c}{l_{op}} = 2f_{opl}$$

In this case, the frequency of the n 'th state of resonance is

$$f_{on} = \frac{nc}{2l_{on}} = nf_{opl} \quad (\text{III})$$

Now, if the two cylinder-resonators have the same length,

$$l_{cl} = l_{op} = l, \quad (\text{IV})$$

the total series of resonances would be:

First state of resonance (identical to the first state of resonance of the open-closed tube):

$$f_1 = f_{cl1} = \frac{c}{4l} \quad (\text{V})$$

Second state of resonance (identical to the first state of resonance of the open-open tube):

$$f_2 = f_{opl} = \frac{c}{2l} = 2f_1$$

n th state of resonance:

$$f_n = nf_1 \quad (\text{VI})$$

Acoustically speaking, the *seljefløyte* functions as a tube resonator, where different modes of vibration are excited by means of overblowing.⁶¹¹ The mouth is then the invariably open end of the resonator, while the other end – the outlet – is alternatively open and closed. Equations (IV) and (V) show the resonance frequencies in terms of the sound velocity c and the acoustical length l of the resonant tube. This length is approximately the same as the nominal length of the resonator (Ill. 51).

⁶¹¹ The term overblowing refers to a mode of stationary vibration whose fundamental corresponds with one of the higher resonances of the tube.

Thus, as a *first approximation*, the *seljefløyte*'s series of fundamental frequencies corresponds to the harmonic scale. This in turn corresponds to Groven's statements (1927:4,7). The discussion here adheres to his mode of expression; the term "the *n*th tone" or "tone *n*" is used to denote the tone corresponding to the *n*th resonance frequency of the *seljefløyte*, f_n in equation (V). On most flutes, then, the three lowest tones cannot be produced, while the fourth and fifth ones usually sound too weak to be of musical significance.

Thus far, Groven's simplified point of departure has been explained with reference to the most elementary acoustic model based on idealized conditions. The resultant scale in approximate musical notation is shown in Ill. 53. A significant feature of the harmonic scale is that the musical interval between neighboring tones decreases as one ascends the scale.

Ill. 53. The harmonic scale in (approximative) musical notation.

- \ approx. 1/4 tone (about 50 cents) lower than notated.
- \ \ approx. 1/8 tone (about 25 cents) lower than notated.
- / approx. 1/4 tone (about 50 cents) higher than notated.
- o open outlet (unstopped flute)
- closed outlet (stopped flute)



Second Approximation: End Corrections

It has long been known by acousticians and organ-builders that insofar as practical calculations are concerned equation (IV) is unsatisfactory. The approximation is adequate only when the diameter of the tube can be neglected in comparison with the wavelength. This is usually not the case, and some corrections must be introduced by reason of boundary conditions at the open end or ends of the resonator. In fact, the sound field of a flute is nearly the same as if there were a node just outside the mouth. If the outlet is open, a similar imaginary node is located slightly outside the opening. This distance is usually called the *end correction*. By means of a simple mechanical apparatus, Koenig (1881:572ff.) was able to investigate the positions of these imaginary nodes, though the accuracy of his measurements was not sufficient to determine whether the end correction at the outlet of a flute was the same for all normal modes of vibration.

Obviously, in any consideration of the *seljefløyte* the end correction at the mouth must be taken into account, as it operates in all tones that can be produced on the instrument. It has the same value whether the flute is open or closed (Bate 1930:617). The end correction at the outlet affects only the tones played on open flute. This means that the *effective length* of the flute alternates, as for the closed flute it is

$$l_{cl} = l + l_1 \quad (\text{VII})$$

and for the open one it is

$$l_{op} = l + l_1 + l_2 \quad (\text{VIII})$$

where l is the physical length of the resonator tube, l_1 , and l_2 are the end correction at the mouth and the outlet, respectively. As a matter of fact, l_{cl} and l_{op} may be interpreted

as the effective lengths of two equivalent flutes, open and closed respectively. By inserting equations (VII) and (VIII) into equations (II) and (III), the preferred frequencies of the *seljefløyte* may be expressed thus:

$$f_{2n-1} = \frac{(2n-1)c}{4(l+l_1)} \quad (\text{IX})$$

and

$$f_{2n} = \frac{nc}{2(l+l_1+l_2)} \quad (\text{X})$$

where the indices $2n-1$ and $2n$ indicate tone numbers. Equation (VIII) provides the fundamental frequencies of the unequal numbered tones, and equation (IX) those of equal numbered ones. Here, as a second approximation the magnitude of the end corrections, l_1 and l_2 may be taken as independent of the frequency.

Returning to the idealized cases of equations (IV) and (V), the frequency ratio of the neighboring tones yields:

$$\frac{f_{n+1}}{f_n} = \frac{n+1}{n} \quad (\text{XI})$$

From equations (VIII) and (IX), the corrected frequency ratios may now be calculated:

$$\frac{f_{2n}}{f_{2n-1}} = \frac{2n}{2n-1} \cdot \frac{l+l_1}{l+l_1+l_2} \quad \text{or} \quad \frac{f_{2n+1}}{f_{2n}} = \frac{2n+1}{2n} \cdot \frac{l+l_1+l_2}{l+l_1} \quad (\text{XII})$$

Thus, the introduction of the end corrections leads to a correction factor:

$$\delta = \frac{l+l_1+l_2}{l+l_1} \quad (\text{XIII})$$

This represents the deviation from the frequency ratios of the harmonic scale. The magnitude of δ is close to, but slightly greater than 1. Consequently, from equation (XII) one may see that the musical interval between an unequally numbered ($2n-1$) tone and the following higher one ($2n$) is slightly squeezed if compared with idealized conditions. Similarly, the interval between an equally numbered tone ($2n$) and the following higher one ($2n+1$) is increased by the same amount. The overall effect, caused by the end correction at the outlet, is hereafter referred to as the *squeeze-increase effect*, as the distance between neighboring resonance number will be alternatively squeezed and increased correspondingly.

The magnitude of δ depends primarily on the end correction l_2 at the outlet and the physical length l of the tube, the end correction l_1 at the mouth being of minor importance, since $l_1 \ll l$. This simplifies the theoretical considerations because l_2 can easily be computed with considerable accuracy, while the computation of l_1 demands more sophisticated and – in the present context – tedious mathematical calculations. Let the following brief account of these problems suffice.

Rayleigh (1896:202) stated that l_2 may be calculated from the following formula:

$$l_2 = \frac{1}{2} \gamma d_2 \quad (\text{XIV})$$

where d_2 is the diameter of the outlet, 0.6 being the most “probable value” of the factor γ . From experiments, Bate 1930:617 found that l_2 , being independent of both the dimensions of the mouth and of the frequency, corresponded with the value 0.66 for

the constant γ . Other investigators have suggested slightly different empirical values.

In the case of an elliptic outlet, the end correction is equal to the end correction for a circular opening of the same area as that of the elliptic opening multiplied by the factor

$$K(e) = \frac{2}{\pi} F(e) \sqrt{1 - e^2} \quad (\text{XV})$$

where $F(e)$ denotes the complete elliptic function of the first order

$$F(e) = \int_0^{\frac{\pi}{2}} \frac{d\theta}{\sqrt{1 - e^2 \cos^2 \theta}}$$

where e is the eccentricity of the ellipse. The formula (XV), which can be inferred from Helmholtz (1860:7f) and Rayleigh (1896:178), shows that the end correction of an elliptic outlet differs only slightly from that of a circular one of equal area, if the eccentricity is small. Even when the ellipse is so eccentric that the ratio of the axis is 2:1, the end correction is reduced by only about 3 per cent (Rayleigh 1896:180, or Ingerslev & Frobenius 1947:24). As stated by Rayleigh (1877:463), constricting an opening at the end of a flute increases the corresponding end correction. It is well known that the end correction at the mouth of an open flue pipe is considerably greater than that at the open end. Ingerslev and Frobenius (1947:24) arrived at the following formula:

$$l_1 = 1,48 r_1 \frac{S}{s} K(e) \quad (\text{XVI})$$

where

r_1 is the radius of a circular opening of the same area as the mouth,

$S = \frac{\pi}{4} d^2$ is the cross-sectional area of the tube,

$s = w \cdot h$ is the area of the mouth,

$$e = \sqrt{1 - \left(\frac{h}{w}\right)^2},$$

h is the mouth height

w is the mouth width.

This approximate formula appears to be quite simple, its validity being restricted to organ pipes with rectangular mouths. However, the mouth of a *seljefløyte* is crescent-shaped, a good approximation of which is a semicircle. Hence, it follows that

$$w = 2h, \quad s = \frac{\pi}{2} h^2, \quad \text{and} \quad r_1 = \frac{\sqrt{2}}{2} h.$$

Assuming that the semi-circular opening may be replaced by an elliptic one of equal area, it seems reasonable to choose an ellipse whose axes form the ratio

$$\frac{h}{w} = \frac{1}{2}$$

In this case,

$$e = \frac{\sqrt{3}}{2} = 0,87, \quad \text{and} \quad K(e) = 0,97$$

The end correction at the mouth following from (XVI) is then

$$l_1 = 0,51 \frac{d^2}{h} \quad (\text{XVII})$$

The magnitude of the correction factor δ may now be estimated. If the diameter d of the tube is used as reference, the mouth height h of a *seljefløyte* will normally be made within the following limits:

$$\frac{1}{4}d < h < \frac{1}{2}d.$$

From formula (XVI), it then follows that

$$2d > l_1 > d \quad (\text{XVIII})$$

Compared with equation (XIV), this confirms the assertion that l_1 is considerably greater than l_2 . The shape and dimensions of a long *seljefløyte* are usually chosen to make the ratio between the length and the diameter of the resonator as large as possible. Under liberal limitations of scaling, the following limits apply:

$$25d_2 < l < 55d_2 \quad (\text{XIX})$$

or

$$26d_2 < l + l_1 < 57d_2$$

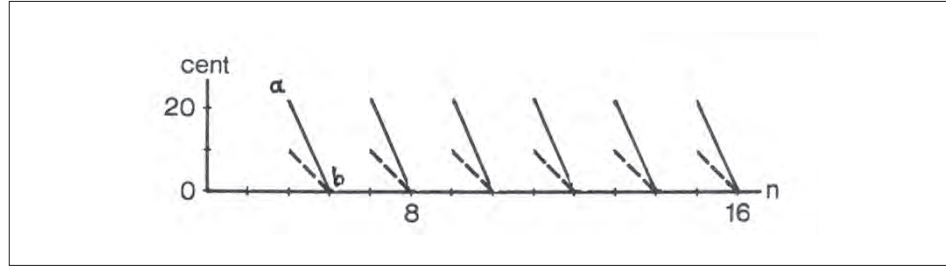
From equations (XIII) and (XIV), it then follows that

$$1,0127 > \delta > 1,0058$$

Converted to cyclical cents, this indicates that the recurrent deviation from the harmonic resonances of closed or open flute, created by the correction factor δ , accounts for roughly 10–22 cents. This squeeze-increase effect is of considerable musical relevance; it means that the interval between any unequal-numbered tone and the neighboring higher equal-numbered one is always considerably squeezed, whereas the interval between an equal-numbered tone and the neighboring higher unequal-numbered tone is increased by the same amount. This is demonstrated in Ill. 54. Each frequency graph fragment, such as the line a-b, conjoins a closed-flute and an open-flute resonance, thus conditioning a tone-couple, such as 7-8, 9-10, 11-12, ... The graph fragment a-b points out resonances no. 7 and 8, and the continuous line of intermediate resonances on a partially closed flute. The overall – though gapped – solid line and broken line show the simplified theoretical frequency graphs for δ values 22 and 10 cents, respectively.

The mathematical treatment above is based upon the assumption that the wavelength is long compared to the dimensions of the opening. Ingerslev and Frobenius (1947) were concerned only with the fundamental resonance of open pipes, for which case they applied equation (XV). At resonances of a higher order, this assumption is violated. An account of the corresponding mathematical implications is beyond the scope of the present study. Reference is made to Sundberg's presentation of the classical acoustic theory of the tube resonator (1966:25–52). The formulas

Ill. 54. Frequency distribution graphs demonstrating the squeeze-increase effect. The gapped full line and broken line show the theoretical frequency graphs for δ values 22 and 10 cents, respectively.



developed by Wolf (1965:245) may also be mentioned. In the following, I concentrate on some relevant empirical investigations.

Third Approximation: Frequency Dependent Corrections

As mentioned in the preceding section, a possible dependence of the end corrections on the frequency was indicated by Koenig (1881:569–576). Anderson and Ostensen (1928:268ff.) made an experimental investigation of the end corrections of cylindrical tubes closed at one end and found that the end correction was not constant but increased slightly with increasing frequency, the maximum value occurring when

$$\frac{\lambda}{d} \approx 6$$

or $f_m \approx \frac{57000}{d[\text{mm}]}$ (XX)

where, λ denotes the wavelength, d the inner diameter of the tube and f_m the frequency of maximum end correction. The velocity of sound is assumed to be $c = 340$ m/s. At frequencies beyond this value, the end correction decreases. Anderson and Ostensen (1928:272) also made another observation: they found that the highest frequency, f_{lim} , for which resonance could be obtained was determined by

$$\frac{\lambda}{d} \approx 4$$

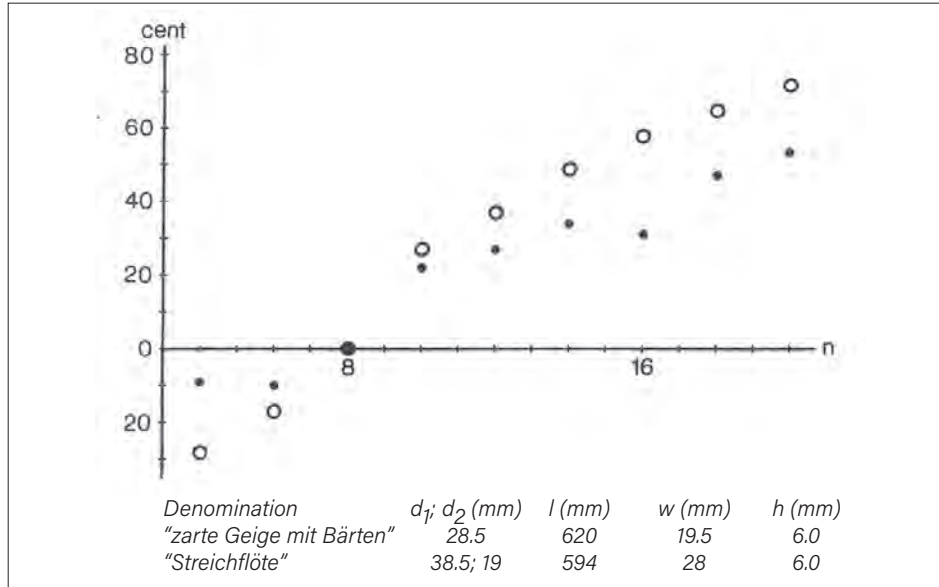
or $f_{\text{lim}} \approx \frac{80000}{d[\text{mm}]}$ (XXI)

Their finding has been confirmed by more recent investigations (Sundberg 1966:89).

Jones (1941:389f), in an experimental study of the end corrections of rectangular organ pipes, found that an increase in the mouth height decreased the end correction, the effect being caused by decreased constriction at the mouth.

Meyer (1960:13–35, 1961:391ff.) investigated experimentally the frequency and attenuation of the first ten resonances of cylindrical tubes and open flue pipes of different sizes. The influence of mouth dimensions was also examined. Meyer found that each resonance occurred at a higher frequency than that of the corresponding harmonic partial referring to fundamental resonance. The frequency deviation increased with increasing order of resonance, indicating a decrease in the end corrections. The overall effect depended on the scaling of the pipe and the dimensions of the mouth; increasing the cross-section or decreasing the area of the mouth caused heightened deviation.

Meyer's observations of two narrow-scaled open organ pipes (1960:21ff.) are demonstrated in Ill. 55. Because of the decrease in end correction at increasing frequency, the interval between adjoining open flute resonances is generally stretched, compared with the harmonic scale. I shall refer to this kind of deviation as the *scale-stretch* effect.



Ill. 55. The scale-stretch effect: deviations from the harmonic scale of the resonance frequencies of two open organ pipes, according to measurements by Meyer (1960:21, 24). The fundamental resonance is omitted, the fourth one has been chosen as reference, and n indicates a seljefløyte's corresponding tone numbers.

Further investigations by Meyer (1962a, 1962b) revealed that inharmonic components may be identified in the stationary spectrum of organ pipes. The components, occurring between the more predominant harmonic components, can be traced back to inharmonic resonances of the pipes:

Eine genaue Prüfung der Frequenzlagen dieser Zwischenmaxima führt zu dem Ergebnis, dass ihre Entstehung auf die Anregung der einzelnen Luftraum-Resonanzen zurückzuführen ist, die bekanntlich nicht streng harmonisch zu einander liegen. Infolgedessen entfernen sie sich mit wachsender Ordnungszahl von den harmonischen Teiltönen.

[...] Bei den engeren Pfeifen [...] ist die Verschiebung nicht so stark und wird daher erst bei etwas höheren Ordnungszahlen sichtbar (1962b:725f).

Meyer also pointed out that the mouth and the outlet of an open pipe influenced the resonances in different ways:

Die seitliche Öffnung der Pfeife am Labium hat also akustisch einen ganz anderen Charakter als das normale Rohrende. Bei diesem verliert im Bereich sehr kleiner Wellenlängen die *Rohrwandung* an Einfluss, bis im Fall der Anpassung ein völlig reflexionsloser Abschluss vorhanden ist, also kein Unterschied mehr zwischen Rohr und Aussenraum besteht. Im Gegensatz dazu ist es am Labium die Pfeifenöffnung, deren Bedeutung mit wachsender Frequenz abnimmt, weil sie sich seitlich befindet. Infolgedessen wird die den Rohquerschnitt abdeckend Kernplatte

allein für die Art des Rohrabschlusses bestimmt, so dass das untere Pfeifenende bei hohen Frequenzen schallhart wird (1961:392).

The effect may not be especially important in the case of the *seljefløyte*, but it indicates that the block and mouth design may influence the resonance frequency series. This matter is examined later, in the section “Subtle Individuality: Natural Variation and Unpredictability.”

The calculations and deliberations presented above are based upon the assumption that the velocity of sound (c) remains constant. However, this is only approximately correct, since c depends not only on the diameter and wall properties of the tube, but also on other factors, such as temperature.

Phenomenology of Overblown Flutes

The playing technique of overblown flutes is usually focused on breathing control to trigger one specific resonance among a series of possible resonances, i.e., to hit the intended preferred frequency. This focus on the excitation process puts emphasis on the onset transient. In duct flutes, the sound vibration is triggered and maintained by the subtle interaction of the air stream, the upper lip, and the resonator. Several theories for this have been set forth, which – slightly simplified – may be regarded as representing two principally different approaches to the problem. One – referring to the *air-reed* model – is focused on interaction between the tube resonances and the vibrating airflow that escapes through the flue, whereas the other – referring to the *edge-tone* model – is focused on interaction between the vibration governed by the sharp edge of the upper lip and the tube resonances.

For a long time, these approaches to the tone producing mechanism in flutes have been a source of discord among acousticians. Cavaillé-Coll (1860:178) is credited with the earliest published presentation of the air-reed model. He asserted that when air escaped through the flue, a free aerial reed – *anche libre aérienne* – arose, which was the originator of the sound. His assertion was adopted and subsequently formulated by Helmholtz, as follows (also cf. 1877:394f):

In order to understand the action of this process, we must remember that when air is blown out of such a slit as that which lies below the lip of the pipe, it breaks through the air which lies at rest in front of the slit in a thin sheet like a blade or lamina, and hence at first does not draw any sensible part of that air into its own motion. It is not till it reaches a distance of some centimeters that the outpouring sheet splits up into eddies or vortices, which effect a mixture of the air at rest and the air in motion. [...] Now the blade-shaped sheet of air at the mouth of the organ pipe is wafted to one side or the other by every stream of air which touches its surface [...] The consequence is that when the oscillation of the mass of air in the pipe causes the air to enter through the ends of the pipe, the blade-shaped stream of air arising from the mouth is also inclined inwards, and drives its whole mass of air into the pipe. During the opposite phase of vibration on the other hand, when the air

leaves the ends of the pipe, the whole mass of this blade of air is driven outwards. Hence it happens that exactly at the times when the air in the pipe is most condensed, more air still is driven in from the bellows, whence the condensation [...] of the air is increased, while at the periods of rarefaction in the pipe the wind of the bellows pours its mass of air into the open space in front of the pipe. (1877:91f)

A detailed verbal description of the air-reed theory can be found in an article by Smith (1874). The theory has been developed and investigated in several ways. Ising (1966), in an experimental approach to the mechanism of tone production in flue pipes, demonstrated that Helmholtz's model gave a correct description of the stationary state of vibration. Also, the influence of the velocity of the airflow through the flue on the fundamental frequency of a closed pipe, when blown in the normal manner, was also investigated by Bechert (1965). He made hydrodynamic calculations, assuming that the wedge-shaped, turbulent airflow from the flue is brought to periodic oscillations by interaction with the sound field arising in the mouth from excitation of the pipe's resonance frequencies. Bechert's paper (1964) (which I have not been able to examine), evidently shows that the results of those calculations were in good qualitative correspondence with experimental observations. According to his theoretical model, overblowing could be explained as due to "dem Auftreten selbstendig angefachter Oberwellenschwingungen des Resonators." It also explained the slight increase in frequency with increasing velocity of the airflow through the flue. Both Ising's and Bechert's views have been accepted by, among others, Cremer 1965, who arrived at a formula in which the fundamental frequency of an organ pipe blown in the normal manner is stated in terms of the velocity of the airflow through the flue. Sundberg (1966:160), too, has adopted the Helmholtz-Bechert mode of explaining the flute's mechanism of operation.

The edge-tone concept may be considered a by-product of investigations into the influence of blowing pressure upon the sound spectra emitted from flue pipes. Rayleigh found through experimentation that the fundamental frequency of an open flue pipe, when blown in the normal manner, was higher than the preferred frequency of the pipe considered as a tube resonator. This was confirmed by measurements taken by Boner (1938:40), while Jones (1941:394), from investigations on a dozen open wood pipes, concluded that the fundamental frequency of a pipe, when blown, was not always higher than the same pipe's fundamental resonance frequency. Whether the frequency is higher or lower may depend on voicing. However, such small frequency variations have not necessitated the introduction of the edge-tone concept to explain the behavior of flue pipes. The primary reason has been the phenomenon generally known as *overblowing*. Before I turn to a discussion of that phenomenon, a brief explanation of what is meant by the term *edge tone* would appear necessary.

A current of air issuing from a slit or similar orifice may give rise to a faint sound. If the stream of air strikes a sharp edge, it will be transformed into a turbulent flow associated with a characteristic vortex pattern. The production of vortices will cause an audible, periodic sound vibration, which is known as the edge tone. The easiest way of producing an edge tone is to place a wedge symmetrically in the air stream issuing from a narrow slit. The simplest formula for the edge-tone frequency is then

$$f_e = C \frac{v}{h_e} \quad (\text{XXII})$$

where v is the velocity of the air current, h_e the distance between the slit and the edge, and C a characteristic constant. This constant was determined by Richardson (1931:402), who investigated the influences exerted on edge-tone frequency by the velocity of the air stream, the distance from the slit to the edge, and the width and form of the slit. His experimental observations were explained in terms of the hydrodynamics of a viscous, non-compressible fluid. Some years later, Brown (1937a), in an experimental investigation of edge tones, found that four different stages of stable vortex formation occurred when the velocity of the jet was extended from the lowest possible to those in the neighborhood to the Reynolds critical velocity in the orifice. He derived the following empirical formula for the edge-tone frequency (Brown 1937a:501):

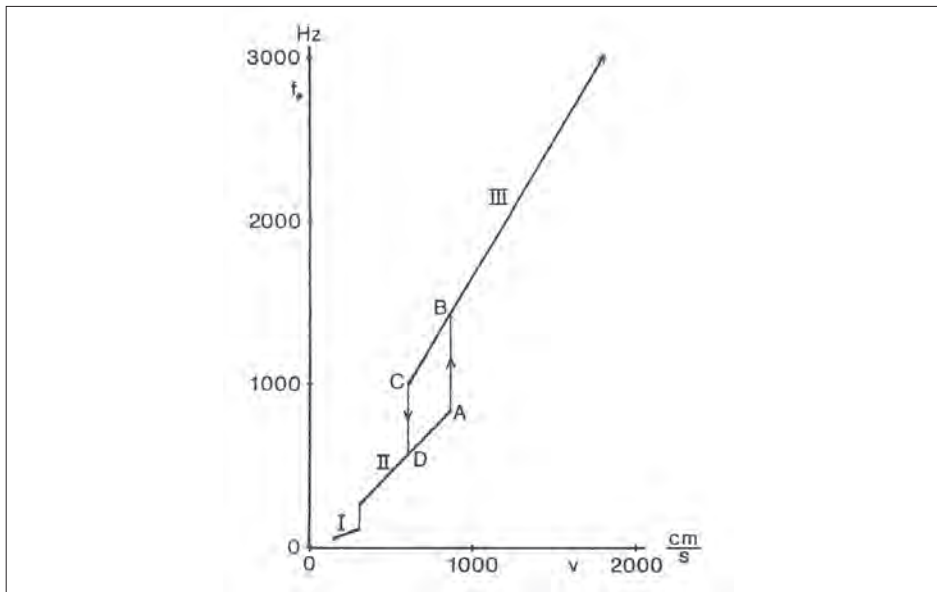
$$f_e = 0,466 j(v - 40) \left(\frac{1}{h_e} - 0,07 \right) \quad (\text{XXIII})$$

where v (cm/s) is the mean velocity of the air stream, h_e (cm) the distance from the slit to the edge, and $j = 1; 2,3; 3,8; \text{ and } 5,4$ for the four stages respectively. The formula is assumed valid for a slit of width 1 mm, a wedge of angle 20° , and air temperature at 20 degrees centigrade. In the transition from one stage to another, a jump of frequency occurred. Owing to the values of j , these jumps could not be stated in simple numerical relations, such as octaves. A simplified illustration of this phenomenon, comprising the three lower stages of vortex formation, is shown in Ill. 56. It should be noted that the “*hysteresis effect*,”⁶¹² confined to the path ABCDA, may occur in the velocity range where two different stages of vortex formation are possible. Moreover, Brown (1937a:502ff.) noted that under certain conditions two stages occurred simultaneously, and thus two edge tones of different frequencies were produced. Brown (1937b) also made a theoretical account of his observations. Furthermore, he studied the behavior of a rectangular flue pipe when the air was admitted by slowly increasing pressure and he found that the tones emitted by the pipe were intimately connected with the formation of edge tone. This led him to the following conclusion, that:

edge tones are responsible for the initiation of the vibrations in musical wind instruments of the organ type, and that even the details of the complex initial phenomena can be accounted for adequately. (Brown 1938:13)

Both Mokhtar’s (1938) interpretation and Kühn’s (1939) interpretation of data derived from experiments with flue pipes are consistently founded on the edge-tone concept. Later investigations revealed that an edge-tone system is subjected to significant alterations when coupled to a resonator. For example, Nyborg, Burkhard, and Schilling (1952:304) found that the edge-tone was determined by the fundamental resonance, even if a corresponding vibration state might not function for the edge-tone system by itself. Thus, a resonator exerts a strong influence when coupled with an edge-tone system. This observed susceptibility to local resonators was also stressed by Powell:

⁶¹² I suggest the term *hysteresis*, emphasizing that the model and analysis of the complex of several stages of vortex formation describe an irreversible process similar to other kinds of hysteresis phenomena.



III. 56. Simplified demonstration of the edge-tone "hysteresis effect," (three edge-tone stages). The variation in edge-tone frequency with velocity is according to Brown 1937a: 499f. Note that if, starting at D, the velocity is increased, stage II will suddenly cease and stage III will appear, the frequency jumping from A to B. If the velocity is then reduced gradually, stage III will last until the motion jumps back to stage II, the frequency jumping from C to D.

A similar state of affairs seems to exist in an organ pipe, where the resonant frequency may be much less than the corresponding edge tone value; the effect of the resonator then greatly exceeds that of the sound proceeding directly from the motion at the upper lip of the pipe, so forcing the frequency. However, during the starting process, relatively strong harmonics may be developed which may later diminish. These may arise because their amplification in the stream is greater (being nearer the region of normal sensitivity) so tending to set up these modes, but the building up of the resonance at the fundamental frequency may partially damp these out rather analogously to the jumps of edge tones (1953:242).

Mercer (1951, 1953), in two articles on the tone-producing mechanism in flue pipes, considered that the air-reed theories accounted most convincingly for the maintenance of tone, stating that edge tones were confined only to the initial part of the sound. He also advanced a modified air-reed theory of the operation of the flue pipe (Mercer 1954:238). Meyer, following an investigation of the onset transient in flue pipes, has maintained that the formation of edge-tones play an important role in building up the tone:

Eine Untersuchung der Schneidengeräusche, zu deren Analyse die Pfeifenrohre mit einer lockeren Wattefüllung gedämpft wurden, ergab, dass die Anregungsfunktion aus einem Rauschpegel besteht, aus dem einige Gebiete stärkerer Amplituden wie Resonanzüberhöhungen herausragen. Es handelt sich dabei um die sog. Schneidentöne, welche durch die Spalt-schneiden-Kombination am Pfeifenlabium hervorgerufen werden. Ihre Frequenzlage und Bandbreite hängt von den Abmessungen der Anordnung sowie vom Winddruck ab. Der tiefste Schneidenton entspricht der Folgefrequenz der Luftwirbel, die am Kernspalt abgelöst werden, wenn keine Rückwirkung zum Pfeifenresonator besteht. Im stationären Schwingungszustand geht die Wirbelfolge allerdings auf die Frequenz des Grundtones der Pfeife über, wie sich auf Grund der

Phasenlage der Obertöne in Oktavsieb-Oszillogrammen nachweisen lässt. Dieser Übergang der Wirbel-Folgefrequenz von dem durch die Pfeifenabmessungen gegebenen Wert auf der Grundton des Klanges ist von entscheidender Bedeutung für den Verlauf des Einschwingvorganges, der naturgemäss noch stärkere unharmonische Anteile aufweist als der stationäre Zustand. Messtechnische Untersuchungen bei einer grösseren Anzahl von Pfeifen der verschiedensten offenen Labialregistern ergaben, dass sich diese je nach der Lage des untersten Schneidenton in der Nähe der Grundresonanz liegt (z. B. Nachthorn), fällt er bei der Hauptgruppe der Pfeifen (Prinzipale, Flöten) zwischen die 2. und 3. Resonanz. Bei einer weiteren kleineren Gruppe befindet er sich sogar oberhalb der 3. Resonanz (Streicher). (1960:36ff.)

As pointed out by Sundberg (1966:22), Meyer's method of measuring the edge-tone frequencies is not entirely reliable, as the influence of pipe resonances cannot be eliminated completely by filling up the resonator with loose wadding. The edge tone is still influenced by the open space, which must be left underneath the upper lip. Thus, to a certain degree, Meyer's measurements may be questionable with respect to quantitative reliability. However, in a qualitative sense, his interpretation of the observations seems justified. The essence of Meyer's statement is this: The resonance whose frequency lies nearest that of the lowest edge tone will be excited at an earlier stage of the onset than will other, lower resonances. Consequently, the frequency of the lowest edge tone determines to a great extent which of the resonances will be excited first during the onset transient of the tone. It may also be mentioned that Ingerslev and Frobenius (1947:41f) compared the edge-tone frequency with the lower partials of the sound spectrum, but they were unable to reach any conclusions.

Numerous experimental investigations have shown that not only harmonic partials, but also non-harmonic partials play a considerable role during the onset of sound in organ pipes when normally blown. This was stated by Trendelenburg, Thienhaus, and Franz (1936:61ff.) and confirmed by Nolle and Boner, who tried the effect of overblowing on several flue pipes:

A stopped flute of pitch C, when greatly overblown, sounded the third partial of its normal pitch as a new fundamental. This same tone predominated in the transient state. The steady state was reached in some 0.03 second, a shorter time than is required for the speaking of most normally blown flutes at the new pitch. An open flute of the same normal pitch, when moderately overblown, sounded the third partial prominently during the transient state, but during the steady state sounded the second partial with the fundamental present in small amplitude. When the overblowing of this pipe was increased, it sounded essentially the third partial in both transient and steady states as did the stopped pipe, the speech being likewise much more prompt than for pipes at low pressure. (Nolle and Boner 1941:153f)

The relative importance of different partials in the stationary spectrum is also influenced by the blowing pressure. Mercer showed by experiment that the fundamental remained constant over a considerable range of pressures, while the harmonics increased steadily with increasing pressure:

While there is not a uniform rate of increase, particularly for the higher harmonics, the lower ones [...] increase more steadily. (1965:1f)

Kühn (1939:14ff.) reported that the upper partials gain importance relative to the lower ones with increasing wind pressure. Moreover, from measurements taken on a specially constructed test pipe, he observed that the stationary spectrum was extremely sensitive to small displacements of the edge of the upper lip. The effect could be reduced by increasing the mouth height. On the other hand, increasing the cut-up generally reduced the number and intensity of the harmonics. This was confirmed by Mercer:

Altering the height of the languid edge in relation to the upper lip has a great influence on the tone. If it is high, the harmonics are increased and the initial transient [...] is built up slowly, and vice versa (1954:237).

In a *seljefløyte*, the upper lip is extremely thin and easily movable (Løkberg and Ledang 1984), presumably a contribution to the utterly unstable vibrational patterns of true overblown bark flutes.

Finally, to revert to the edge-tone concept, the effect of overblowing may be illustrated by Mokhtar's simplified model (1938:353) (Ill. 56). Mokhtar's dubious statement that the "underblown edge tone" represents the octave in relation to the "normal edge tone" may be left out of consideration, since the phenomena associated with extremely low blowing pressures (Brown 1938:12) are of minor importance to the proper effect of overblowing, and certainly to the long *seljefløyte* playing technique. Also, from the proportionality between the velocity of the airflow and the square root of the wind pressure, it is realized that the line AB, which by extension would pass through the origin, corresponds with equation (XXII) and not with the more accurate formula (XXIII). This approximation does not impair the validity in a qualitative sense of the following statement by Mokhtar on the effect of overblowing:

When the edge tone is coupled to a column of air as it is in the case of these organ pipes, the actual tones produced are limited to the natural frequencies of the air column. A certain amount of accommodation takes place between pipe and edge tone, but whereas the edge tone may be considerably pulled out of its natural period of vibration in order to secure equality of period, that of the column of air is variable to a very small extent as shown by the small kinks at the ends of the full lines [...] To exemplify the property of coupling, we may suppose the blowing pressure to be continually increased beyond the normal. As V is increased, the natural frequency of the edge tone rises beyond the fundamental of the pipe, but the latter being the stronger partner in the couple, succeeds in forcing its own period upon the edge tone until the natural frequency of the edge tone if isolated would be nearer to the first overtone of the pipe than the fundamental. Up to this moment, the frequency of the coupled system has remained in neighborhood of the fundamental of the pipe, but now a jump occurs to the overtone, both the edge tone and the pipe tone rapidly picking up the new frequency which they retain with slight alteration until a jump to the next overtone takes place. (1938:353f)

The essence of Mokhtar's statement might be broadly adapted thus: The effect of overblowing appears to be related to the edge-tone phenomenon. The dependence of the edge-tone frequency on the blowing pressure accounts for the frequency jumps from one tube resonance to another. Such effects may occur within any range of wind pressures, at which two different stages of resonance are possible (Ill. 57). In this region, both stages of resonance may occur simultaneously. (This process is commented in the section "Open/Closed Flute – the Squeeze-Increase Effect".)

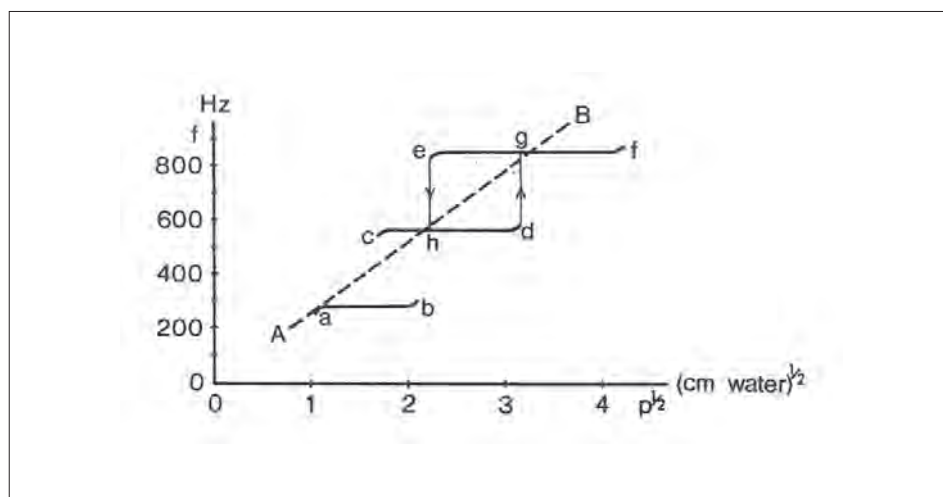
Little has been done to collect quantitative data supporting the seeming coherence between the edge-tone phenomenon and the effect of overblowing. Some writers (e. g. Sundberg 1966:11) regard the edge-tone theory as incorrect and obsolete. This seems reasonable as far as the stationary part of the sound is considered; the laws governing the edge-tone producing mechanism cannot be assumed unaltered when a resonator is coupled to the system. During the first part of the complex initial transitory state, though, edge-tone phenomena seem to be of importance in conditioning the ensuing stationary state of vibration. In this manner, it is intimately connected with the generation of overblown tones.

Most acousticians explain flute-tone production by focusing on the air-reed models and disregarding the predictions of edge-tone theory. To resolve this apparent antagonism, it is of fundamental importance to distinguish between the onset transient and the stationary vibration. The influence of the edge-tone system is strictly limited to the very beginning (the excitation process) of the onset transient, whereas the air-reed – instigating the preferred frequencies of the air resonator – governs the sustained, stationary vibration.

Qualitatively, the basic effect of overblowing appears relatively simple, though fundamental. On the *seljefløyte*, apart from fingering, the blowing pressure is the only physical variable controlled by the player. Merely by changing the blowing pressure, the player determines the pitch by selecting the specific resonance that is to act as the fundamental. Arthur Benade commented on this process as follows:

The player of the Seljefløyta gains his fluency from the fact that the vigor of his blowing need be adjusted *only into a general region* appropriate to the pipe mode he wishes to crown as king. Transitions from note to note are then easily made via the effects of any sudden disturbance of the air or of the air column. For transitions between

Ill. 57. Simplified demonstration of the overblowing hysteresis effect: The effect of overblowing (f = frequency, p = wind pressure) is shown according to Mokhtar (1938:353). The natural edge tone is represented by the broken line AB, while the full lines ab, cd, and ef represent the three lowest stages of resonance. If, starting at h, the wind pressure is increased, the second stage of resonance will last until a frequency jump $d \rightarrow g$ occurs. Then, by reducing the wind pressure, the third stage of resonance lasts until a frequency jump $e \rightarrow h$ in the opposite direction takes place.



neighboring modes, the blowing velocity is set before the transitions near to the high end of the lower modes working region if a upward transition is desired, while a downward transition is favored if he blows in the low velocity part of the original range. (Letter dated October 25, 1984, p.7f.)

The interaction between different possible edge-tone modes and the various tube resonances during the onset is subtle, complex, and theoretically challenging. In the case of a bark flute – short-lived, roughly handmade from a natural raw material – the individual stamp of each specimen adds to the general acoustic complexity and variability. However, qualitatively, a phenomenology of the long, overblown *seljefløyte* might tentatively be stated thus: *Each tone is triggered by the complex interaction between a cluster of edge-tone modes and available tube resonances. By subtle adjustment of blowing pressure, and sensitive handgrip around the bark tube to control the shape of the mouth, the player governs the initial onset process in a way that facilitates the intended tone.* Thus, an utterly unstable initial transient may successfully end with the intended stationary vibration – or, otherwise, with a truly aleatoric sound event. This is what makes the long *seljefløyte* such a challenging – and fascinating – instrument.

Sound-Formative Parameters

An essential quality of the long *seljefløyte* is the uniqueness – and ambiguity – of the perceived sound. Most often, one can sense a recognizable melody, a string of single, distinct pitches of characteristic timbre and tonality. At times, one can hear a kind of tone cluster, with or without one conspicuous pitch. Occasionally, one can hear several simultaneously sounding pitches. With some flutes, the persistence of one or more prominent resonances produces a drone effect: one can dimly perceive a weak, low-pitched, drone-like resonance. No clear conceptual or perceptual distinction can be drawn between all these interrelated phenomena. In fact, the sounding universe of the long *seljefløyte* defies description based solely on established concepts such as ‘tone’ and ‘harmony’, which lose significance as their boundaries become blurred. Thus, perceptually significant features of *seljefløyte* music challenge conventional Western music theory, which could force performed *seljefløyte* music into a conceptual, terminological, and notational straitjacket. In terms of established terminology, this intriguing feature calls forth a conceptual terra incognita. For years, while trying to follow up Groven’s (1927) ideas of *seljefløyte* music sound I often felt frustrated, until finally I realized that the sound of the instrument exhibits a sonic universe with its own degree of freedom, which can hardly be accounted for or adequately described by reference to conventional music terminology alone.

After all, though, the resonance frequency series of the open and closed flute constitutes a basic sonic core of the long *seljefløyte*. In the section “The Tube Resonator” I have already demonstrated how, theoretically, the resonance frequencies of a *seljefløyte* – restricted to alternation between open and closed outlet – deviate from the frequency system of the harmonic scale. In the following section, resonance frequency series of overblown bark flutes and metal test flutes of similar construction are investigated with reference to experimental work, addressing to what extent the

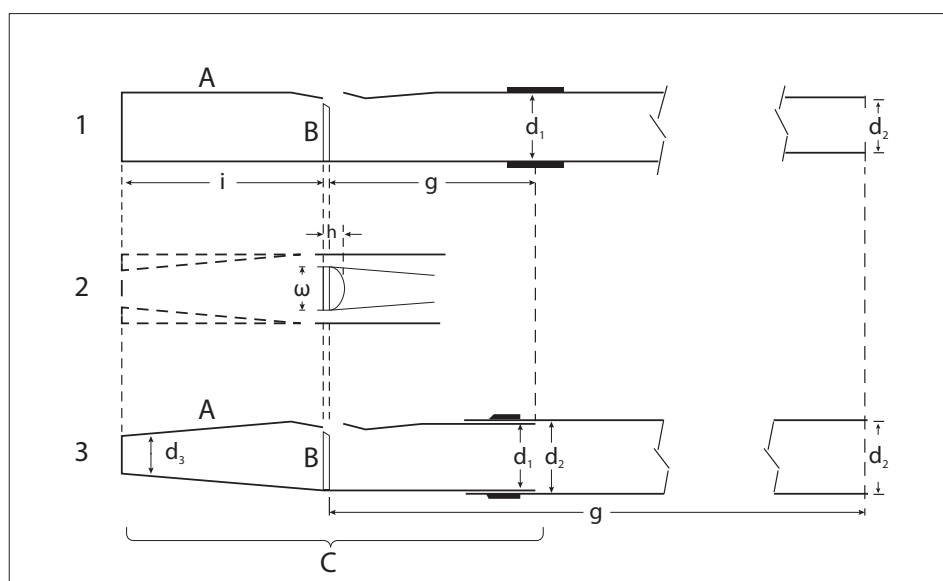
long *seljefløyte* is influenced by the squeeze-increase effect, and the scale-stretch effect. In addition, possible dependence of the scale on a flute's geometrical design and dimensions are examined, as well as possible influence exerted by the player on each resonance frequency.

The empirical investigation includes measurements of self-made long *seljefløyte* specimens of varying design and dimensions (S1-16), made and played by me, as well as flutes made and played by Eivind Groven (SG1-2) and Jostein Nytrøen (SN1-2), and a flute played by Marie Vøllestad (SV) (cf. Table 1). Details of the specimens are shown in Ill. 51. In order to permit systematic study of possible connections between design and sonic characteristics, I have also included an investigation of specially constructed metal flutes (M1-13), made at Jørgensens Orgelfabrikk, Oslo, according to my drawings and specifications. The construction of the metal flutes is shown in Ill. 58 and the dimensions are listed in Table. 2. The flutes may be described as extremely narrow-scaled flue pipes (cf. Ill. 59). In order to permit playing in the long *seljefløyte* manner, the foot of each metal flute is closed at the end and equipped with a circular blowhole (diameter about 5 mm) on the sidewall.

Several experimental procedures were used. The fundamental frequencies (i.e., the series of preferred frequencies for each flute specimen) were measured in one of the three following ways.

Procedure 1, direct measurement: Each tone, played sustainably (more than one second duration), was picked up by a microphone placed near the mouth, amplified, and fed to an electronic counter (Beckman universal eput and timer, Model 5230 hp), permitting the number of vibrations per second to be measured directly. All the metal flutes and some of my own *seljefløyter* were examined according to this procedure. I played the flutes and performed the measurements in my office. Each tone was played between four and more than twelve times, its frequency being measured each time.

Procedure 2, direct measurement, based on tape recordings: The tone series of a flute was played three or four times (sustained tones of more than one second's duration), and recorded on a magnetic tape recorder (Uher 4000 Report-L or Tandberg 11). Several frequency measurements of each recorded sound (played back on the same recorder) were subsequently carried out according to Procedure 1.



Ill. 58. Metal flutes, construction.
1: Flutes M1, M2, ... M11,
2: Front view of mouth and basis,
3: Flutes M12 and M13,
A: Foot, B: Languid, C: Basis.



III. 59. Metal flutes and separate tubes.
(Photo: Toni Toneff.)

Procedure 3, indirect measurement based on tape recordings: Tape recordings were made of the tone series of each flute, played three or four times. During playback, the tape recorder and an audio frequency generator were connected to an oscilloscope, so that the beam's horizontal and vertical deflection were caused by signals from the recorder and generator, respectively. Thus, the flute's fundamental frequency could be compared with the frequency of the sine tone from the generator. The frequency of the sine tone was adjusted until it equaled that of the *seljefløyte* to be measured; only then would the movements of the (elliptic) Lissajou-figure cease. Then, the sine tone frequency was measured by means of the counter. Several frequency measurements of each of the recorded sound were carried out following this procedure.

Procedures 2 and 3 were necessitated by the fact that the frequency counter was not always readily available. Indirect measurements were employed only if the recorded tones were of shorter duration than one second or if the *seljefløyte* tones were disturbed by too much noise to permit direct measurement. The accuracy of frequency measurements turned out to be practically independent of the experimental procedure. Each reading entailed an error of ± 1 Hz. Thus, the fundamental frequency of each tone could be determined quite accurately.

The tactile sensing of the bark tube of a self-made *seljefløyte* is a distinctive experience – one might easily wonder whether the pliable, smooth materiality is reflected in the sound one way or the other. The bark is soft, fragile, and easily splits lengthwise, parallel to the fibers. On the other hand it is also tough, flexible, and stands out from the tube of flutes made from rigid, stable solids. Does this unique structure influence the sound?

The effect of wall material on the sound of flue pipes has been studied by several researchers. Reference may be made to Boner and Newman (1940:83ff.) who surveyed the history of the problem. Some relevant findings reported in various publications are presented in the following.

Savart (1825:73ff.) found that the tone emitted by flutes with parchment walls was more agreeable and had lower frequency than the tone obtained from similar flutes made from harder material. On one such parchment flute, the fundamental frequency could be continually reduced by gradually diminishing the tension and stiffness of the walls. This was confirmed by observations made by Liskovius (1842:12).

While keeping the structure and material at the mouth of an organ pipe unaltered, Boner and Newman measured the steady-state spectrum emitted when cylinders made from different materials were joined to the lower portion, all other factors being kept constant. They reached the following conclusion:

the material of the cylinder above the upper lip of a flue pipe has very little effect on the steady-state spectrum of the pipe. (1940:89)

Even a pipe with a cylinder made from ordinary wrapping paper imbued with shellac emitted “a good diapason tone” (idem). However, the physical length of the paper pipe was shorter than those of metal pipes tuned to give the same fundamental frequency (cf. Sundberg 1966:69).

In view of the dimensions and scaling of a *seljefløyte*, its wall – notwithstanding the general flexibility of a fresh willow bark tube – is probably sturdier than that of the paper flue pipe described by Boner and Newman.

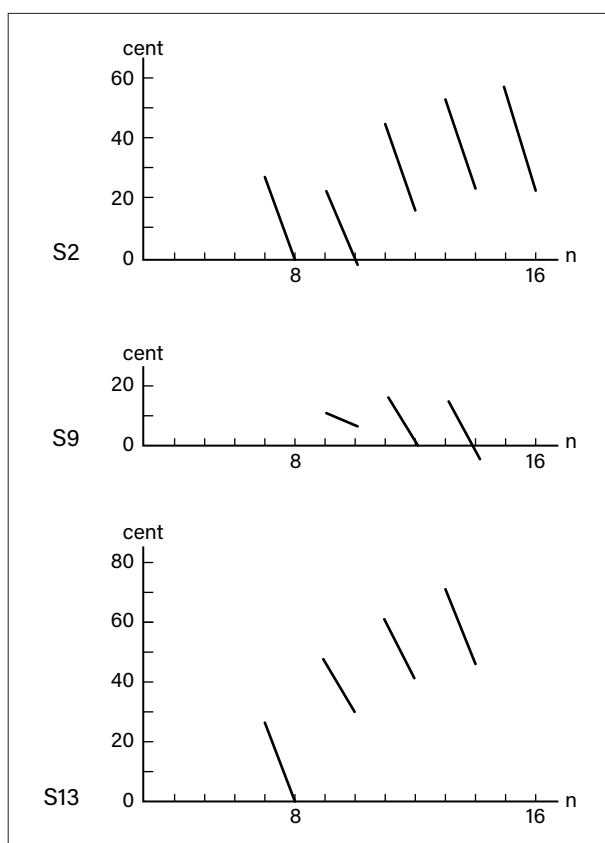
Presumably, the sound of a *seljefløyte* is conditioned by the smooth and slightly uneven inner surface of the resonator tube more than by the wall material per se.

A seemingly unnoticed detail in bark-flute making is the exact shape of the soundhole. It cannot be disregarded that due to its design, the upper lip, being extremely thin and easily deflected, may be put into diminutive vibrations during playing (Løkberg & Ledang 1984). Such vibrations of the lip – too tiny to be visible – may affect the behavior of bark flutes but, if so, hardly enough to exert any noticeable influence on the stationary sound output. By contrast, extremely small leaks, invisible to the naked eye, may be devastating for an otherwise perfect long *seljefløyte*. Such invisible defects can be responsible for the complete absence of a single resonance (sometimes several related ones) in an otherwise good-sounding flute, probably due to an invisible fissure in the bark tube, located critically nearby one or more related velocity nodes of the vibrating air column. In some cases, this may be remedied by immersing the flute in water, to let it swell, or by holding the flute in a way that exerts a reasonable amount of pressure on critical points in the vicinity of the sound hole.

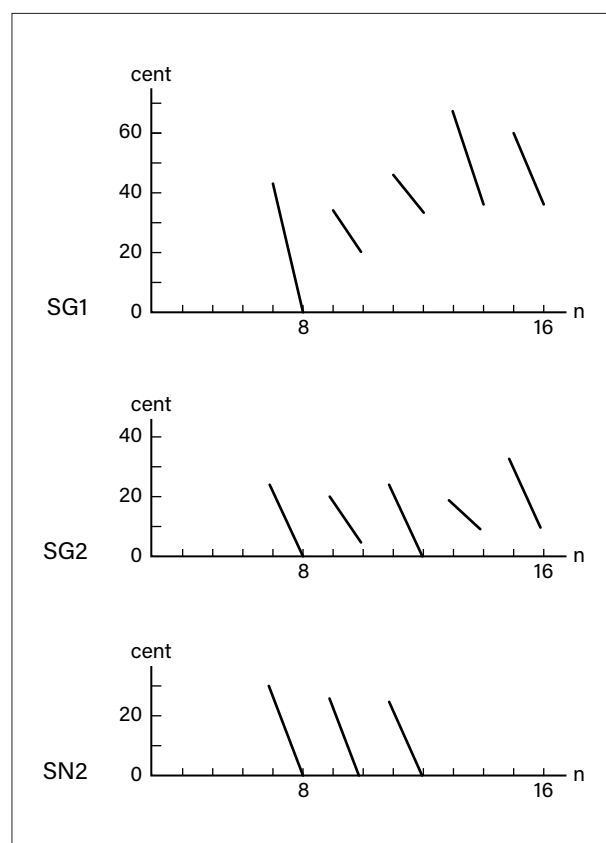
The Fundamental Frequency System

From the deliberations in section “The Tube Resonator,” which is based on relevant acoustic research on flutes and flue pipes, it follows that the fundamental frequency distribution of the long *seljefløyte* is supposedly related to – but not identical to – that of the harmonic series. The intervals of the harmonic scale are shown in approximate musical notation in Ill. 53. They are represented numerically in Table 5.

To facilitate comparison of frequency distribution graphs, the fundamental frequency series of the examined flutes have been converted to cyclical cents. The absolute pitches of any *seljefløyte* are functionally related to the length of the tube, and it is convenient to use the fundamental frequency of tone number 8, f_8 , as the common reference, in relation to which the cent values of a specific flute’s preferred frequency series are calculated. This choice is pragmatic: tone 8 can usually be sounded, and in the great majority of *seljefløyte* tunes it also functions as tonal center. Thus, the intervals between f_8 and the other fundamental frequencies are of particular significance, whereas the exact frequency f_8 is of only secondary importance. Frequency distribution graphs of the examined flutes are shown in Ill. 60–63, 65–67,



Ill. 60. Frequency distribution graphs, flutes S2, S9, and S13.



Ill. 61. Frequency distribution graphs, flutes made and played by Eivind Groven (SG1, SG2) and Jostein Nytrøen (SN2).

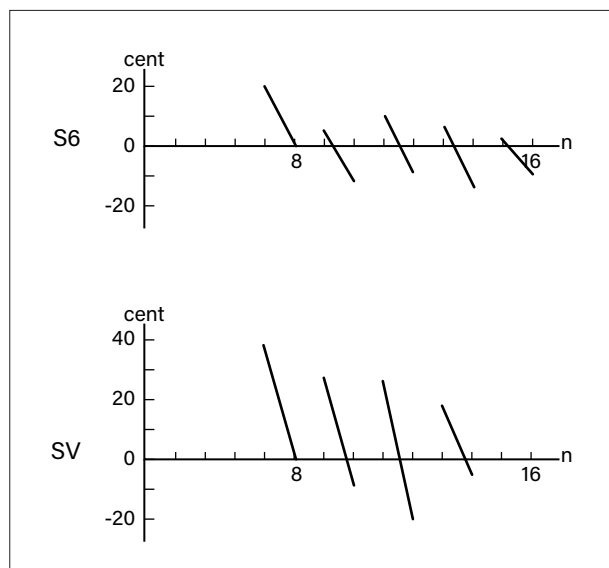
69, 70, 72, and 73. Additionally, graphs relating to an African overblown flute that was examined by Cooke (1971) are included (Ill. 74 and 78) for the sake of comparison.

The frequency distribution graphs of three *seljefløyter* (Ill. 60) may exemplify normal diversity of scale patterns. The squeeze-increase effect varies around 20 to 35 cents in S2 and S13, and about 5 to 20 cents in S9. Flute S9 graph shows no or slightly reversed scale-stretch effect (i. e. scale-shrink effect), implying an unusual fluctuation of this effect (comp. Ill. 66 with comments). S2 and S13 display scale-stretch effects from 20 to more than 40 cents.

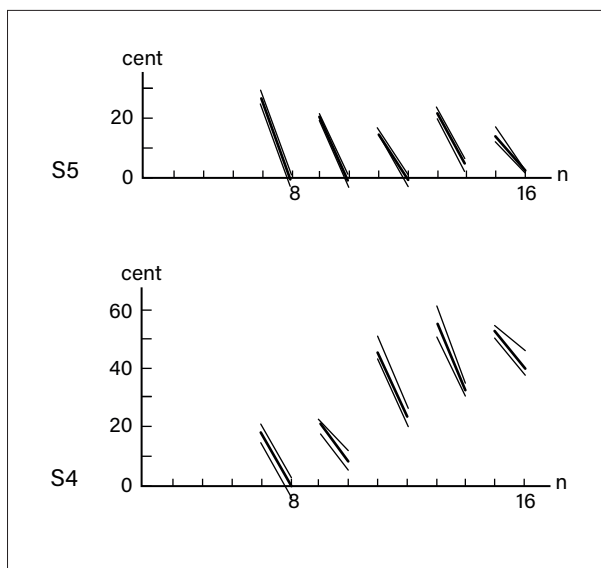
Tonal qualities of flutes made and played by traditional players are shown in Ill. 61. Groven's flute SG1 stands out, with a marked scale-stretch, as well as a strong squeeze-increase effect, whereas SG2 displays a low scale-stretch effect and moderate squeeze-increase effect. Nytrøen's flute, SN2, displays an utmost regular, considerable squeeze-increase effect and no scale-stretch effect.

In Ill. 62, the S6 graph shows a feeble reversed scale-stretch effect (hereafter called *scale-shrink* effect) and moderate squeeze-increase effect. On the other hand, the SV graph displays a strong squeeze-increase effect and more pronounced scale-shrink effect. It is conspicuous that the few cases of scale-shrink effect appear combined with strong squeeze-increase effect. Presumably both effects are due to the frequency dependence of the end corrections.

In general, the frequency stability of a new bark flute is high. Frequency graphs based on measurements taken during the first day on two newly made flutes are shown in Ill. 63. The maximum frequency variation was about ± 3 Hz in the lower part of the range (around 1000 Hz) and ± 6 Hz in the upper part



III. 62. Frequency distribution graph, flute S6 and SV.



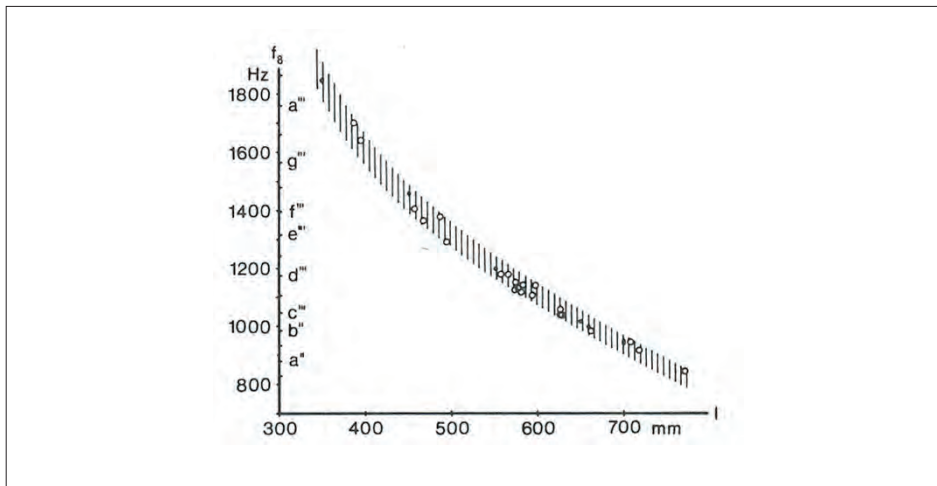
III. 63. First-day stability of resonances in flutes S4 and S5. The average graph is represented by thick line, whereas the upper and lower narrow lines show the maximal and minimal measurements, respectively.

(around 2000 Hz), i.e., it was within ± 5 cents throughout the total range. Such tolerances do not affect the general squeeze-increase or octave-deviation effects.

For the sake of completeness, one reservation should be mentioned. When a sustained tone is played, the fundamental frequency is liable to decrease after several seconds, occasionally amounting to 40 cents or even more. This was confirmed by means of a signal analyzer (for a description of this equipment, see Ledang 1967.) The corresponding lowering of pitch can be readily discerned by ear. This phenomenon probably is caused by a natural tendency to decrease the blowing pressure slowly as the player's lungs are gradually exhausted. It has no musical relevance though since the traditional repertoire do not include long tones long enough to bring forth this effect. Understandably, Groven (1927:7) did not comment on phenomena of this kind but maintained that each fundamental frequency of the *seljefløyte* in general was insensitive to variations in the blowing pressure, the only possible effect being frequency jumps to adherent preferred frequencies. Apparently, he also did not notice that the pitch of a tone can be "driven," meaning that by increasing the blowing pressure, the player is able to increase the fundamental frequency considerably, sometimes as much as 40 cents.

Such extreme deviations are possible, only to the most stable states of resonance and only after the mode of vibration has been firmly established. This means that during normal playing no tone is sounded long enough for the phenomenon to occur, and therefore the phenomenon does not have any musical significance when it comes to the traditional repertoire. Such extreme deviations from stable states of vibration refer to laboratory conditions, and it takes an experienced player to produce them. To hit each tone during regular playing, one must consistently adjust the blowing pressure to further a quick accommodation of each vibration state. Considering these factors, we may safely suppose that only tiny frequency deviations are possible in traditional *seljefløyte* music.

It is common knowledge among *seljefløyte* makers/players that the pitch of a flute depends on flute length, but opinions vary with regard to what length is preferable.



Ill. 64. The fundamental frequency of tone 8 plotted against the nominal resonator length of a seljefløyte. Measurements on bark and metal flutes are indicated by circles and dots respectively. The shaded area signifies the tolerance of f_8 owing to variation of additional factors – such as d_1 , d_2 , h , w , and α – which, for a given l , is estimated as ± 60 cents as an average.

Groven⁶¹³ maintained that in general the flute should be made as long as possible, its length being limited only by the length of the player's arm and the restrictions imposed by the fingering technique. In a similar vein, Vøllestad⁶¹⁴ stated that “a long seljefløyte sounds deeper, fuller and not so acute as a short one.” She expressed the goal as being to achieve a full, harmonious flute sound.

M. & J. Nytrøen⁶¹⁵ made their flutes according to quite another criterion. They were primarily concerned with the facility of playing more than a subjective judgement of the quality of tone. Having concluded that seljefløyter approximately 40 cm in length offered the best possibilities for rapid melodic passages, they usually designed their flutes accordingly.

Such differences in opinions and value judgments are consistent with the dissimilarity between Groven's and Vøllestad's flutes (SG1, SG2, and SV) as compared to those of J. Nytrøen (SN1, SN2) with respect to the tube lengths (Table 1). Another factor is also worth mention: while Groven and Vøllestad employed the range from tone numbers 6 to 16, the melodies played by M. & J. Nytrøen encompassed the smaller range from 6 to 12, or occasionally with 13 and 5 as additional pitches. Accordingly, in actual performance, the Nytrøens do not use tones 14, 15, and 16, which would sound rather piercing on their relatively short flutes.

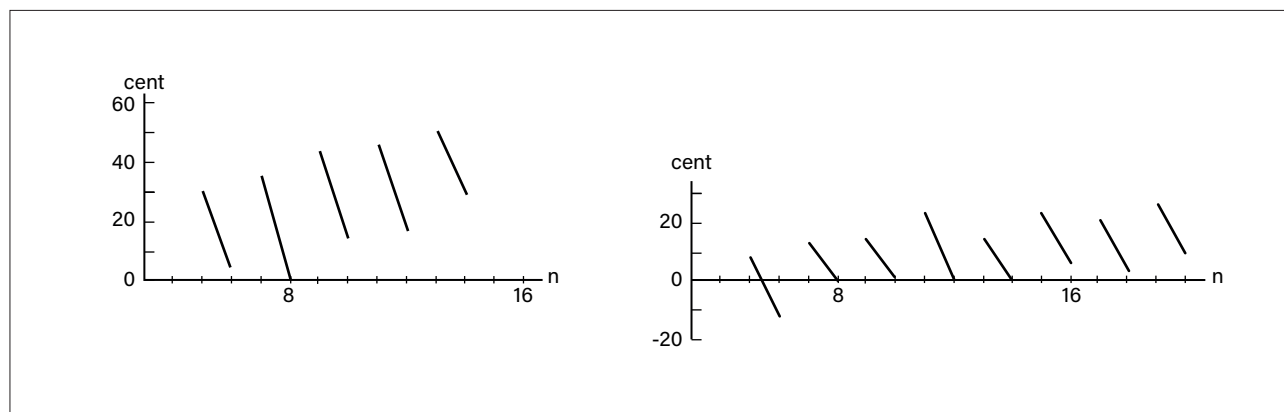
The dependence of absolute pitch on the length of a flute is shown in Ill. 64. The illustration shows that tone 8 ascends approximately through an octave from a'' to a''' when the resonator length l is decreased from 70 to 35 cm.

Simple empirical tests performed on the set of metal flutes were carried out to investigate the possible influence of flute design on the tuning. The dependence of the available range of overblown tones on the geometry of the resonator was addressed by means of a series of flutes with different lengths. On a common basis (Ill. 58 and 59), cylindrical metal tubes of the same diameter but differing lengths were alternately joined by means of self-adhesive elastic tape. Thus, the only factor altered was the flute length (see Table 2). The importance of keeping all other physical variables constant in this type of experiment is obvious (e.g., Boner and Newman 1940:85). The frequency distribution graphs from the tests are shown in Ill. 65, and they demonstrate that

613 Conversations, late 1960s, Oslo.

614 Interview June 6, 1966.

615 Interview June 3, 1984, Tolga.

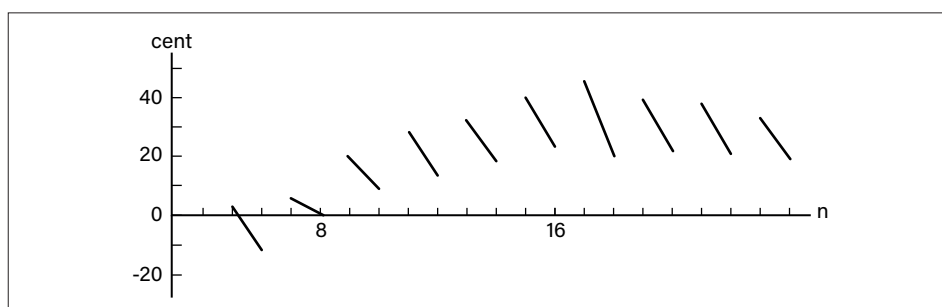


Ill. 65. Frequency distribution graphs, cylindrical metal flutes, diameter 15 mm. M1 (length 35 cm) and M4 (length 65 cm).

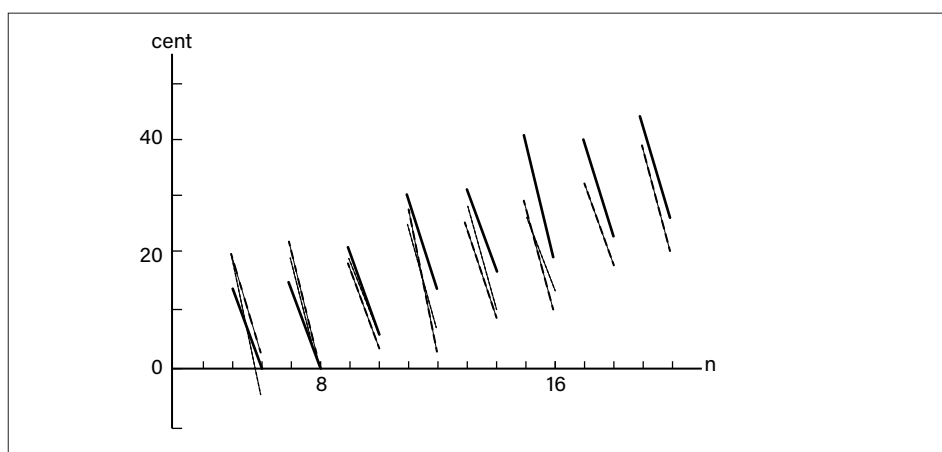
increasing length (keeping diameter and other measures constant) causes the upper part of the range to become extended, whereas the squeeze-increase effect and the scale-stretch effect is reduced.

In Ill. 66, the frequency distribution graph of a long and conical metal flute – slender and with a relatively narrow outlet – displays an interesting scale pattern. It shows both a scale-stretch effect in the lower range (resonances no. 6 to 16) and a nascent scale-shrink effect in the higher range (resonances no. 18-24), with a domain of termination approximately between resonances no. 16 and 18. This phenomenon does not occur frequently in bark flutes; presumably because usually, the scale range is not sufficiently wide. Nevertheless, the domain of termination is occasionally discernible, e.g., in flute S9 (Ill. 60) and SG1 (Ill. 61).

Ill. 66. Frequency distribution graph, metal flute M12, 70 cm long and conical ($d1 = 15$ mm, $d2 = 13.5$ mm).



Ill. 67. Frequency distribution graphs. Flutes M8 ($h = 4.5$ mm) full line, M9 ($h = 5.5$ mm) dotted line, and M10 ($h = 7$ mm) broken line.



A small, but systematic dependence of resonances on mouth height (h) is demonstrated in Ill. 67, which shows a comparison of flutes M8, M9 and M10 – all of which have exactly equal dimensions except for their mouth height (cf. Table 2). Broadly speaking, the frequency graphs adhere to the usual saw-tooth design, indicating the measurable but hardly audible effect of increasing the mouth height from 4.5 to 5.5 mm, and then to 7.0 mm. These substantial changes in mouth height do not significantly alter the overall squeeze-increase effect or scale-stretch effect.

Open/Closed Flute – the Squeeze-Increase Effect

In the section “The Tube Resonator” I have shown, with equations (XII), (XIII) and (XIV), that the deviations from the harmonic scale caused by the squeeze-increase effect may be expressed in terms of a correction factor δ , amounting to

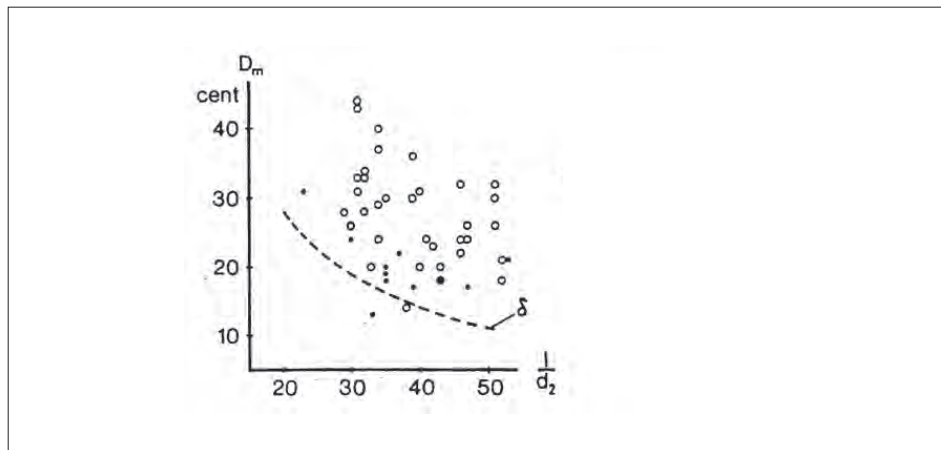
$$\delta = 1 + \frac{l_2}{l + l_1} \approx 1 + 0,33 \frac{d_2}{l} \quad (\text{XXIV})$$

($\gamma = 0.66$ is assumed independent of frequency). The approximate value for δ is slightly larger than that implied by equation (XIII).

On an actual *seljefløyte*, the mean deviation D_m from the harmonic scale may be defined as follows, due to the squeeze-increase effect:

$$D_m = \frac{\sum_{n=n_1}^{n_2-1} |D_n - D_{n+1}|}{n_2 - n_1} \quad (\text{XXV})$$

where D_n is the deviation from the harmonic scale of tone number, n (D_8 is assumed equal to zero), and the flute’s range extends from tone number n_1 to tone number n_2 . The D_m was calculated for all the examined flutes, and in Ill. 68 it is plotted against l/d_2 . It can be seen from the illustration that, with only two exceptions, D_m is considerably greater than δ and that a general dependence of D_m on l/d_2 cannot be established by experiment. Apparently, the D_m of the metal flutes comes closer to δ than that of bark flutes. Considered separately, observations of some of the metal flutes suggest a dependence of D_m on l/d_2 . For flutes M1, M2, M3, and M4, D_m assumes the values 31, 24, 22, and 18 cents respectively, which is only in liberal agreement with the corresponding relative variation of δ .



Ill. 68. The mean squeeze-increase deviation D_m plotted against l/d_2 . Real *seljefløyter* and metal flutes are indicated by circles and dots, respectively. The broken line represents δ calculated from approximate formula (XXIV).

On a newly made *seljefløyte*, the drying process – starting noticeably after one day – may create small changes in the flute resonances from day to day. As shown in Ill. 69, the *squeeze-increase* effect may increase noticeably in only three days. The drying process brings about visible contractions of the flute mouth and outlet areas. Presumably, this reduction in both open-end areas is the main reason causing strengthened squeeze-increase effect and systematic deviation D.

Ill. 70 indicates that resonance changes associated with the drying process are still active after four days.

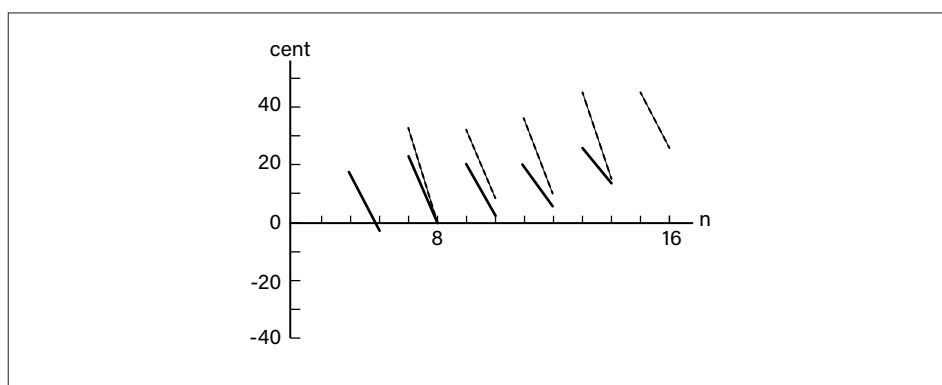
On some *seljefløyter*, the unequally numbered tones are sounded less easily than the equally numbered ones, a phenomenon presumably related to the mouth and block design. To compensate for this, the player must occasionally – consciously or unconsciously – increase the blowing pressure when a tone is played on stopped flute. This may apply to all the unequally numbered tones; their preferred frequencies may be slightly increased, whereby the squeeze-increase effect is additionally promoted.

The squeeze-increase effect is a highly characteristic and general trait of the scale, depending not only on l/d_2 but also on the design of the block, flue, and mouth – details that are subject to accidental variation. Thus, it is both a unifying and a diversifying element related to each *seljefløyte*'s tone series and individual distinctiveness.

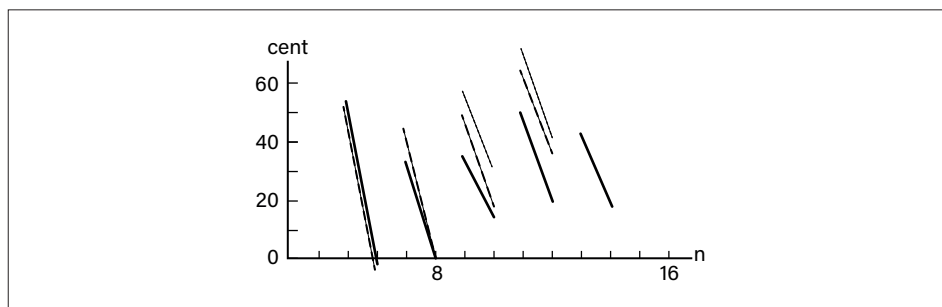
Subtle Individuality: Natural Variation and Unpredictability

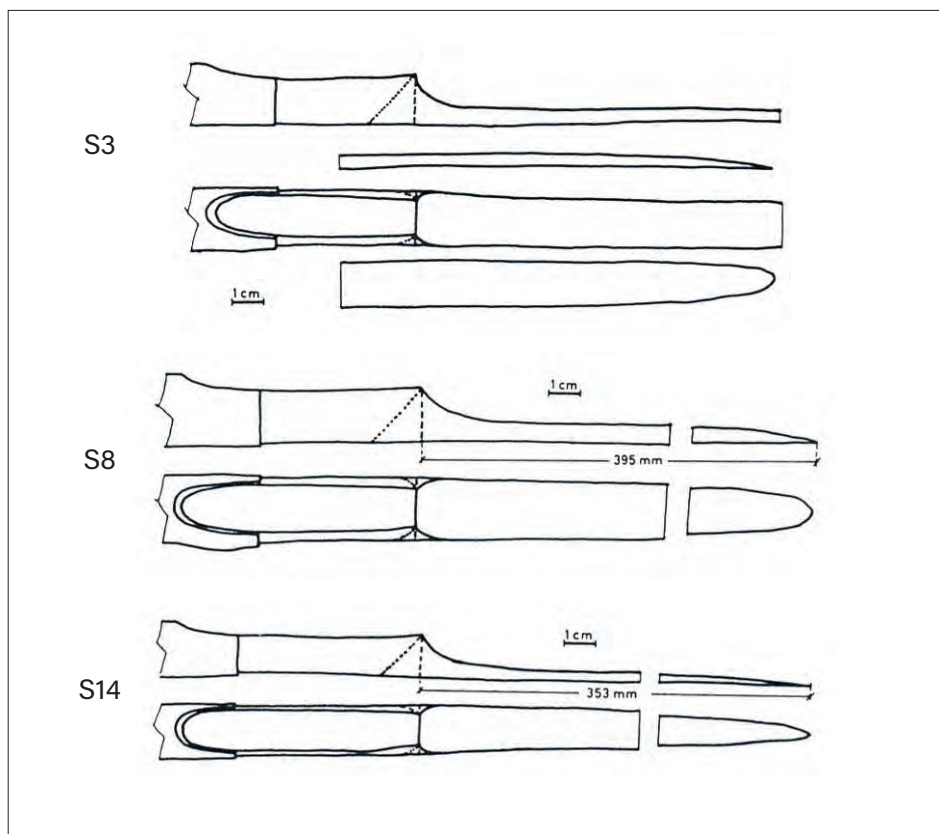
Inasmuch as the distinctive character of a *seljefløyte* basically depends on the vibrating air column, a tentative investigation addressed the consequences of resonator design and dimensions – particularly the length and design of the interior extension of the block (cf. Ill. 12 archetype A9, and Table 1). Three test flutes were made with different block design, and the corresponding resonance series for each design recorded.

Ill. 69. Frequency distribution graph, flute S11, newly made (full line) and after three days (broken line).



Ill. 70. Frequency distribution graphs. Flute S12, newly made (full line), after one day (broken line), and after four days (dotted line).





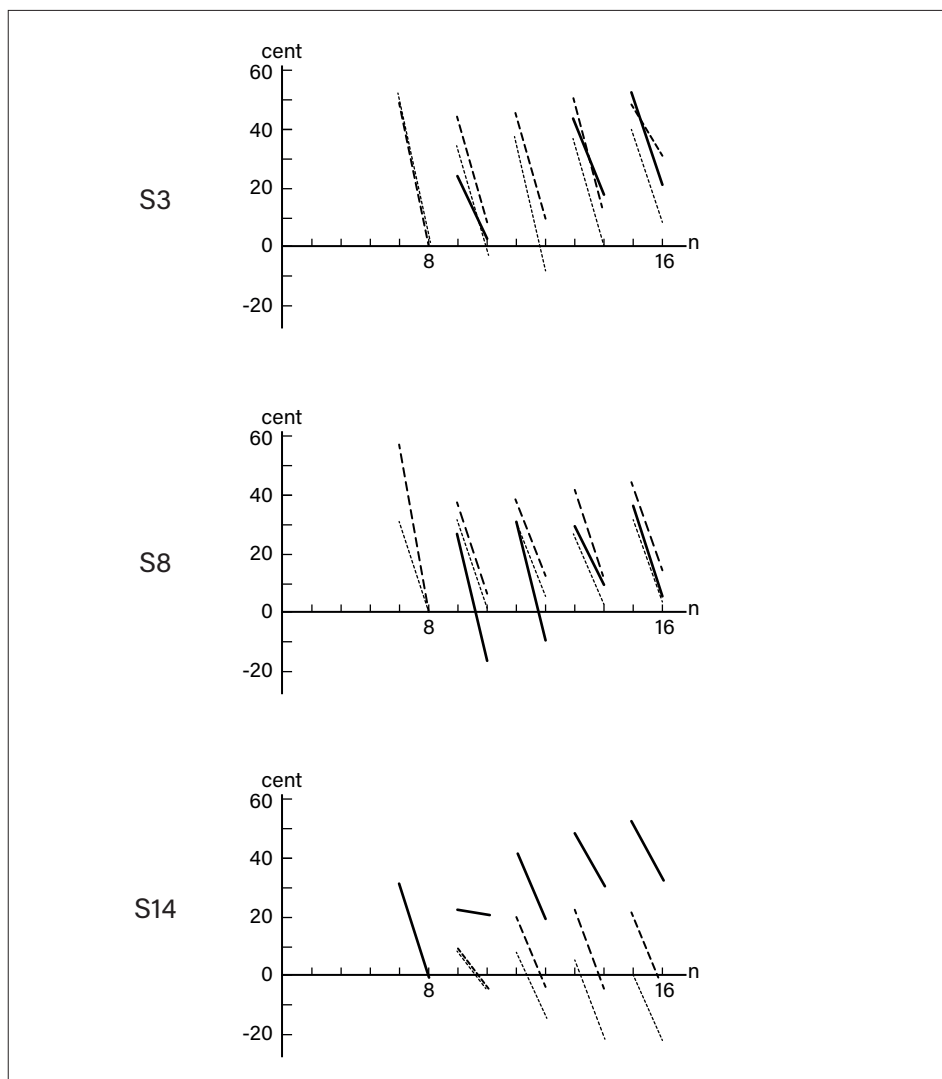
Ill. 71. Block details, flutes S3, S8, and S14, each one made alternatively with three different block varieties: extended (full line); vertically cut (broken line); and slanted (dotted line).

Ill. 71 indicates how the flutes in question originated from the same piece of willow. First, flute S3-1 was made as shown (full line), and its tone series was recorded. Thereafter, the long extension of the block was cut off, thus modifying the specimen to flute S3-2, with right-cut block (broken line), whose tone series was recorded. Finally, the block was made slanted, such that flute S3-2 was transformed to S3-3 (dotted line), whose tone series was also recorded. A similar procedure was applied in the cases of flutes S8-1/2/3 and S14-1/2/3. The corresponding frequency graphs of each specimen are shown in Ill. 72.

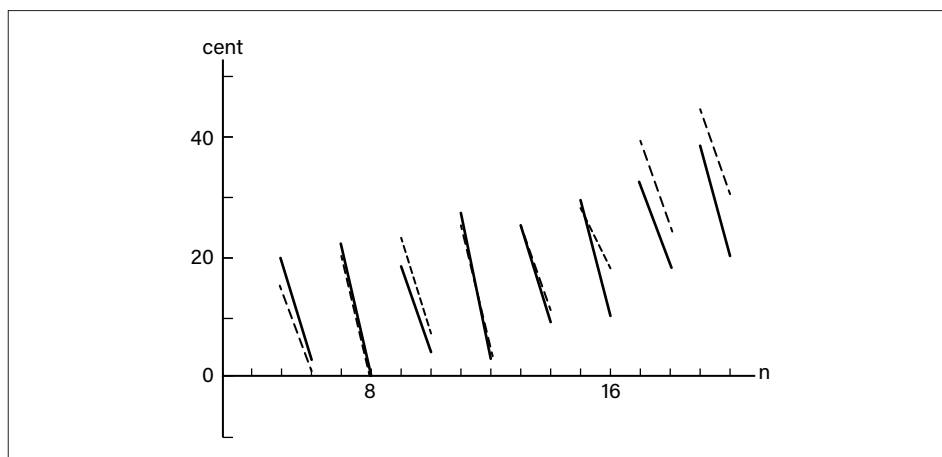
It can be inferred from Ill. 72 that various interior designs of the block in a *seljefløyte* may be of significance to the musical output – but not always. As for S3, the modifications in frequency graphs caused by various block designs seem unimportant. The strong squeeze-increase effect and low scale-stretch effect are dominating and hardly affected noticeable by the tiny differences caused by manipulating the block. With regard to S8, the changes in block design brought about only small alterations in the frequency graphs. Only the S14 graphs displayed significant resonance dissimilarities caused by changing the block design – the flue and mouth design being kept constant. A clear scale-stretch effect occurred in S14-1 with an extended block but was turned into a scale-shrink effect in S14-3 with a slanted block. The intermediately designed S14-2 was represented by an intermediate frequency graph. This kind of systematic dissimilarities in resonance pattern caused by changing block design is intriguing; the handmade design of a long *seljefløyte* seems to hold sonic subtleties, which may be acoustically puzzling and perhaps weakly noticeable in the musical scale of the flute.

Roughness, such as tiny irregularities and bumpiness inside the tube wall, was tested in metal flutes M10 and M11 (Ill. 58, also cf. Table 2). Ill. 73 shows that making

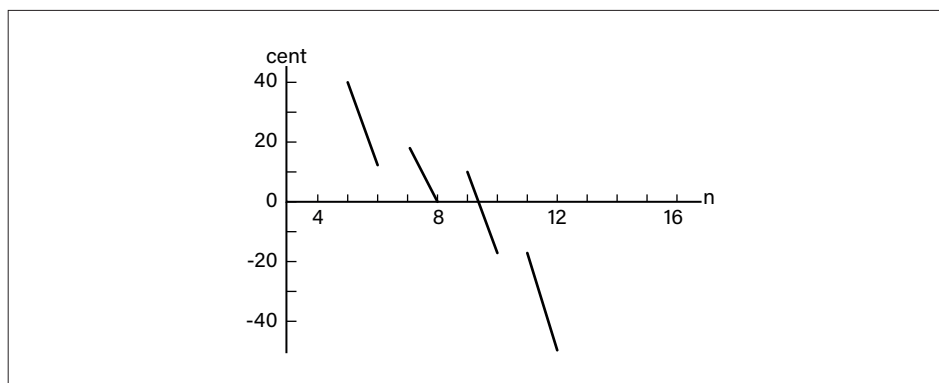
Ill. 72. Frequency distribution graphs. Flutes S3-1/2/3, S8-1/2/3, and S14-1/2/3.
 Design 1: full line.
 Design 2: broken line.
 Design 3: dotted line.



32 tiny dents inside the wall caused slightly raised resonances, but the overall effect was negligible. The finding confirms the tacit knowledge of every experienced *seljefløyte* maker-player: tiny surface irregularities inside the bark tube do not affect the flute sound noticeably.



Ill. 73. Frequency distribution graphs. Flutes M10 (full line) and M11 (dotted line).

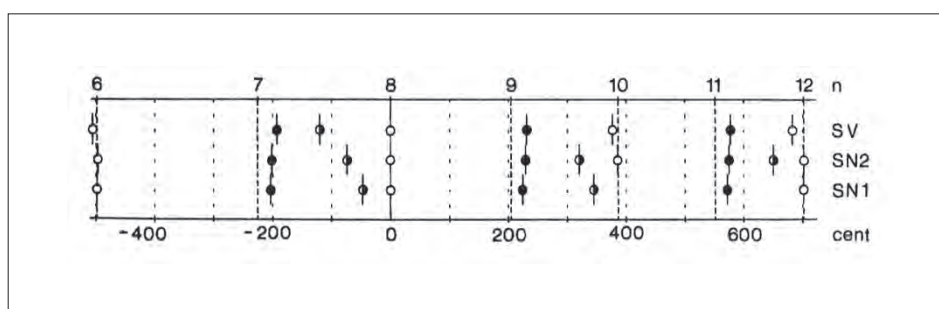


Ill. 74. Frequency distribution graph for a *ludaya*, according to measurements by Cooke 1971.

The scale-shrink effect indicated by the frequency graph for S14-3 (Ill. 72), is slightly reminiscent of the extreme scale-shrink effect displayed by the African transverse flute, the *ludaya*, examined and described by Cooke (see Ill. 74). The *ludaya* examined by Cooke was 88.4 cm long, conical (inner diameters at the ends: 1.9 and 1.2 cm), and with a mouth hole cut some 4–5 cm from the wide end. The instrument's dimensions are comparable to those of the long *seljefløyte*, but nonetheless the similarity with the frequency graph for S14-3 poses an exploratory challenge, which calls for further investigations beyond the scope of the present work.

So far, my focus has been on the natural scale, i.e., tones played on the open and closed flute. By employing half-stopping, the player can adjust the fundamental frequency of the tone at will. Thus, the pitch is completely controlled by humans. The term *half-stopped* applies to tones obtained by half-stopping and the term *natural tones* to those played with an open or closed outlet. Accordingly, the term *natural scale* applies to the series of natural tones, and by inclusion of one or more half-stopped tones the complete tone series may be denoted an *extended scale*.

The technique of half-stopping was used by M. and J. Nytrøen, from Vingelen in Nord-Østerdalen, and by Vøllestad, from Drangedal, Telemark. While the Nytrøens employed half-stopping systematic on several tones of the scale, the technique was confined only to tone number 7 by Vøllestad. When, at my request, J. Nytrøen and Vøllestad played “the complete tone series” on a *seljefløyte*, tones obtained by half-stopping were also included (Table 3D). The scale was played three times on flutes SN1 and SN2, and once on SV. The frequency ratios converted to cents of the extended scales played by J. Nytrøen and Vøllestad are recorded in Table 6, and a part of each scale, including the half-stopped tones, is compared with the harmonic and equal-tempered scales (Ill. 75).



Ill. 75. Some intervals of the scales of SN1, SN2, and SV, compared with those of the harmonic scale and the Western chromatic, equal-tempered one.

It can be readily inferred from Ill. 75 that the pitch of half-stopped tones is subject to greater variability than that of natural ones. During the experiments, this was, of course, to be expected since the frequency of a half-stopped tone is more liable to variable intonation due to fingering fluctuating position from time to time. By comparing the scales of SN1 with SN2, both of which were played by J. Nytrøen, one may ascertain the general agreement of the intervals between natural tones, while the fundamental frequencies of half-stopped tones vary considerably. The interval from the half-stopped tone 7* to the natural tone 8 amounts to 49, 74, and 120 cents in SN1, SN2, and SV respectively. This may appear somewhat surprising, since when Nytrøen repeated the tone series on SN1 or SN2, the fundamental frequency of half-stopped tones was apparently not subject to more variation than that of a natural tone.

Conditioned by accidental variations in flute design, experienced players must adapt their blowing to the individual peculiarities of each flute. This may explain the diversity in fingered tone pitches performed on various flute specimens; this variety is presumably conditioned by individual qualities of the flute in question. In general, half-stopped tones are subject to more accidental variation than the natural ones.

A curious occurrence deserves mention: J. Nytrøen included the half-stopped tone 11* – a tone that never occurs in his applied melody repertoire – in the tone series of flute SN2. Conversely, when playing the extended tone series upon SN1, he omitted tone number 10, which occurred frequently in his *seljefløyte* repertoire. Both Jostein and his father Marius were active musicians, and well known as distinguished fiddlers. They were not unfamiliar with the concept of scale, having also made their acquaintance with music theory. Perhaps the curious discrepancy between the two separate tone series played by J. Nytrøen presumably indicates that when performing on the *seljefløyte* he was naturally not concerned with the scale per se. When asked to play “the scale,” he apparently lost or neglected the intuitive connection with the traditional repertoire, causing accidental omission of a natural tone (in the SN1 tone series) or, conversely, inclusion of a half-stopped one, practically unused in musical contexts (in the SN2 tone series). This seems to reflect the view that from a traditional *seljefløyte* player’s standpoint the concept of scale is merely an abstraction for which there is no practical need.

A notion such as *the seljefløyte scale* – referring to tones on the open and closed flute – has meaning only in a liberal sense. The frequency system is subject to noticeable – and unnoticeable – alterations from one specimen to another. Consequently, a strict definition of the scale must include liberal intonation tolerances to address all specimens of the long, overblown *seljefløyte*. However, one general characteristic is present throughout the entire corpus of observations: without exception, all graphic representations of the scale pattern (the frequency graphs) exhibit a distinct gapped saw-tooth-like shape, caused by the squeeze-increase effect. Presumably, this effect – and the intonational characteristics derived from it – is the most significant musical hallmark of the long, overblown *seljefløyte*.

Moreover, the recorded documentation confirms that any two *seljefløyter*, no matter how identical they may look in design and dimensions, virtually never provide exact identical tube resonances. On the contrary, each specimen yielded a frequency distribution with its own individual sonic microcosmos – beyond verbal description, yet intuitively recognizable as “a *seljefløyte* scale.” The *seljefløyte* soundscape displays unique variability in terms of expressiveness imparted through clean, yet shimmering flute sound.

A complex question deserves to be considered briefly: How do the reported qualities of the applied frequency system of actual *seljefløyter* affect the pitch scale?

With respect to the squeeze-increase effect, the musical scale is basically influenced by this systematic deviation from the harmonic scale. Even Groven, who had no notion of such acoustically conditioned divergence from the perfect harmonic scale, was apparently puzzled by the peculiarities of the *seljefløyte* pitch scale:

According to the relationship between vibrations, step 10-11 is smaller than step 9-10, but between main tone 10 and leading tone 9 there is apparently such a strong affinity that to the ear this step seems smaller than step 10-11. Simultaneously, this phenomenon appears to be reinforced by repulsion. On the other hand, 11 is making this step sound smaller than it really is. This phenomenon occurs consistently everywhere, including between main tones and leading tones in lower octaves. (Groven 1927:16)

Apparently, Groven was aware that the interval 9-10 on a *seljefløyte* “seems to be” smaller than 10-11. Since this was not consistent with his assumed quality of the scale as being perfectly harmonic, Groven explained the phenomenon by assigning a melodic leading tone function to any unequal numbered tone in relation to the adjacent (upper) equal numbered one. It is puzzling how Groven’s sharp faculty of observation on this point neither evoked critical reflection nor shook his unlimited confidence in the idea of the *seljefløyte* open/closed flute tone series as a perfect harmonic scale. In fact, he came strikingly close to stumbling across the *seljefløyte*’s musical uniqueness: in general, the pitch of tone 11 comes so close to 12 (owing to the squeeze-increase effect) and 9 so close to 10 that the interval 10-11 is purely auditorily comprehended as greater than 9-10 (and 12-13 greater than 11-12). Thus, the harmonic scale’s most significant quality – the continuous decrease in the interval between neighboring tones as one ascends the scale – is strikingly violated. The squeeze-increase effect is audibly momentous, particularly in the higher register, above tone 9. This phenomenon also convincingly appears in the overblown transverse flute, the *ludaya* (Ill. 74). In an ethnomusicological perspective, the squeeze-increase effect may prove to be a universal that is generally related to overblown flutes without fingerholes, including whistle flutes and transverse and end-blown flutes.

Contrary to the perpetual squeeze-increase effect, the adversary phenomena of the scale-stretch effect (versus the scale-shrink effect) occur randomly and are not easily audibly recognized. Wide intervals such as the octave in a fast melodic line are hard to judge audibly, and they rarely occur in *seljefløyte* repertoire. Dissimilarities between single specimens obstruct or preclude strict intonation demands. While the squeeze-increase effect – notwithstanding its inherent diversity – acts as a unifying element of the pitch scale, the adversary scale-stretch and scale-shrink effects as a whole act as diversifying factors, potentially causing nuances in the listener’s perceptual image of the scale of a specific flute, compared with that of another.

To a listener whose musical background mainly falls within the realm of Western popular, traditional, and art music, the long *seljefløyte*’s pitch scale may sound exotic, strange, and incomparable to anything else. However, the series of even numbered tones can immediately evoke a feeling of tonality comparable to that of a signal horn, with its triadic character. Surprisingly enough, deviations from exact harmonic frequency ratios amounting to as much as 40 cents do not seriously affect this fundamental perceived quality. Even the octave relation 6-12 or 8-16 is readily implied

through hearing, despite deviations from the harmonic ratios occasionally amounting to almost a quartertone. Tolerances of this size can hardly be accounted for simply by reference to the well-known uncertainty of judging such melodic intervals by ear (Sundberg 1967:127f). It appears as if, in the case of the *seljefløyte*, the listener's normal differentiation ability for pitch is somehow weakened, or mentally disconnected. This may be due to particularities of the scale, as well as the extremely high register. It may also be that, since in the great majority of *seljefløyte* tunes, tones 6, 8, 12, and occasionally 16 constitute the tonal frame, the idealized intervallic relationship between these pitches remains unaltered, overriding the objective occurrence of significant fundamental frequency – and pitch – deviations. Furthermore, one must bear in mind that in actual performance these tones are seldom heard consecutively, as one or more additional tones are usually played between them. For example, the 8-12 interval is practically always subjectively perceived as a pure fifth, no matter what the accidental deviation from the exact frequency ratio may be, within the limits documented above. This fundamental experience seems to agree with the apprehension of *seljefløyte* players whom I have met.

Thus, tone combinations 6-8, 8-12, and 8-16 are subjectively interpreted in terms of intervals such as fourth, fifth, and octave, respectively. As for tone 10, matters are more complicated. Groven, commenting on tonal relationships of the *seljefløyte* scale, perceptively maintained the following:

The nature scale appears different in various melodies. In a melody where the tone connection 9-10 stands out, the scale appears like minor, while it appears more like major when melodies concentrate on the tonic, the main tones 8-10-12 – leading tones play a less important role. (1927:13)

Groven consistently explained the perceived properties of the scale by referring to musical or psychological factors such as the influence of so-called “leading tones” (odd-numbered tones) but he failed to uncover the underlying acoustical conditions. For example, the interval 8-10 is sometimes perceived as a minor third, at other times as a major third. The reason for this is purely acoustical. From the investigations of scales above, it can be noted that the interval 8-10 on some flutes – due to the scale-stretch effect – sometimes exceeds the 4:5 ratio by 20 cents or more. On other flutes this interval is decreased as much as 10 cents because of the scale-shrink effect. Thus, on different *seljefløyter* the 8-10 interval varies within a 30-cents limit. Conversely, the interval 8-9 without exception exceeds the perfect 8:9 ratio because of the squeeze-increase effect, whereas the 9-10 interval is consistently realized below the perfect 9-10 ratio. Perceptually considered, the joint result of these interrelated, interacting acoustical phenomena is quite complex. However, one may easily realize that the combination of an increased 8-9 step and a squeezed 9-10 step – altogether constituting a shrunk 8-10 third – will sometimes favor the auditive impression of a minor third, constituted by a whole tone followed by a semitone. Conversely, if the 8-10 interval is stretched, it is more naturally perceived as a major third, despite the increased 8-9 and squeezed 9-10 intervals. In some cases – when stretched more than 14 cents – the 8-10 interval will be factually larger than a tempered major third.

Altogether, the 8-10 interval is most likely to be perceived as a major third on *seljefløyter* affected by the scale-stretch effect. Conversely, on flutes where the scale-shrink effect works, the 8-10 interval may occasionally tend to give the impression of

a minor third. Nevertheless, in most flutes this interval is clearly perceived as a major third. This is also borne out by the fact that the Nytrøens consistently used the natural tone 10 in their “major third melodies” and the half-stopped *10 in their “minor third melodies.”

The interval 7-8, being as a rule between 20 and 40 cents smaller than the exact 7:8 ratio, is generally perceived as a whole-tone step. Consequently, tone 7 can hardly be described as a “harmonic scale seventh” – it appears to sound like a normal low leading tone to 8. When a high leading tone is desired, the 7* is conveniently used.

The frequency ratios 8-11 and 11-12 of the perfect harmonic scale, amounting to 551 and 151 cents respectively, demonstrate the unique position occupied by tone number 11. Remarkably, this circumstance does not apply to the *seljefløyte* scale, as the interval 11-12 is always squeezed. Thus, on the *seljefløyte* the 8-11 interval cannot properly be described as a “neutral” fourth; it is more likely to be perceived as a regular augmented fourth. Hence, tone 11 is perceived as a high leading tone to 12. In a general context of the dominating diatonicism of contemporary Western music, this is a significant quality of the *seljefløyte* scale: the fourth, which is factually augmented, not “neutral,” lending the scale a clear Lydian character.

As for tones 13, 14, 15, and 16, the perceptual impression is also considerably affected by the deviations from the harmonic scale. In a melodic context, these tones are often related to tone number 12 or 16. The increased 12-13 interval is usually experienced as a whole tone, while the squeezed 13-14 interval gives the subjective impression of a half-tone. Despite noticeable differences between the increased 14-15 and the squeezed 15-16 interval, both are most likely to be perceived as semitones.

My interpretations above – tentative and obviously biased by my Norwegian and European background – necessitate some reservations. The agreeable “interpretational generosity” – an ability to fit (and adjust) unfamiliar utterances into a culturally conditioned, customary listening pattern – as well as occasional uses of *seljefløyte* sound within a diatonic music soundscape is also challenging. Another possible source of doubt relates to the perceptual challenge of discriminating pitch in the extremely high frequency range of the *seljefløyte*.

One may also question whether an interpretation of the *seljefløyte* pitch scale in terms of Western chromatic and diatonic scales makes any sense at all, and whether it is justified or whether it should be dismissed as ethnocentric. The heterogeneity of the actual observed scales also tends to resist such simplification. Perhaps the main justification for my approach stems from the fact that the *seljefløyte* repertoire is practically integrated into, and closely related to, music based on a basically diatonic concept, more like a Norwegian “world music” phenomenon. Contemporaries use this instrument along with modern chromatic or diatonic ones, apparently without serious tuning or intonation problems. (I once used the long *seljefløyte* in a folk-music mass for choir, soloists, and organ that was performed on Norwegian TV.)

My interpretation of the pitch scale is primarily vindicated by my background of folk-music usage within a context of contemporary Western – and Global – culture. As a matter of fact, *seljefløyte* tunes are liberally interpreted – and integrated into a contemporary diatonic complex. Ultimately, the specific traits of the long bark-flute pitch scale can never be completely understood or explained by comparison with any standard frame of reference, due to the diversity of each individual specimen. After all, these tonal deviations simply exist as an unbound, inherent quality of the instrument. The tonal world of *seljefløyte* music invites and presupposes perceptual flexibility and liberal auditive tolerance, as well as underlying alertness towards surprises.

A related concept, “sound quality,” involves acoustical parameters, as well as perceptual qualities, which characterize *seljefløyte* sound. This concept – including various aspects such as spectral and dynamic structure, and characteristics of transients, pitch, timbre, and loudness – is briefly dealt with in the next section.

Timbre and the Dynamic Structure

Acoustical parameters of tones performed on different *seljefløyter* have been investigated by means of a Kay Sona-Graph Model 6061-A, with plug-in amplitude display and scale magnifier unit 6076-A.⁶¹⁶ My analysis is based on tape recordings of numerous long *seljefløyter*, as well as other recordings, made under unspecified conditions.

A main challenge when analyzing flute sound is the interference pattern created by the radiation of sound energy from the mouth and the outlet; it is important to find a microphone position at which the instrument’s recorded sound can be considered representative. The problem has been discussed by Northrop (1940) and Ingerslev and Frobenius (1947:14), among others, in connection with acoustical research on organ pipes. Difficulties of this kind are inessential in the present investigation, which aims primarily at a qualitative evaluation of the acoustical parameters. The choice of the sonograph as an analytical device was made for the same reason.

Special recordings were made (on a Tandberg Model 11 tape recorder) in a small, soundproofed room with negligible reverberation time. Different positions of the microphone (AKG D224 E) were tried, and the sound was analyzed. Inspection of the sonograph analysis showed that differences attributable to accidental variations in spectral structure when a tone was repeated several times were greater than those resulting from alterations in microphone position. A microphone positioned on the *seljefløyte*’s extended axis, about 50 cm from the outlet, was chosen as convenient. Thus, tone series, melody fragments, and tunes played on different flutes were recorded.

Hundreds of sonograph analyses of these recordings have been conducted, demonstrating the spectral and dynamic structure of *seljefløyte* sound. Stationary sound transients have been examined, focused on phenomena characteristic and important to the perceptual qualities.

The rather unusual phenomena inherent in the sound of the *seljefløyte* render conventional procedures for evaluation of spectral data (Meyer 1966:33ff.) inadequate. My approach is tailored to the peculiarities of the instrument. I have not made any attempt to relate observations derived from my analysis to the complete design or dimensions of each single *seljefløyte*; rather, my intention has been to focus on some factors considered relevant. To that end, the advantage of the sonograph is its flexibility of operation, and its use for generating a considerable amount of data suitable for comparison.

Some representative sonograph analyses are presented below. Musical transcriptions are occasionally included. The sonograph analyses basically serve as illustrations; addressing the total amount of material investigated. As mentioned

616 The capabilities of the audio-frequency spectrum analyzer in relation to musicological problems have been discussed by Graf (1969:23ff.) and by Ledang (1968). Even though the equipment that was applied in the late 1960s in the discussed project has since been outmoded by new technology, the data referred to are still relevant.

above, *seljefløyte* sound defies a verbal description entirely based on established Western music terminology, which sometimes may appear like a culture-centric straitjacket. Because of the overblowing technique, the sound reveals important and interesting peculiarities related to spectral structure and timbre, and auditory recognizable. In certain respects, the deviations from what has traditionally been maintained about musical sound are striking, challenging basic concepts such as “tone,” “chord” and the like. This intricate field of sound phenomena are tentatively approached through spectral analysis, interpreted within a context of listening, and – hopefully – experience acquired through playing the instrument.

Tentatively, a tone may be defined acoustically as *a periodic or quasi-periodic sound vibration*. Musicians and musicologists commonly hold that a tone has four distinct perceptual qualities: pitch, loudness, timbre, and duration. Acoustically, a tone may be described by reference to a great number of variables, most of which contribute to its perceptual qualities. Of special importance are the characteristics of the onset process (the initial transient), fundamental frequency, spectral structure, and intensity of the vibration, and duration of the onset relative to the stationary part.

The simultaneous sounding of two tones gives rise to what in music terminology is commonly referred to as a *harmonic interval*, as distinguished from *melodic interval*, which refers to two tones sounded in succession.⁶¹⁷ Similarly, the term *chord* signifies the simultaneous sounding of three or more tones. Traditionally a tone, a harmonic interval, and a chord are considered as distinct and essentially dissimilar sound phenomena. Such clear distinctions at times get blurred in *seljefløyte* sound. When a *seljefløyte* is played, the sound may change character continuously, e.g., in such a way that, while it is first perceived as having a chord-like character, it will gradually evolve into a harmonic interval, out of which one’s subjective experience of a single tone is finally born. Sometimes the sound fluctuates and is alternatively perceived as a tone and a harmonic interval or chord. These and related phenomena are attributable to the acoustical properties of the sound event. I approach these matters from two angles: the onset process as associated with tonguing and with continuous transitions from one tone to another.

Amidst the spectral complexity of *seljefløyte* sound, one might easily become lost terminologically and conceptually. For the sake of clarity, I describe the harmonic spectra of tones conventionally in terms of “fundamental” and “harmonics.” Additional spectral components, which can be identified as related to tube resonances, are described in terms of “nonharmonic partials.” This distinction is crucial to a reliable description and understanding of the *seljefløyte* sound. Admittedly, in some cases the identification of certain nonharmonic components in sonagram analysis is challenging. Such limitations could be serious, regarding an exact quantitative acoustical description, but they appear less significant for the present approach, merely aiming at a qualitative account of the *seljefløyte* sonic world.

Spectral changes during the onset process are of considerable significance for the subjective perception of tone quality. Such changes have been acoustically documented and investigated in different ways (Trendelenburg and Franz 1935, Trendelenburg, Thienhaus and Franz 1936, Sundberg 1966:95ff.). My analysis, based on sonagraph spectra, covers an intensity range of 35 dB only. This would be insufficient for accurate acoustical measurement, but it is acceptable for pointing out significant perceptual

617 Note that “harmonic” as used here should be properly associated with “harmony,” not with “harmonic scale,” as defined in section “The Tube Resonator.”

qualities. For a qualitative evaluation of the *seljefløyte* spectra, the sonograph analysis appears sufficiently precise.

Two different and distinct onsets are applicable to *seljefløyte* playing: one by means of tonguing, and the other by fingering. Examples are shown in Ill. 76, 77, and 78.

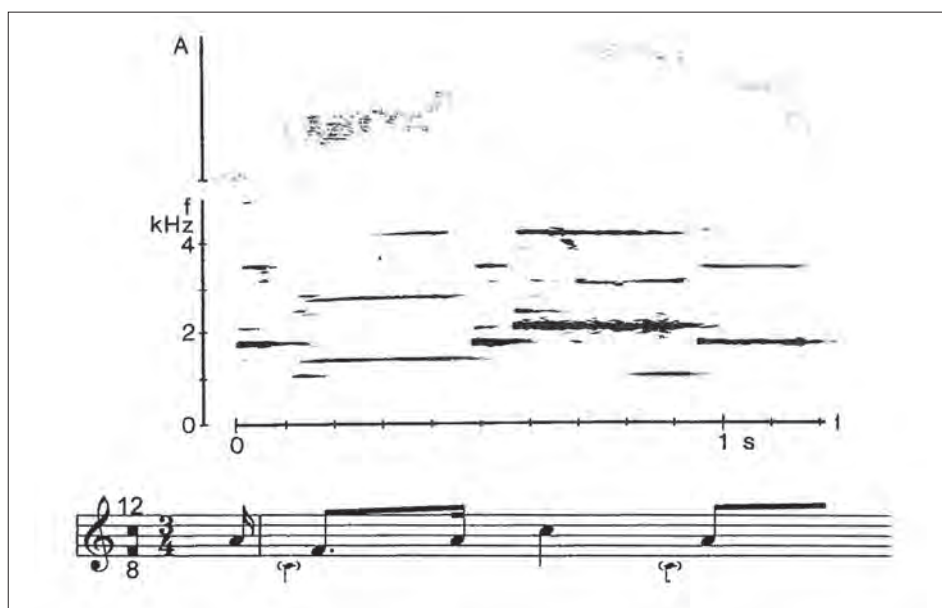
As shown in Ill. 76, the sudden and short-lived unwanted tube resonances close to the chosen one indicates the tonguing articulation of tones 10, 11, and 12, whereas the cleaner onset of tone 9 is typical of the legato transition caused by fingering alternation between open and closed flute within the tone-couple 10-9. Each tonguing onset shows a sudden increase in total amplitude, almost immediately followed by a decrease, until the more stable amplitude of the stationary tone is achieved. The duration of this initial amplitude fluctuation amounts to about 50 milliseconds or slightly more.

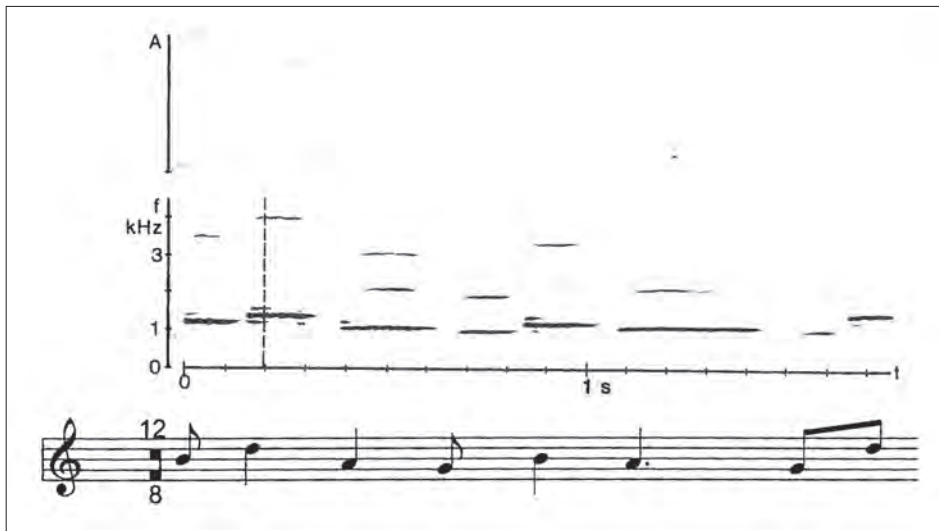
The tongued onsets of the triadic f-a-c motive played on the Swedish *sälglöjt* (Ill. 77) display short-lived unwanted tube resonances during the initial transient of each tone. Such onset transients characterize tongued onset.

Ill. 76. Fragment of a melody played on *seljefløyte* S16-3. Approximate transcription below the sonagram.



Ill. 77. Beginning of a tune played by Eugen Hällkvist (1889–1971) on *sälglöjt*. Analysis based on a copy of Matts Arnberg's tape recordings. Approximate transcription below the sonagram.



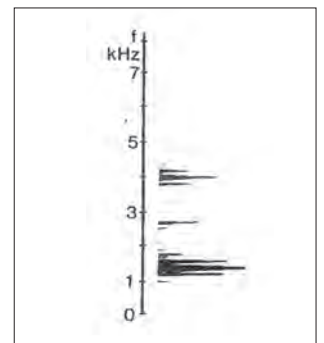


Ill. 78. Beginning of a melody played on the *ludaya*. Transcription and sonagram analysis based on a tape copy of Peter Cooke's original tape recording (1971).

There is a striking similarity between the *seljefløyte* or *sälglöjt* (Ill. 77) and the *ludaya* (Ill. 78), although the latter – a transverse flute – displays a cleaner spectrum (Ill. 78). Compared with *seljefløyte* sound, the *ludaya* performance – despite its pregnant rhythm and exclusive use of tongued articulation – displays less pronounced initial transients, and more swiftly establishes stable, stationary vibrations on each tone. Presumably, on a transverse flute, the player has better control of the air stream and the tone onset than on a fipple flute, where the player controls the blowing strength only.

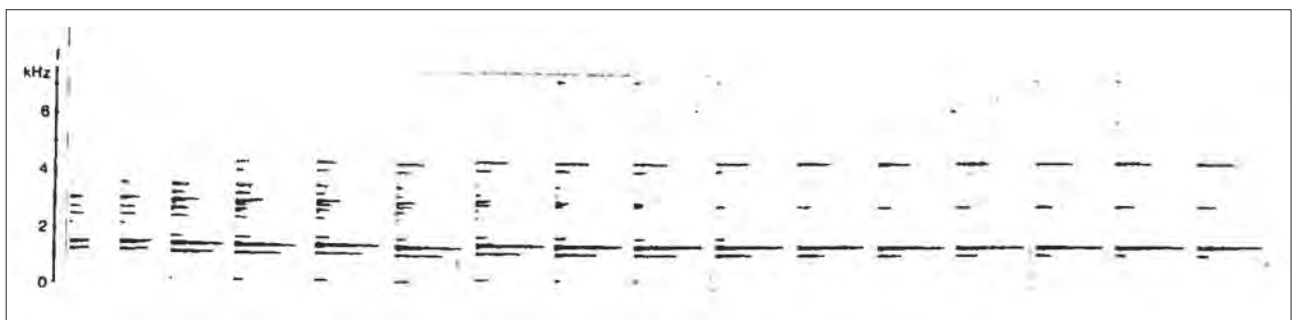
The characteristic tone onset and melodic articulation on the *ludaya* is demonstrated in Ill. 78 and 79. Each tone is markedly separated from the previous and following one, indicating the staccato effect created by the consistent use of tongued onset and avoidance of continuous transitions. The fundamental is fully developed almost immediately, while the inharmonic resonances clustered around vanish within about 50 milliseconds (ms).

Tonguing onset is usually characterized by sustained occurrence of resonances clustered around the preferred resonance. In the onset process of tone 10 on flute S5 (Ill. 80), the chosen resonance is dominant after only 30 ms whereas the lower unwanted resonances persist up to more than 100 ms.



Ill. 79. Amplitude-vs.-frequency display of tone number 13 in the *ludaya*, corresponding to the moment indicated by the broken line in Ill. 78.

Ill. 80. Amplitude-vs.-frequency spectra, demonstrating the onset process of tone number 10, articulated by means of tonguing on *seljefløyte* S5. The spectra have been produced at time intervals of 8 milliseconds.





III. 81. Amplitude-vs.-frequency spectra, demonstrating the onset process of tone number 8, articulated by means of tonguing on seljefløyte S5. The spectra have been produced at time intervals of 8 milliseconds.

On flute S5, the onset process of tone 8 includes a greater cluster of unwanted resonances, persisting up to about 100 ms (Ill. 81). The initial spectral structure of tones played on the same *seljefløyte* may vary considerably.

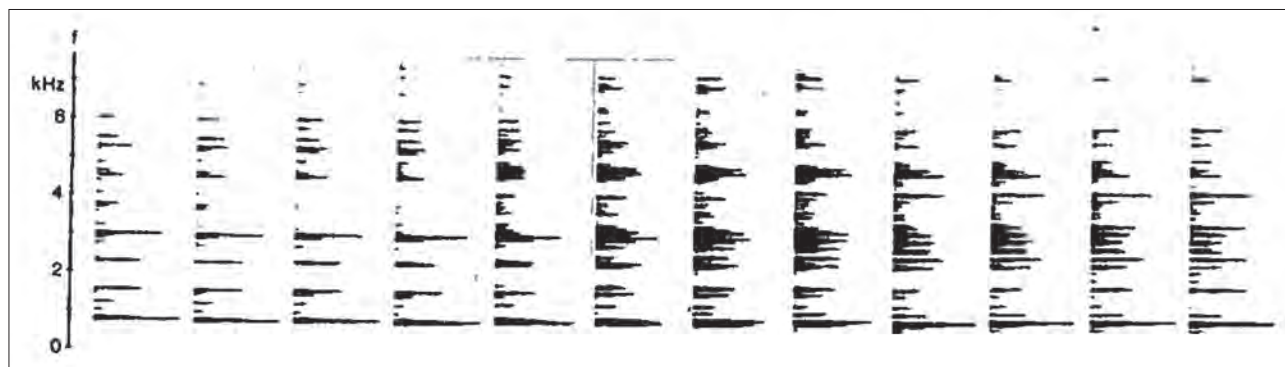
The onset process of continuous transitions within a tone-couple is sometimes marked by a cluster of tube resonances around low partials (Ill. 82 and 83).

The legato effect caused by continuous transitions, such as the 9-10, 11-12 and 8-7 steps illustrated in Ill. 83, 84, and 85 accords with the idea of tone pairs as an acoustically conditioned element in *seljefløyte* music.

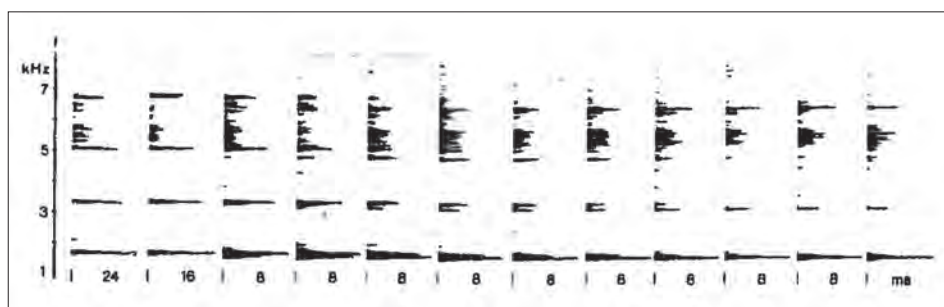
Ill. 86 shows how nearby spectral components may be of significance in the process of continuous transition within a tone pair.

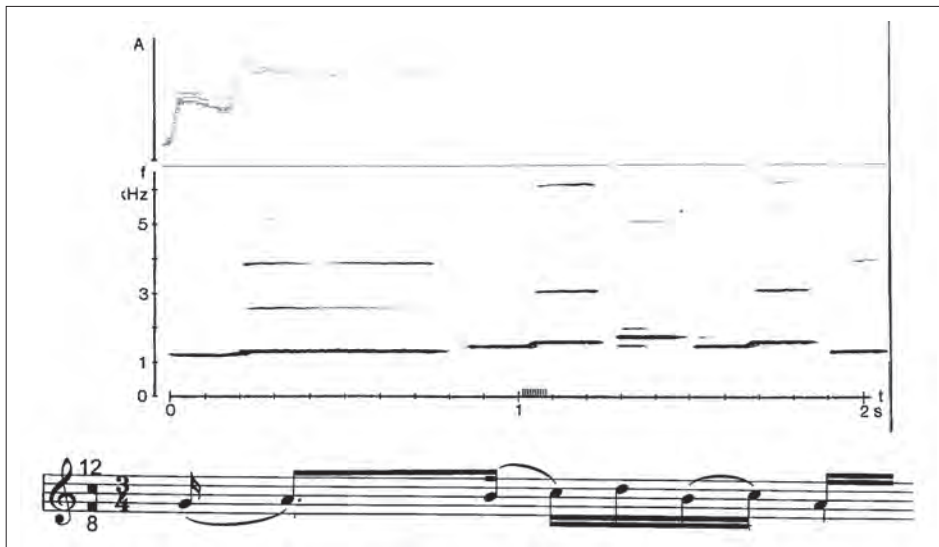
In general, the onset time of a tone articulated by means of tonguing amounts to around 50 milliseconds, whereas that associated with continuous transition might be shorter or longer (Ill. 87). Compared with the classical transverse flute (Winckel 1967:42), the onset time of the *selffløyte* is remarkably short. This, together with the excitation of numerous intermediate, inharmonic resonances during onset, seems to be of considerable importance to the specific timbre of *selffløyte* sound. On the other hand, the neat, almost imperceptible onset of a transition within a tone-couple

III. 82. Amplitude-vs.-frequency spectra demonstrating the continuous transition 7-8 played on seljefløyte S15-3. The spectra have been produced at time intervals of 8 milliseconds.

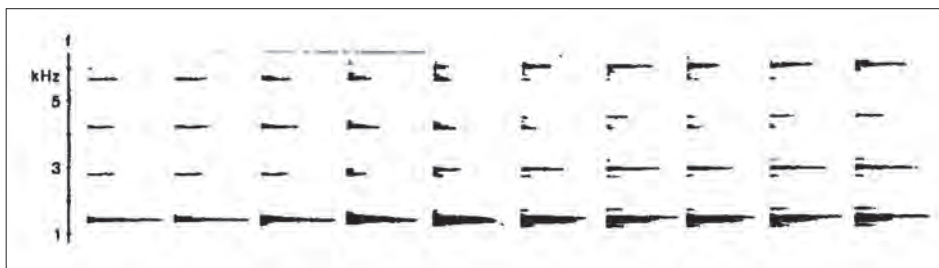


III. 83. Amplitude-vs.-frequency spectra demonstrating the continuous transition 8-7 as played by Jostein Nytrøen. The time intervals between the spectra are indicated below.

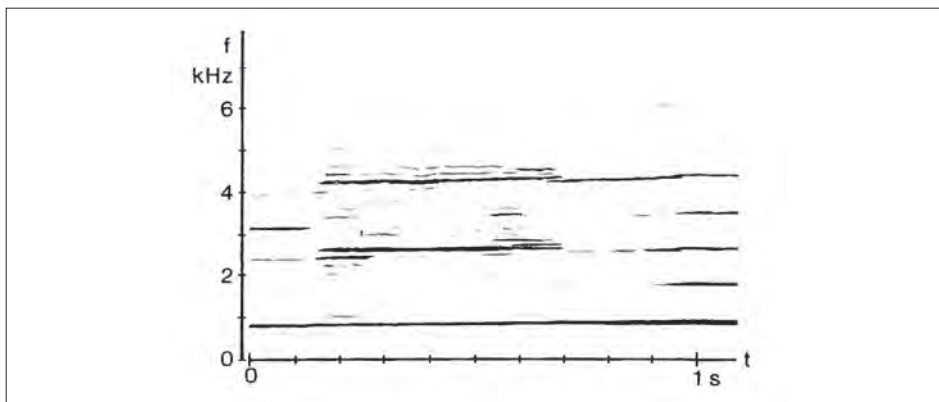




Ill. 84. Sonagram display of a fragment of a seljefløyte tune played by Groven (NRK Magn. 1.861).



Ill. 85. Amplitude-vs.-frequency spectra demonstrating the continuous transition 11-12, played by Groven. The spectra have been produced at time intervals of 8 milliseconds, as indicated in Ill. 84.



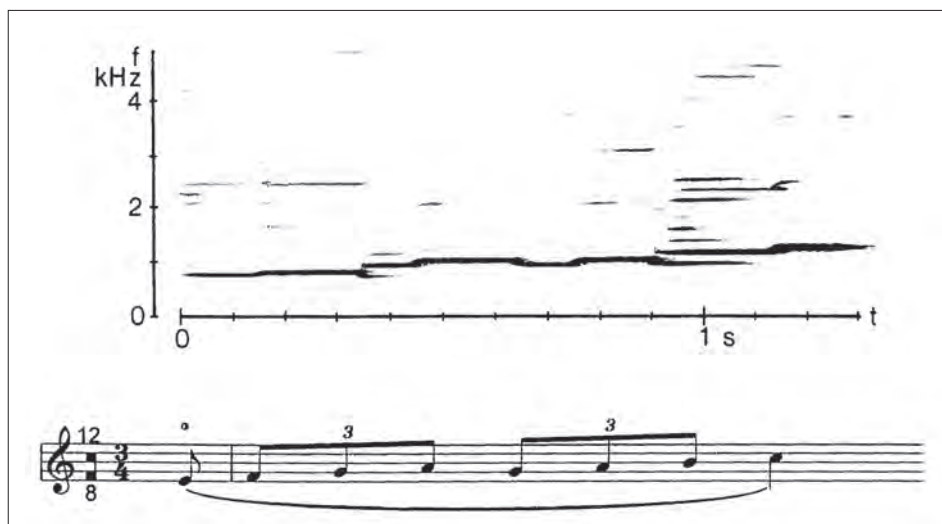
Ill. 86. Sonagram analysis: continuous, slow transition 7->8 played on seljefløyte S15-3.

is accounted for by the continuity of the process, the duration of which is of equivalent magnitude to the time constant (50 milliseconds) of sound perception (Winckel 1967:51ff.).

The type of onset achieved is of considerable aesthetic significance, as may be demonstrated by comparing the *seljefløyte* and the *ludaya*. On the *ludaya*, every single tone is tongued, while on the *seljefløyte* slurred transitions within the tone-couples are common. As suggested by Peter Cooke,⁶¹⁸ the difference in the playing technique for the *ludaya* and the *seljefløyte* may to some extent be explained by the fact that the former is a transverse flute (which allows more flexible control of the

618 Personal communication, Edinburgh 1969.

Ill. 87. A slurred passage played on *seljefløyte* S16-3. Approximate transcription below the sonagram.



air stream), whereas the latter is a whistle flute (with airflow control limited to the blowing pressure).

From time to time the perceptual ambiguity of stationary *seljefløyte* sound is remarkable. Examination of numerous amplitude-vs.-frequency spectra suggests that the phenomenon is related to the appearance of predominant nonharmonic spectral components in proximity of the selected fundamental during and immediately after the onset transient. An example may serve to illustrate this phenomenon: in the stationary-state spectra of tone 12 (Ill. 76), the flanking tube resonances 10 and 14 also occur together with the fundamental.

When the intensity of such nonharmonic components is considerably lower than that of the fundamental, the components themselves cannot be distinctly heard. Nevertheless, they contribute to the sound's individual timbre. Incidentally, Moeck (1951:22) described the tone of overblown flutes as “*überaus fein und unsinnlich*,” a striking characterization indicating that the phenomena described here might be common – in a broad sense and in various degrees – to overblown flutes in general. Occasionally, one such nonharmonic component is strong enough to be distinctly perceived; one can sense not a tone, but the simultaneous sounding of two pitches. If two or more nonharmonic components are audibly comparable to the fundamental, they can be discerned by ear, by reason of which the subjective impression of a chord-like or cluster-like sound event is formed. However, the real puzzle in this connection is not how to single out well-defined phenomena such as tone, harmonic interval, or chord, but rather it is related to the perceptual and conceptual *terra incognita* of unexplored crossings among them.

Every time a new *seljefløyte* is made, the maker will face a practical problem intimately related to the phenomena outlined above. The block and sound hole of the flute should ideally be designed in such a way as to avoid unintentional, simultaneously sounding of two or more resonances. On an easily playable flute, each individual tone may be sounded effortless, whereas on a tricky flute two or more tones may be difficult, if not impossible, to separate, as they always appear simultaneously. Acoustically considered, this may have a connection with edge tone and hysteresis phenomena.

A difficult but manageable *seljefløyte* regarding playability is exemplified in Ill. 77. As indicated in the transcription, tone 6 occurs twice, seemingly unintentionally.

It may be distinctly heard on the tape recording. In fact, transcribing a *seljefløyte* tune from what is heard sometimes turns out to be an extremely difficult task: when two or three resonances are sounded together, it is virtually impossible to decide what has been intended by the player.

Subtle changes in the stationary-state spectra due to alterations in the blowing pressure are not unusual (Ill. 87). Tone 9, at its first occurrence is attended by several nonharmonic components, which are missing when the same tone recurs. The reason is simple: the tone progression 8–9, being not a preferred one, can be played slurred only if the blowing pressure is markedly increased simultaneously with fingering. Thus, the blowing pressure at the first occurrence of tone 9 is higher than at its recurrence. The spectral wealth of tone 11 may be accounted for by the same reason. Generally, a specific tone, when tongued, is more affected by nonharmonic components in the stationary state spectra than when reached by continuous transition within a tone-couple.

The persistent significance of nonharmonic components in the steady state spectra must be emphasized. The sonograph spectra of the complete tone series for three *seljefløyter* have been examined in this respect, and the observations are recorded in Table 7. The data indicate how nonharmonic components swarm the spectra, particularly for tones belonging to the upper range. A characteristic feature is that components developed from neighboring resonances frequently occur simultaneously. This agrees with my practical experience: that tone n is most likely to blend unintentionally with tone $(n-2)$ or $(n+2)$. Thus, the following two-part intervals are commonly perceived in *seljefløyte* music: 8-10, 10-8, 9-11, 11-9, 10-12, 12-10, 11-13, 13-11, 12-14, 14-12, 13-15, 15-13, 14-16, and 16-14. The tonal relationships inherent in these intervals thus represent preferences within the *seljefløyte* sound world.

In a broader perspective, the observations and analysis of *seljefløyte* sound presented above possibly may comprise sound phenomena that are representative of the sonic universe of similar overblown flutes. Such phenomena may appear unusual, unexpected – and commonly unwanted – within the realm of most duct and transverse flutes, whose performance technique is based only on the sounding of the fundamental and lower resonances. In conventional flute practices, such observations may be considered as the outcomes of extreme conditions, for which established terminology is insufficient. Whereas a tone, a harmonic interval, and a chord, otherwise occur as strictly distinct sonic phenomena, in the bark-flute world they occasionally appear interrelated. The vexing question of limits between “normal” and “extreme” conditions might as well lead to a trifling conclusion as to a reasonable one.

The dynamic structure of *seljefløyte* music reveals certain noteworthy characteristics. Since the dynamic range of an amplitude displayed on the sonograph amounted to only 24 dB, it did not allow for any quantitative appreciation of the *seljefløyte*'s total dynamic range. That range was measured directly as follows. Two flutes – of tube lengths approximately 45 cm and 75 cm – were tested in an anechoic chamber. The RMS (root mean square) sound level (according to IEC standard A) was measured by means of a Brüel & Kjær 2603 microphone amplifier and a condenser microphone, with the latter placed in front of the player at a distance, of 1.5 meters. At tones 6 and 18, representing the dynamic extremes, the measured sound levels were 48 (50) dB and 88 (96) dB respectively (the values in parentheses refer to the longer flute).

Generally, tones in the upper part of the range sound considerably louder than those in the lower part. This is caused by the increasing blowing pressure necessary to achieve rising pitch, simultaneously conditioning the sound level. Although loudness is not linearly dependent on pitch, the correlation between these subjective qualities is readily perceived; higher pitches are generally perceived as louder, more energetic and forced than lower ones. Consequently, a melodic culmination is at the same time likely to be experienced as a dynamic climax. This subjective evaluation roughly conforms to a purely acoustic description of the sound event as shown in Ill. 76, where the amplitude display curve in its broad features reflects the melodic profile. However, such general correspondence cannot always be expected, as individual deviations frequently occur. Moreover, the dynamic variations are somewhat settled or diminished in slurred passages.

As pointed out above, tones articulated by means of tonguing are characterized by a dynamic increase during onset. Alternation between tongued tones and tones with no attack (following a smooth, delicate transition, preferably within a tone-couple), seems to stand out as a characteristic quality of traditional *seljefløyte* music. This can both be demonstrated acoustically and perceived through listening, and it is of considerable aesthetic significance.

III. AESTHETIC WAYS: MUSIC USAGE

Whereas Part I of this book outlines the longstanding Norwegian tradition of *seljefløyte* practices and beliefs, and Part II deals with basic acoustically conditioned qualities of long, overblown flutes, Part III centers on aesthetic issues, contemporary music usage of the long *seljefløyte*, and the provision of brief remarks on the twentieth century revival process.

In the wake of Skredsvig's painting *Gutten med seljefløiten* and Groven's 1927 book *Naturskalaen*, the term *seljefløyte* in literary circles regrettably became widely used in the narrowing meaning "long *seljefløyte* without finger holes." This archetype of bark flutes displays a considerable music making potential, which presumably is one of the reasons why it has been revived in contemporary culture. The significance of the sonic microcosmos of long overblown flutes also calls for special attention.

The fundamental playing technique by means of overblowing – melody making by targeted change of blowing pressure and fingering the flute outlet – involves some intriguing issues. During more than half a century, I have annually made and played a considerable number of long *seljefløyter*, systematically collecting empirical knowledge on how to make and play the instrument. Thus, I have come understand that two *seljefløyter* never produce identical series of pitches, and they do not always respond the same way when played in exactly same way. The playing technique is not always invariant but must be adapted – sometimes quite noticeably – to address each individual specimen. Furthermore, the preferred frequencies system may differ from one specimen to another (cf. Part II of this book). There are several reasons for this, most of which can be related to accidental variations in the design of the flute and thereby the acoustical qualities. In addition, the drying and ageing process alters the shape, giving rise to the need for daily maintenance and adjustments.

Traditionally, in the distant past, the long *seljefløyte* was a shepherd's instrument. This is born out not only by written evidence collected by folklorists and ethnologists during the last century (cf. Part I), but also by the testimonies of old-timers such as Anton Biløygard⁶¹⁹ and Marie Vøllestad. As a main rule, the maker-player is the same person. This maker-player identity has far-reaching consequences. Each time one makes a flute, the process is influenced by conscious or unconscious preferences as to what a *seljefløyte* should look like, and how it should sound. The idealized concept of the *archetypal long seljefløyte* exists only as an abstraction. Real *seljefløyter* may be characterized by the maker-player in terms of "good," "not so good," "the best flute I ever had," and so forth. Such remarks may be understood as statements about whether the flute in question can be played with ease. Groven once told me about a "very good" *seljefløyte* made by him in the spring of 1965, and even gave its dimensions. Such expressions may throw some light on the preferred distinctive qualities

⁶¹⁹ Interview June 6, 1972 and later, Lom.

of a long *seljefløyte*. The archetypal instrument is to some extent an idealized concept of an overblown bark flute with a complete series of anticipated pitches, regular tone-couples, and manageable standard playing by means of overblowing and fingering at the outlet. Real flutes may have their tiny whimsical deviations from this ideal and accomplishing a flute approaching the full potential of the archetypal *seljefløyte* is a rare experience of pure satisfaction and good luck.

On most ordinary types of musical instrument, the playing technique is fundamentally the same for all specimens. To a certain degree, the same also applies to the *seljefløyte*, but the playing technique is subject to greater alteration on this instrument, and it is adapted to the properties of each individual specimen. In this respect, the *seljefløyte* is rather outstanding.

Matters are even more complex: The organic material from which a *seljefløyte* is made continually dries out if not immersed in water and even deteriorates in water. Thus, the player usually “preludes” a little before performing a tune on his instrument, to make certain that the required pitches can be sounded. If the flute does not co-operate comfortably, a repeated voicing may be helpful. The player, being also the maker, is intimately familiar with the instrument, and has – through practical experience – acquired the necessary skill in adjusting the flute. This maintenance treatment of a *seljefløyte* is normally performed without making use of the knife: only the block and the tube are adjusted relative to each other. Nevertheless, the resulting tiny alterations may cause observable changes in the behavior of the flute when played. To master these challenges, the playing technique must be continually modified and readapted.

In general, *every single seljefløyte, at any moment of time, is characterized – not solely by the behavior ascribed to the archetypal long seljefløyte, but also by the deviations from it.* Of course, the procedure of adapting the blowing pressure is purely practical; an experienced player is capable of exercising blowing pressure sensitively to suit every flute.

Necessarily, a skilled player is continuously mentally prepared for – and able to influence the course of – every pitch jump. Consciously or unconsciously, the player develops an ability to react spontaneously to the behavior of each flute. In my experience, an immediate reaction is triggered not only auditory but also by the tactile contact and the subtle and intimate connection established by the blowing process, and the breathing control. Thus, melodic performance on *seljefløyte* depends on the player’s ability to control pitch jumps. Every pitch jump involves a sudden change from one stationary state of vibration to another. It is not entirely discontinuous, due to the inertia of the vibrating system. Because of the narrow scale of the *seljefløyte* tube, the resonances are sharp, i.e., with narrow bandwidths. Consequently, the damping effect is small and the corresponding onset time long.⁶²⁰ Thus, a frequency jump also involves an onset transient during which the following stationary state of vibration is developed. Apparently, the edge-tone complex plays a considerable role in this process, within the short time interval before the influence of the tube resonances becomes dominant. A sudden adjustment of the blowing pressure, perceptibly affecting the complex vibrating system may then influence the further lapse of the process and act as a secondary targeting factor, to which stationary state of vibration is going to emerge as result of the jump.

⁶²⁰ Readers may refer to a concise, nonmathematical presentation of these concepts by Winckel (1967:24ff.).

This qualitative description also accounts for another empirical observation one can make as player. It appears that during playing, the *seljefløyte* is extremely sensitive to tiny alterations of the flue and the upper lip. An experienced maker would know that the sharp edge of the upper lip must be very carefully cut, otherwise the flute cannot be voiced to speak satisfactorily. Presumably, the design of the upper lip affects the formation of edge tones. Since the upper lip of the *seljefløyte* is always curved, a regular edge-tone phenomenon can hardly be expected. Due to this curvature, the distance from the flue to the edge varies, the cut-up representing the maximum value (cf. Ill. 51). Besides, the shape of the upper lip is rarely exactly symmetrical – small irregularities and departures from a perfectly crescent-shaped edge do occur. Also, the flue of the *seljefløyte* has a cross-section like a circular segment, not rectangular as in organ pipes. Consequently, the edge-tone system associated with the *seljefløyte* presumably differs from the more regular and well-defined ones in organ pipes. Empirical evidence suggests that this difference is only a matter of nuances, not a fundamental one. Numerous experiments show that *seljefløyte*-like flutes made from metal, and with rectangular mouth (straight, not curved upper lip) can be played in the same manner as the traditional instrument. Even if the curved upper lip of the *seljefløyte* represents a complication with regard the edge-tone system, this is probably less important than the accidental, unintentional diversity of the shape of the upper lip from one specimen to another. These variations probably contribute to the subtle disparities observed when the behavior of different *seljefløyter* with respect to overblowing is compared.

The importance of the player's control is amply demonstrated in iconographic evidence, demonstrating how the player holds around the blowing end of the flute to control the geometry of the sound hole⁶²¹. Subtle side pressure on the tube near the sound hole causes increased height of the opening slit, whereas pressure on the upper side causes reduced height. This connection is cunningly exploited through delicate handling of the flute body. Inspection of the iconographic documentation of traditional long *seljefløyte* playing, broadly confirms the importance of full control of the flexible flute body by the performer, particularly around the sound hole. Such extraordinary closeness to physical nature and to the sound source loses importance in performances on modern hardware flutes, which are void of the pliability and adaptability of the bark flute body.⁶²²

When a new long *seljefløyte* is made, the first sound test may be to try careful random blowing and fingering. If the flute responds acceptably, the output usually starts with one or more tone-couples – a promising beginning! Thus, the preferred tone-couples almost follow the overblowing-and-fingering process as unavoidable attributes.

However, the detailed outcome of this process varies from specimen to specimen. On long, narrow flutes, tone-couples do not occur so easily during playing as on short, wider ones. This accords well with acoustical theory: generally, *seljefløyter* of wide scaling behave more like the archetype, whereas on narrow scaled ones, the

621 cf. Ill. 7, 8, 14, 15, 18, 20, 21, 22, 25, and 26.

622 cf. Løkberg and Ledang (1984:3055), who used image holography (electronic speckle pattern interferometry, ESPI) to study the wall vibrations of long, overblown bark flutes and similar overblown plastic flutes, and found that "In general, the amplitudes were five to ten times larger" in the *seljefløyte*. The lip of the sound hole was shown to vibrate "at a much higher amplitude than for the artificial flutes."

tone-couples appear more diverse. Thus, if two *seljefløyter* of the same length are compared, the tone-couples can be most easily identified and played on the widest one (with greatest diameter d_2 of the outlet).

In general, though, on good *seljefløyter* the preferred tone-couples are readily identified and performed. Tones belonging to the same couple lend themselves most readily to continuous transitions from one to the other, in both directions. On the other hand, neighboring tones from different tone-couples may occasionally be played together in a slurred passage, although only with some difficulty. Thus, the preferred tone-couples constitute a kind of basic melody generative potential. This acoustical preference deposited in the bark-tube resonator becomes a hierarchic world of musical building blocks to the delight of *homo ludens*. An element of chance follows as an extra playful challenge. However, it should not be forgotten that in live music practice, culturally conditioned preferences may at times challenge – and override – apparent limitations or guiding principles deposited in the *seljefløyte* itself.

Rudiments of Style

Only scattered traces of the older *seljefløyte* tradition are known. Some references (Groven 1927:10ff., 15, 17ff., 24ff., 34) comprise vocal and instrumental folk music, which Groven considered were influenced by “the nature scale.” Transcriptions by Sandvik (1948:170, 257, 167, 254), referred to by Moeck (1954:69) appear questionable; judged from the tonality, some of them are not likely to be *seljefløyte* tunes. Thus, my knowledge of the traditional *seljefløyte* repertoire is basically acquired from elderly players rooted in rural traditions, such as Eivind Groven, Marius and Jostein Nytrøen, Marie Vøllestad, and Anton Biløygard. Talks with, and *seljefløyte* recordings made with, these makers/players – rendering detailed analysis possible – constitute my empirical basis for the traditional repertoire.

The present documentation and analysis of the traditional long *seljefløyte* repertoire is mainly based on my own fieldwork, including earlier tape recordings with the following:

- Eivind Groven* (NFMI L 18500–18502, NRK e/gr. 3143, 7446, 11187, Magn. 965, 980, 1655, 1733, 1861, 15231.)
- Marie Vøllestad* (NFMI L 14695, 14696, 18504, 18505, 18507–185011, 18515, 18517, 18519, 18522, 18523. Vocal versions of some tunes on L 18503, 18506, 185012, 18516, 18518, 18518, 18520, 18512, and 18524.)
- Marius Nytrøen* (NFMI L 677–679, and 681. NRK e/gr. 575 and 10178, Magn. 965, and 1520. Vocal – hummed or tilted – versions of some tunes on L 18528, 18530, and 18532.)
- Jostein Nytrøen* (NFMI L 680, 18525–18527, 18529, and 18531. NRK Magn. 1508, 1658, 1729, and 7754.)
- Anton Biløygard* (recordings in 1982, 1983, 1986, and 1988.)

The melodies are written in descriptive notation. To facilitate a comparative approach, all records have been transcribed in the same key, with tone number 8 represented by f'. As indicated by the quadratic notes representing tones 8 and 12, the notation is intended as a representation of the melodic outline in terms of tone numbers, more than an exact interpretation of the tonality. On the other hand, the notation should

give a dependable idea of the perceived tonal relations, provided due allowance is made for the inherent tolerances (cf. The tube resonator). Hopefully, my transcripts render the tonal aspects as true as possible in conventional musical notation.

No attempt has been made to discern the subtle variations of metric patterns. What is subjectively experienced as a quarter note is notated thus, even if acoustic analysis would justify a dotted or double dotted eighth note and a rest. A clear, easily readable music representation has been aimed at, rendering approximate notation of durational patterns. Broken slurs indicate inconsistent use of slurring.

Traditionally, the long *seljefløyte* was played as a pastime, mainly for the player's own amusement. It was particularly used as a self-made instrument for the lonely shepherd. The extant repertoire includes both vocal folk tunes and instrumental pieces, displaying characteristics indicating that they have been adapted to or conceived for performance on the *seljefløyte*. Even the scattered traces of traditional *seljefløyte* repertoire give evidence of different styles reflecting regional variety.

A Telemark Tradition

The pioneer *seljefløyte* maker-player is undoubtedly Eivind Groven from Lårdal (cf. the biographical sketch, section Oversimplifying Nature). Groven's repertoire of *seljefløyte* melodies included dance tunes such as *springar* and *halling*, as well as vocal melodies.

The outstanding tune "Kivlemøyane" (Ill. 88) is unusually long and elaborated. Nevertheless, the performance adheres strictly to the natural tones, and as a rule it includes slurred transitions only within the preferred tone-couples, thus emphasizing the acoustically conditioned features of *seljefløyte* style – consistently in agreement with Groven's own theories. The tone-couples are adhered to, and only two additional slurred transitions occur: 14-12 and 11-9. Both seem to be unintentional; each time, the player reacts immediately and convincingly adapts by making a slurred transition to the tone intended for the first place. Thus, Groven was able to react swiftly and creatively in instances of unpredictable behavior of the instrument.

On the other hand, Groven did not always adhere to the tone-triplets, for example by occasional use of more demanding steps, such as 8-9, 10-11, and 12-13. These couples are not played legato, the last one in each couple being consistently tongued. Some typical tone-triplets occur regularly, such as 7-8-9, 11-9-10, and 13-11-12. Longer stepwise passages are avoided, the exceptional 9-10-11-12 in return occurring repeatedly. Otherwise, the melody moves in alternating slurred steps and tongued leaps thus creating a fluctuating, rolling effect. Leaps extending a major third (8-10) are rare; among those found are 8-6, 6-10, and 10-13. However, wide leaps occur as "dead" intervals in short breathing spaces, including not only the fifth 8-12 and the octave 6-12, but also even the ninth 6-13.

Similar traits are shown in Ill. 89. Slurred transitions occur exclusively within the tone-couples, as do also the ornaments, the latter being usually played on the beat. Tone-triplets are frequently used as independently recurring motives, combined in different ways, while additional melodic designs such as the triadic motives 12-10-8, 16-12-10, and 12-9(-7) appear to a more limited extent. Short diatonic-like passages such as 12-13-15-16 stand out as melodically significant. Longer stepwise passages are rare. Preferred transitions are not always slurred; for example, tone 9 may be tongued, even if following 10.

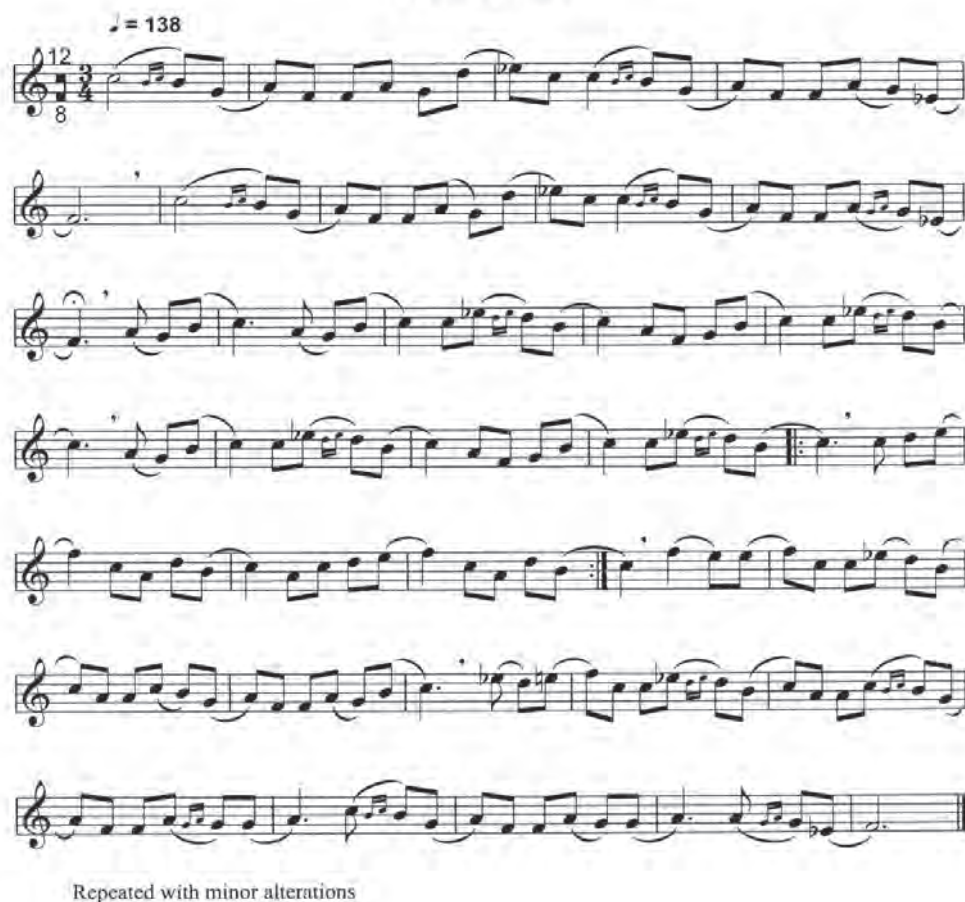
KIVLEMØYANE

Rubato $\text{♩} \approx 88$ *T. giusto*

The musical score for "Kivlemøyane" is presented on ten staves. It begins with a *Rubato* marking and a tempo of approximately 88 beats per minute. The key signature has one flat (B-flat). The piece features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. There are several triplet markings (indicated by a '3' over a group of notes) and repeat signs. The piece concludes with a *rit.* (ritardando) marking.

III. 88. "Kivlemøyane" as played by Eivind Groven. (Transcr. Ola Kai Ledang 1969.) RCA FEP 4 (rec. December 2, 1952) (also, cf. NRK magn. 744).

SPRINGAR



III. 89. *Springar* (dance tune) as played by Eivind Groven. (Transcr. Ola Kai Ledang 1969.)
 NRK Magn. 744 (rec. May 29, 1937) (also cf. NRK: magn. 1861 and NFMI: L18500).

Altogether, the occurrence of tone-couples and derived motives accounts for some characteristics of Groven's *seljefløyte* repertoire. However, the restrictions on the melody structure imposed by consistent use of such melodic patterns do not always take the lead. In actual performance, motives, and melodic steps, which cannot be explained solely in terms of tone-couples and similar are also used, thus contributing to melodic diversity. Ultimately, culturally conditioned preferences and technical command may overrule acoustic guidelines. The entire tonal material is constituted by the natural tones, the total range extending from tone number 6 to 16. A specific tune (or variants of the same tune) may have different ranges in different renderings (the range 6–16 being for example diminished to 6–14 or 6–12), presumably due to difficulties in producing specific pitched tones on each individual flute.

Marie Vøllestad, from Drangedal, had a *seljefløyte* repertoire consisting exclusively of vocal tunes. In response to a question from me, she stated that she did not know of

any tunes particularly conceived for *seljefløyte* performance.⁶²³ During her youth, she and her brothers had played only vocal melodies. She concluded that in general folk tunes were best suited for adaptation to the *seljefløyte*. To demonstrate her point, she played a popular and well-known Norwegian folk song (Ill. 90). Incidentally, the same melody (in slightly different rhythm) was referred to by Groven (1927:9) as the most widespread *seljefløyte* tune.

Ill. 90. *Stevtone*,
as played by Marie
Vøllestad.
NFMI L 14696
(rec. June 4, 1966).
(Transcr. Ola Kai
Ledang 1974.)

STEVSTONE

♩ = 116

The well-known *stevtone* exemplifies a simple melodic line based on natural tones, and regular tone-couples that are meaningfully linked together.

Ill. 91. *O kjære Maria*
(religious folk song),
as played and sung
(or hummed) by Marie
Vøllestad.
(Transcr. Ola Kai
Ledang 1969.)
1 *Seljefløyte* version,
NFMI L 18511
(rec. June 7, 1969).
2 Vocal version,
NFMI L18512
(rec. June 7, 1969).

O KJÆRE MARIA

♩ = 88

Fine D.C. al Fine

Fine D.C. al Fine

By repetition:

1) 2) 3)

*) The rest of the tune was hummed.

623 Conversation, June 6, 1966, Drangedal.

The vocal tune transcribed in Ill. 91 conveys a liberal application of tone-couples, an individual feature being the use of one half-closed tone: the high leading tone 7*. Vøllestad explained that she used half-closing “to raise the pitch.” Oddly enough, she did not exploit the possibility to lower the pitch of tone 10 by means of half-closing. Thus, the unmistakable minor thirds in her vocal version are replaced by the natural 8-10 major third in the *seljefløyte* rendering: the melodic line seems to override the tonality.

Vøllestad’s inclusion of a half-closed tone contrary to Groven’s strict adherence to natural tones may indicate some plurality in the Telemark tradition.

An Østerdalen Tradition

Marius Nytrøen and his son Jostein Nytrøen from Vingelen, Tolga, were outstanding representatives of the traditional music from Østerdalen, active as fiddlers and versatile musicians. They had a rich and varied *seljefløyte* repertoire, including dance tunes in triple meter (*pols*, waltz), as well as pieces in duple meter (*reinlender* (dance tune), wedding marches) and songs. Jostein inherited the *seljefløyte* tradition from his father, and their repertoires were to a large extent identical.

Marius Nytrøen had learned to make bark flutes when he started herding at about seven years of age. Initially, he made small whistles – *istervipiper* – like the other herdboys, and then longer *seljefløyter* capable of producing “4 pitches on open and 4 on closed flute.”⁶²⁴ He made the flutes about 40 cm long; the local willow in his home village of Vingelen (650–850 meters above sea level) did not grow longer straight branches, suitable for flute making. He had met Eivind Groven in the 1930s and learned that Groven used to make the flutes “longer, because he had better raw material (*emne*).” Marius could not remember the first time he played a tune, but he explained that “It came by itself.” He also had found out that he could perform known

POLS

♩ = 160

Ill. 92. *Pols* (dance tune) as played by Marius Nytrøen. (Transcr. Ola Kai Ledang 1984,) NFM L 681 (rec. August 1, 1955).

624 Conversation March 6, 1984, Vingelen.

Ill. 93. *Bånsull* (lullaby)
played and hummed
by Marius Nytrøen.

1 *Seljefløyte* version,
NRK: e/gr. 10178
(rec. 16/7-1950).

2 Vocal version,
NFM: L 18528
(rec. 13/6-1969).
(Transcr. Ola Kai
Ledang 1984.)

BÅNSULL

tunes better by means of half-closing. Marius' son Jostein Nytrøen followed in his father's footsteps and was also a renowned *seljefløyte* payer.

The minor-like tonality of the *pols* (Ill.92) is achieved by means of two half-closed tones: the minor third (*10) and the leading tone (7*). Otherwise, one can note extensive use of tongued attack and lively rhythm, intensified by embellishments linked to slurred tone-couples and dotted rhythm. The motive 9-*10-11-12 sounds like a somewhat ambiguous quasi-diatonic stepwise progression, with an exotic effect caused by the characteristic, odd *10-11 interval. The motive 8-9-7*-8-7-7*-6 also leaves an indeterminate effect, which is veiled by the lively tempo. The final 7*-8-9-*10 motive at the end confirms the minor-like tonality. Virtuoso playing, elaborate melodic design, and lively tempo invites indulgence with tonal approximations – and joyful pleasure!

The lullaby (Ill. 93) is recorded in two versions with remarkable melodic conformity and striking contrast in tonality: the augmented fourth (tone 11) on the *seljefløyte* versus the pure fourth (b flat) in the sung version (besides, the vocal version has considerably slower tempo). These renderings may illustrate how close – yet unavoidably different – the *seljefløyte* sound world comes to the major-minor, diatonic system. Though the various microtonal distinctions all contribute to distinguishing *seljefløyte*

POLS

♩ = 168

Ill. 94. *Pols* (dance tune) as played and lilted by Marius Nytrøen. (Transcr. Ola Kai Ledang 1969.) *Seljefløyte* version, RCA record FEP4 (rec. 16/7-1950). Vocal version, NFMI: L 18532 (rec. 13/6-1969).

music from other music, one major stumbling block is possibly tone number 11 in the resonance series (cf. the comments on Ill. 91 above).

The two versions of the *pols* (Ill. 94) reveal close melodic correspondence. When it comes to tonality, the *seljefløyte* version – particularly the augmented fourth (tone 11) – deviates remarkably from the major key of the hummed tune (cf. Ill. 93). The virtuoso quasi-diatonic passage 6-7-7*-8-9-10 sounds a little awkward, but – with liberal benevolence – matches the vocal counterpart usably, facilitated by the fast tempo. The renderings possibly display rhythmic nuances conditioned by special features of vocal versus instrumental idioms.

The Lydian-like tonality with the augmented fourth (tone 11) is a distinctive feature of the *pols* transcribed in Ill. 95. The contrast between the slurred tone-couple transitions with embellishments and the tongued triad-like leaps and stepwise motives adds liveliness to this dance tune.

In some tunes, the melodic structure may be described mainly with reference to tone-couples and tone-triplets, whereas others include additional melodic traits of entirely different design. The long stepwise slurred passage 6-7-7*-8-9-10 occurring in Ill. 94 is an expressive counterpart to the tone-pair motives in the first two bars of the tune. A similar passage, although not slurred, and with *10 instead of 10, occurs

POLS

♩ = 160



Ill. 95. Pols (dance tune) as played by Jostein Nytrøen. (Transcr. Ola Kai Ledang 1969.) NFMI: L 680 (rec. 15/8-1955) (also cf. NFMI: L 18525 and NRK: magn. 10178, e/gr. 575).

TRALL

♩ = 168



Ill. 96. Trall (reinlender, dance tune) as played by Jostein Nytrøen. (Transcr. Ola Kai Ledang 1969.) NFMI L 18529 (rec. 13/6-1969) (also cf. NRK: magn. 7754).

in Ill. 96. The half-stopped tone 7* is consistently used as the leading tone, the natural tone 7 being used only in conjunction with 7*. The perceptual output of the tone series 7-7*-8, as played by the Nytrøens is noteworthy as it creates tonal ambiguity. As judged from the intervals, one could expect this tone series to be perceived as a kind of chromaticism or quasi-chromaticism. However, from the melodic context, the series may be interpreted as a substitute for diatonicism. In some melodies (Ill. 92, 93, and 96), tone 10 is substituted by the fingered *10, creating a minor-like effect. The tones *10 and 10 never occur in conjunction.

Several remarkable features are found in the Nytrøen repertoire. Their way of playing, being not as uniform as that of Groven and Vøllestad, varies from tune to tune, thus making the overall impression more multifarious. Simultaneously, unifying elements are clearly discerned throughout the greater part of the repertoire, primarily the utilization of tone-couples. Slurred transitions such as 9-10, 9-*10, and 11-12 occur frequently, as do also 7*-8. More demanding slurred transitions between adjacent tone-couples such as 8-9 also occur quite regularly. Articulation by means of tonguing is used freely, independently of whether the steps occur within tone-couples. In some cases, almost every single tone is tongued throughout the entire melody, thereby emphasizing rhythm. Occasionally, the rhythmic pulse is also furthered by sustained use of dotting.

The *seljefløyte* repertoire of the Nytrøens is focused on closed forms, with a clear tonic cadence. The key is major- or minor-like, and the melodic outline often leans on the regular tone-couples. Occasionally, longer slurred transitions occur, involving preferred moves, as well as other stepwise moves. The melodic line is basically limited to the range from tone no. 6 to no. 12, with two fingered tones added, the high leading tone 7* and the low (minor) third *10. In addition to the easily playable slurred transitions within preferred tone-couples, the Nytrøens also manage to perform longer and more demanding legato passages. Comparison of instrumental with vocal version of the same tune (Ill. 94) shows that the somewhat strange sounding passage 6-7-7*-8 may be interpreted as a quasi-diatonic instrumental counterpart to the vocal rendering of the same melodic pattern, and the major third represented by the natural 10 is replaced by the fingered tone *10 to achieve the minor third (Ill. 93).

The formal structure of the Nytrøen repertoire is dominated by symmetric 8-measure periods based on 2-measure motives, contrary to Groven's style, which typically leans on a chain of free melodic-rhythmic variations based on a 2-measure motive, a kind of *fortspinnung* technique, the original motive being developed into an entire musical structure by means of sequences, intervallic transformations, and simple repetitions, akin to the style found in many *hardingfele* tunes from Telemark.

A Gudbrandsdalen Tradition

Anton Biløygard, from Lom in Gudbrandsdalen, herded goats when he was a young boy. Talking freely about experiences he remembered best, Anton thoughtfully called to mind an incident when he was 12 years of age and tending goats near the river Gjælingi: "I sat down and made a flute, and then I was surrounded by the flock of goats. They liked that *seljufloyt* tune!"⁶²⁵ His statement apparently reflects a familiar human-nonhuman encounter cherished among herdspeople.

625 Taped conversation, Lom June 14, 1986.

SØLJUFLØYT-SLÅTTEN

♩ = 88

Rubato

The musical score for Søljufløyt-slåtten is presented in two staves, numbered 1 and 2. The key signature is one flat (B-flat), and the time signature is 3/4. The tempo is marked as 88 beats per minute (♩ = 88) and the performance style is *Rubato*. The score consists of six systems of music. The first system includes a key signature change to one flat and a common time signature change to 3/4. The music is written in a folk style with many eighth and sixteenth notes, often beamed together. There are several triplet markings (indicated by a '3' over a bracket) throughout the piece. The piece concludes with a double bar line in the sixth system.

III. 97. Two versions of Søljufløyt-slåtten (the söljufløyt-tune) played by Anton Biløygard.
(Recorded 1972 and transcribed 1974 by Ola Kai Ledang.)

Sometimes, during fieldwork, when Anton and I could not find a good material for *seljefløyte* making, I offered him a chance to try out a good, euphonious plastic replica. He always willingly did, but then after a while he politely stated that he was dissatisfied with the sound. This response surprised me and made me wonder whether it could be that his lifelong, substantial experience with lifelike, flexible bark flutes, which are extremely responsive to the player's subtle actions, made the genuine *seljefløyte* more likable than the otherwise superior but less sensitive or flexible plastic flute?

We enjoyed several annual flute-making excursions together, and when I asked Anton about his repertoire, he always had one standard answer: "Søljufloyt-slåtten" (The *søljufloyt* tune). Apparently, according to Anton, the tune was literally always "in my flute." The first time he played it, my impression was that it sounded like spontaneous *rubato* melodic fragments linked together, in liberal triple meter, largely consisting of typical *seljefløyte* motives. Thus, I did not realize that, in fact, he was always performing the same tune, but to me as an uninformed listener, each rendering was experienced as a new, unique, and extemporaneous musical event. It was only after I had transcribed and compared two performances that I realized that they both revealed a common melodic core, only with rhythmic and ornamental variations from one rendering to the next. This is exemplified in Ill. 97. Some such differences were presumably intended and tailored to the instrument used, whereas others seemed to arise from aleatoric phenomena – and Anton's response thereupon. Such interconnections generate an incessant stream of new melodic permutations, continuously challenging the maker-player's skill and creativity. Ultimately, new variants arise. Anton Biløygard's *Søljufloyt-slåtten* is virtually a unique culture-nature – i.e., human-nonhuman – construct.

Comparison of the two renderings reveals a common profile, outlined slightly differently, and it seems that the differences reflect the player's situational, creative interplay with the individual quality of every single *seljefløyte*.

A Nordland Tradition

Bjørnar Schei (1922–2015), was born in Mosjøen (Nordland) but got to know about bark flutes as a young boy during visits to his grandfather, who was a farmer in Susendalen, Hattfjelldal. His forefathers came from Gudbrandsdalen.⁶²⁶ Schei started to toy with short whistles – *plysterpipa* – when he was five years of age and could play long *seljefløyte* at the age of ten. From his grandfather and an uncle, he learned to make long *seljefløyte*, and picked up their repertoire, which consisted of a couple of tunes, including the traditional *stevtone* (cf. Ill. 90).

Schei became fascinated with the instrument and maintained the habit of playing annually in the local community with the long *seljefløyte* throughout life, including his years as head of the Selbu power plant. His repertoire (recorded provisionally on a small tape recorder outdoors in 1988) included a wealth of contemporary popular melodies ingeniously adapted to the long *seljefløyte* – a personal testimony of creative reinterpretation of popular and light music, at times quite liberally, to the traditional bark-flute sound world. His thorough comprehension of *seljefløyte* sound

⁶²⁶ Conversation June 25, 1988, Selbu.

and versatile taste for all kinds of music made him an outstanding, self-taught practitioner and lover of the instrument, yet not in the capacity of traditional usage but as an independent creative pioneer promoting uncommon singular applications beyond contemporary trends.

Generative Potential of Melodic Patterns

Broadly speaking, the core *seljefløyte* repertoire of known elderly players leans heavily on the inherent sonic qualities of the instrument.

Groven (1927:8) maintained that neighboring tones belonging to different tone-couples were normally linked together in melodic progressions by inclusion of the easiest to play slurred transitions. Thus, a non-preferred transition such as 8-9 is supplanted either by a leap (implying tonguing but not fingering, such as 8-10), followed by a preferred transition (such as 10-9), or by a preferred transition (such as 8-7), followed by a leap (such as 7-9). Thus, *tone-triplets* emerge, such as 8-10-9 or 8-7-9.

Next to the tonic (tone 8), tones 6 and 12 are of basic melodic and tonal significance, being conventionally perceived as a pure fourth below the tonic and a pure fifth above the tonic, respectively. Both 6 and 12 may act as important points of orientation in the melodic line. In the opening phrase of, for example, Ill. 88, tones 12, 8, and 6 are emphasized, and the greater part of the following melody moves between tones 8 and 12, with occasional excursions downwards to tone 6. In Ill. 89, the melodic line revolves around tones 8 and 12, with the high tonic – tone 16 – as a melodic climax, as well as a dynamic climax. The repertoires of Vøllestad and the Nytrøens (cf. Ill. 90–96) display similar preferences for tones 6 and 12 as tonal counterparts to tone 8.

When it comes to additional tonal material, Groven consistently restricted himself to the use of natural tones only. Thus, the tonal structure appears quite homogeneous throughout his repertoire: a feeling of a major-like or Lydian-like key predominates, disrupted mainly by the low leading tone 7. Obviously, the main connecting link with the common diatonic scale and functional tonality is the tonica-dominant relation of tones 8-12 and the major triad 8-10-12, the additional tones being of a somewhat fluctuating nature but nevertheless comfortably interpreted with reference to the major triad frame. This also applies to the bulk of Vøllestad's repertoire, with the only reservation that occasionally, the major-like feeling is furthered by employing the half-stopped leading tone 7* instead of the natural one, 7.

Touching upon Vøllestad's repertoire, another striking fact deserves mentioning: the relationship between vocal and played versions with respect to tonal structures. With regard Ill. 91, the *seljefløyte* version, with its major third and augmented fourth, appears strikingly dissimilar to the vocal one, which is in a dorian-like mode but with high leading tone and minor third. Despite the close correspondence in melodic structure between these versions, the tonal character of the *seljefløyte* tune differs basically from that of the song.

The most reasonable explanation for Vøllestad's interpretations is perhaps that, from her point of view, the identity and individuality of a melody depended primarily on the melodic profile, with tonality being of secondary importance only. Several recordings from her repertoire point in the same direction. Vøllestad's disregard of tonal aspects might reflect a traditional liberal attitude that in turn reflects wide tolerance in intonation generally associated with traditions focused on the free melodic flow.

How can Vøllestad's standpoint on these matters be explained? Her reliability as a singer, which is documented in numerous recordings of vocal tunes (NFMI L 14594-14603, 14655-14665, 14697-14712, 15262-267, and 17039-17048), is unquestionable, implying a confident musicality and ability to interpret musical characteristics, including tonal relationships. Apparently, she was well aware of the tonal differences between her sung and played versions of some folk tunes, but obviously did not consider dissimilarities of this kind crucial to an appreciation of the melody as an individual creation. By what criteria are an instrumental melody and a melody performed vocally identified as "the same tune"? How do folk singers and those representing the living folk-music tradition themselves evaluate melodic identity or non-identity of different music manifestations? Could it be that under certain circumstances, a vocal and an instrumental version of a traditional tune could exist side by side, having entirely different tonal characteristics, without any influence from the instrumental on the vocal version or vice versa?

At present, it must suffice to recognize the basic difference between the attitudes and notions of Vøllestad and Groven. Groven was extremely occupied with the most subtle shadings of pitches and tonality – in fact, as a composer and inquirer he made such issues the main object of a lifelong study. With her occasional negligence of such matters, Vøllestad apparently reflected an entirely different way of music thinking. True enough, as performers, they both treated the *seljefløyte* basically in a similar fashion, even though their melody repertoires were markedly different. Groven, known as a composer, fiddle player and music theorist, displayed technical skill and virtuosity in his dance tunes on the *seljefløyte*. Vøllestad played her simple vocal tunes with modesty and yet satisfaction. Together, these two players from Telemark embody the local multiplicity of the *seljefløyte* tradition.

Whereas Groven's playing technique and to a large extent Vøllestad's playing technique appeared idiomatic – i.e., based on the distinctive quality of the instrument – Marius and Jostein Nytrøen's technique was adjusted and tailored to their Østerdalen tradition. The consistent use of half-stopped tones to attain closer tonal correspondence with the major and minor scales appears as a culturally conditioned feature, mirroring their regional or local identity. Thus, while Groven's repertoire of dance tunes for *seljefløyte* has several tonal and melodic features in common with the archaic felt style of *hardingfele* music from Telemark, the *seljefløyte* repertoire of the Nytrøens is suggestive of the major-minor character of their Østerdalen fiddle tunes. Broadly speaking, the traditional *seljefløyte* repertoire illustrates the slightly chaotic – and fascinating – outcome of the unattainable artistic goal to unite incompatible tonal systems versus a traditionalist objective to cultivate the peculiarities of the instrument.

A singular approach – perhaps the most illustrative example rooted in the traditional context of the lonely herder – is implied by Anton Biløygard and his concept of a *seljefløyte* tune, which is realized every time when he gets the opportunity to make and play a new flute: Each rendering is a new creation and simultaneously a new version of Søljufløyt-slåtten. This concept is possibly based upon the mental idea of a memorized musical structure, realized by spontaneous performance, improvisation, and aleatoric sound events – all tailored to a fixed yet flexible frame.

In general, the tonal structure of *seljefløyte* music revolves around the tonic function of tones 8 and 16. There may be several reasons for this, including acoustical ones. On some *seljefløyter*, lower resonances are occasionally clearly perceived during playing (cf. Table 7). They create a kind of underlying drone effect, reinforcing the feeling

POLSKA

♩ = 142

Ill. 98. A polska played by
Eugen Hällkvist on sälgflöjt.
(Transcr. Ola Kai Ledang, 1974.)

of tone 8 as the star around which the musical microcosmos revolves. Consequently, tone 8 appears as the most recognizable resonance of the flute. This tonal structure – found throughout the *seljefløyte* repertoire – complies with basic acoustic qualities of the instrument.

Comparative Side Glances

The Swedish Sälgflöjt

Various kinds of whistle flutes made from bark are traditionally used in Sweden (cf. section A Cross-Cultural Perspective). The long, side-blown *sälgflöjt* – corresponding to the Norwegian long *seljefløyte* – is also known. Eugen Hällkvist (b. 1889 in Ramsele, Ångermanland, d. 1971 in Hammerdal, Jämtland⁶²⁷) was known as a *sälgflöjt* maker and player. Four tunes played by him were recorded by Matts Arnberg in 1963, one is included on the record RELP 5017, issued by Sveriges radios förlag.

The dance tune *polska* (Ill. 98), heavily leaning on the preferred tone-couples, is basically in traditional form slightly disguised by abundant embellishments, and melodic-rhythmic turns, subtly veiling the underlying regular four-measure patterns.

⁶²⁷ Ville Roempke, letter dated May 21, 2021.

The frequent occurrence of cluster-like sound events and puzzling elusive pitches challenge a clear apprehension of the melodic flow. Apparently, aleatoric elements are considerably involved in the performance. To a certain extent, Hällkvist's manner of playing is reminiscent of the recordings of Biløygard's *Sølufloytslått* (cf. Ill. 97). Basically, the recordings of Hällkvist's performances seem to reflect a playing tradition closely related to the Norwegian one. As far as can be concluded from the scant evidence, the Norwegian and Swedish *seljefløyte/sälglöjt* playing style appear to be closely related expressions of common Scandinavian folk traditions.

The Romanian *Tilinca*

The *tilinca* is a Romanian end-blown flute, with cylindrical resonator, beveled blowhole and no sideholes, i.e., fingering is only at the outlet. The length and diameter are comparable with those of a long, overblown *seljefløyte*. I had the privilege to encounter traditional *tilinca* music during a visit to the prominent folk musician Mihai Lăcătuș (aged 68 years) in his home in Câmpulung Moldovenesc in May 1973. An accomplished traditional performer, Lăcătuș willingly demonstrated his skill in playing the wooden *tilinca* (cf. Ill. 99).

Lăcătuș played various traditional flutes and performed traditional songs and dance tunes, which he had learned as a boy from elderly people, particularly his parents; his father "was also a *tilinca* player."⁶²⁸ Lăcătuș emphasized that he played only old traditional tunes, one of which is transcribed in Ill. 100.

The melodic structure of the lively dance tune shown in Ill. 100, based on varying and juxtaposing of idiomatic two-bar motives, and frequent melodic turns conditioned by preferred tone-couples, is reminiscent of some Norwegian dance tunes, but also displays entirely different features. Thus, whereas Lăcătuș's characteristic use of vibrato-like trills is unknown in traditional *seljefløyte* style, it reflects the distinct Romanian character of his *tilinca* performance. He also played vocal tunes, in a poetic, lingering way, occasionally crowned with an expressive, prolonged vibrato tone, performed with sensitive, periodic movements of the finger at the lower flute end.



Ill. 99. Mihai Lăcătuș playing *tilinca*.
(Photo: Ola Kai Ledang, 1973.)

⁶²⁸ Interview May 5, 1973. I am indebted to Professor Arne Halvorsen, NTNU, for translating the Romanian comments into Norwegian.

DOINA

♩ = 146

The musical score for 'DOINA' is written in 12/8 time with a tempo of 146 beats per minute. It consists of a single melodic line on a treble clef staff. The piece begins with a key signature of one flat (B-flat) and a common time signature of 12/8. The melody is characterized by frequent eighth and sixteenth notes, often grouped in triplets. Various musical ornaments are used throughout, including trills (tr), grace notes (tr~), and triplets (3). The piece concludes with a double bar line.

III. 100. A dance played by Mihai Lăcătuș on tilinca. (Transcr. Ola Kai Ledang, 1974.)

The clear melodic rhythmic outline and transparent sound of Lăcătuș's *tilinca* performance is remarkable. Presumably, this is made possible by means of the player's control of the flexible airstream direction on the end-blown *tilinca* in contrast to the restricted airstream flow of comparable overblown fipple flutes such as the *seljefløyte*.

Noticeable influence from the tone-couples can be found in melodies traditionally performed on other overblown flutes that are similar in construction to the *seljefløyte*. Traces of such influence occur in Bartók's transcription (1966:24f) of a melody played on *tilinca* (for a description of this instrument, cf. Bartók 1966: XXVI and 1967:19; a survey of European overblown flutes is presented by Moeck (1969:65f); also cf. Sárosi s.a. [1967]:72).

The Ugandan *Ludaya*

The traditional use of *ludaya*, an overblown transverse flute from Uganda, has been documented and analyzed by Peter Cooke (1971). According to Cooke, the *ludaya* is played among the "upland Gisu in Eastern Uganda." It is made from "the dried flower spike of the giant *Lobelia*." The documented specimen had a mouth hole about 4–5 cm from the wide end, which was closed with the left thumb and, Cooke writes, "held horizontally and the right hand stretches out to hold the other end, so that the index finger can open or close the end hole at will." The flute diameter was 1.9 cm at the wide end and 1.2 cm at the narrow end, and the length was 88.4 cm – slightly longer and slimmer yet comparable to a long *seljefløyte*. The player, "Kibulo, son of Nachawo, of the Bugosagiroa clan" (Cooke 1971:80), performed three tunes that were recorded in 1968 by Cooke⁶²⁹. One is transcribed in Ill. 101.

A remarkable feature of the *ludaya* tune is hardly observable by inspection of the mere melody but resides in the regularity of the fingering pattern. After an initial trial at the very beginning, an invariable metronomic fingering pattern, with alternating open-and-closed flute, is firmly established. This fingering pattern governs the regular alternation between triple-quivers melody fragments on respectively even-numbered tones (8, 10, 12, ...), and unequal-numbered ones (9, 11, 13, ...), specifying the frame for the ostinato structure of the iterative musical form. The entire melodic construct is substantiated by Cooke's comment that "During the course of the song Kibulo played most of the permutations possible, seemingly in no special order". (1971.) Presumably, the iterative structure of the tune is not only the outcome of established music preferences or improvisation per se but possibly also leans on aleatoric predispositions embodied in the acoustical distinctive quality of the flute. In that respect, the aleatoric element of overblowing is meaningfully incorporated, thus enhancing – and inspiring – an open-ended *ludaya* performance. This is in striking contrast to *seljefløyte* performances, for which the traditional closed musical forms resist aleatoric occurrences.

The *ludaya* fingering pattern based on regular juxtaposing open versus closed flute pitches (i.e., resonances) is curiously reminiscent of another African instrument, namely the small *mbira*, on which the left and right thumb may operate two interlocking scales, which is excellent for performing iterative musical forms (cf. Ledang 1989). Perhaps the *ludaya* usage demonstrated above is an example of Africanism occurring in various types of music and instruments of various stature in Africa?

⁶²⁹ I am indebted to Peter Cooke for offering taped copies of his records of Kibulo's *ludaya* performance.

"MWANA WOMUGISU AMA IMASAABA"
"CHILD OF A MUGISU FROM MASAABA"

III. 101. "Mwana Womugisu ama Imasaaba" (Child of a Mogisu from Masaaba) played by Kobulo on a *ludaya*. Transcription: Cooke (1971:84). (Fingering added by Ola Kai Ledang.)

A couple of music samples from various cultures do not justify broad generalizations, but they may imply broadening the aesthetic potential of an instrument category beyond that of a particular tradition. Thus, the music examples from Uganda and Romania commented upon above at least uncover the existence of performance practices dissimilar to traditional Norwegian *seljefløyte* usage. Noteworthy enough, the tunes played by Kibulo, son of Nachawo of the Bugosagira clan on the *ludaya* and by Mihai Lăcătuș on the *tilinca* are also playable on the overblown long *seljefløyte*. So far, the documentation indicates that overblown flutes – of the transverse, end-blown, and whistle varieties – reveal unique sonic resources that are exploited differently in different cultures. Presumably, idiosyncrasies and culturally conditioned preferences can override or exploit inherent acoustical inclinations of overblown flutes.

A basic distinctive quality of the long *seljefløyte* is the frequent occurrence of tone-couples and related melodic phrases conditioned by the acoustic squeeze-increase effect, whereas the avoidance of vibrato appears culturally conditioned. By comparison, the *tilinca* repertoire shares the Norwegian *seljefløyte* predilection for acoustically conditioned tone-couples but also includes use of an expressive vibrato, possibly adopted from other Romanian traditions. The Ugandan *ludaya* tune displays melodic structure entirely different from both the Norwegian and Romanian approach to overblowing flutes. In this case, the playing technique – characterized

by strictly regular breathing simultaneously with switching between the open and closed flute – lends the musical output an unmistakably African touch. Altogether, the scant music samples indicate acoustically derived similarities, as well as culturally conditioned dissimilarities, which separate the musical usage of overblown flutes in Norway, Romania, and Uganda.

Continuity Through Change

Available documentation points to rural society and mountain farming as a traditional stronghold of bark flutes in the past. The long *seljefløyte* was traditionally a shepherd's instrument. Even though women took charge of the mountain farming, there is evidence that both boys and girls served as herders.

From the early twentieth century, the tradition started to dwindle. Changes brought about by the modernization and mechanization of Norwegian agriculture, including the evolution of the dairy industry, made the mountain farm largely obsolete. Mountain farming, which had been an important part of agriculture since the Viking Age, gradually lost importance. Traditional musical activities functionally tied to that kind of farm-work virtually disappeared along with it. This applied to cattle calls, a wide range of functional songs, specialized calls used as vocal communication between people, the *lur* and billy goat horn signaling and playing, and the long *seljefløyte*.

Just as many old mountain farms nowadays serve a new purpose as romantic, picturesque hideaways used by local people, as well as tourists, some of the archaic musical creations that used to be functional elements of mountain farming are now mainly heard at festivals, in concerts, and during folk-music contests, attracting tourists and community members. However, while the *lur* and billy goat's horn still appear in the same shape and are made from the same natural materials, the traditional long *seljefløyte* – formerly a *seasonal* instrument, as well as a *make-use-and-throw-away* instrument – has to a certain extent been superseded by a durable hardware replica, wrapped in birch bark, with a decorated wooden mouthpiece. An overview of this kind of changes in the *seljefløyte* tradition during the last century is documented in S. S. Moen's master's thesis (2012), focusing on long, overblown bark and hardware flutes and contemporary mass media productions.

The present reflections – being essentially exploratory and descriptive – on a fragment of this process of cultural change, is based on a socio-musicological survey of 23 players made in 1984 (Ledang 1984a, 1986). More than the instrument itself, the focus is on documentation of the revival process of the *seljefløyte* tradition, particularly *how* traditional usage was transformed into a new generation of players.

In the nineteen-eighties, a few elderly *seljefløyte* makers and players, whose traditions were firmly rooted in local, rural society and mountain farming, were still active. Concurrently, the innovation of the long *seljefløyte* replacements made from durable material contributed to growing interest among young people. A new generation of players emerged in various contexts such as *kappleikar* (generic term for folk music and dance contests), local gatherings, and *mass media*.

Between the younger generation – hereafter referred to as *contemporaries* – and the last known representatives of the old tradition – hereafter called *old-timers* – one discovers an interesting interaction involving persons who might best be described

as *go-betweens*. The latter group consisted of players and makers of differing backgrounds who developed professional interest in the long *seljefløyte* as adults, and whose knowledge and individual skills in making and playing the *seljefløyte* rested to a considerable extent upon personal contact with one or more old-timers. Initially, during my early fieldwork, I was not able to establish any clear-cut dividing line between the *go-betweens* and the contemporaries, based on either contextual factors or sociocultural factors. Only the old-timers were easily and unambiguously distinguishable from other players: they were the only ones whose knowledge and skills rested completely on a local, rural tradition. The concept of “*go-betweens*” appeared useful, legitimate, and crucial to a description and analysis of the initial revival phase and innovation process. Upon analysis of the communication process itself, a clear distinction between the *go-betweens* and the contemporaries began to be revealed.

Against such a background, the case of the Norwegian *seljefløyte* affords a unique opportunity to trace individual ties between a declining tradition and a dawning one. The number of socially active players involved in the process of change in the nineteen-eighties was limited, and their identities could be traced within Norway’s small, transparent, and discrete population, comprising just over 4 million people in 1980 and 5 million in 2013. Contemporaries included players who performed not only in private settings but also in public contexts. Only a few old-timers still limited their performing to the family circle or other more limited settings. Altogether, my sample of 23 active players probably can be considered representative of the process of change during the nineteen-eighties. My sources of information on the players were the following:

- 1) My own records of players – old and young – collected during fieldwork and inquiries.
- 2) The catalog of *seljefløyte* recordings in the archives of Norsk Rikskringkasting (Norwegian Broadcasting Corporation), which included virtually all players who had been recorded.
- 3) The membership files of Landslaget for spelemenn (National League of Fiddle Players), which included information on members claiming to play the *seljefløyte* (a term that in this context also includes hardware specimens).

Based on these sources, my list of *seljefløyte* players – all male except one – whom I assumed were active in 1984 consisted of 23 names. Realizing the obvious possibility that musicologists, as well as musicians, music teachers, and other music professionals may play an influential role in the process under examination, I decided to include not only my honored *seljefløyte*-playing colleagues but also myself in the list of players. The data generated through the survey seem to confirm the validity of this decision.

Since limited resources did not permit personal interviews, the survey had to be based on a questionnaire mailed to each player. In addition to space for such essential social background data as age and profession, the questionnaire contained 38 questions related to each player’s background and the player’s activities related to *seljefløyte* playing and making.

Questions 1–5 solicited information about when, from whom, and in what manner the player first learned about the *seljefløyte*, how they had expanded their knowledge, and what they considered to be the most characteristic quality of the instrument. Questions 6–15 dealt with different aspects of playing: when, why, in what way, and from whom the player had learned to play; a description of playing contexts, including ensemble performance, participation in *kappleikar*, festivals,

concert performances, and the like; practicing patterns; and reasons for playing (or not playing anymore). Questions 16–22 dealt with repertoire, including titles, numbers of tunes, when how and from whom the tunes had been learned, melody-making activities, and the like. Questions 23–32 were related to the kinds of instruments the player was using, including both bark and durable-material varieties, description of these instruments, how and where they had been acquired, who had made them, and individual instrument-making activities. Questions 33–35 dealt with contact among players, as well as general knowledge about players. Finally, questions 36–38 dealt with teaching activities relating to the *seljefløyte* and the respondent's background as a performer on other instruments, and the questions offered the player an opportunity to provide additional information, responses, or comments. All questions were open (i.e., without fixed answer categories) and required as few additional explanations as possible. Thus, the questionnaire was designed in such a way as to encourage each player to formulate his or her answers individually, without being forced into predetermined categories or concepts.

Here, I comment only upon some aspects related to the revival versus innovation process. One idea underlying my approach was that data accumulated at the individual level can furnish a quite detailed picture of the process of change, not only from the mere facts about action and interaction, but also from examination of what is observed and understood by the player, i.e., the agent of change. Of the 23 players surveyed, 22 responded to the questionnaire. The one who did not respond appeared not to have been very active. No other player referred to that person; apparently his influence on or contributions to the contemporary *seljefløyte* tradition have been of limited significance. The data gained from the 22 players who responded are presumably representative of the situation during the 1980s.

Six old-timers were included in the survey: Anton Biløygard from Lom, Gudbrandsdal, and Marius and Jostein Nytrøen from Vingelen, Nord-Østerdalen. All were farmers and had learned to play as shepherds during early childhood. Other players with a similar rural background were Eivind Groven from Lårdal, Telemark, Marie Vøllestad from Drangedal, Telemark, and Knut Stordokk (1873–1961) from Nore, Numedal.

The four go-betweens in the survey had differing backgrounds. Egil Storbekken was a folk musician, instrument maker, and cultural entrepreneur who was living in rural Tolga, in Nord-Østerdalen. Reidar Sevåg and I, were university-employed ethnomusicologists living respectively in Oslo and Trondheim. Arne Røine was a retired house painter living in Oslo. Thus, three made their living to some extent from traditional music (although in different ways), while the profession of the fourth had nothing to do with music. For the sake of completeness, though, it might be added that Arne Røine was extremely active as a folk-music performer at *kappleikar*, festivals, and concerts, and he had also played *hardingfele* dance music regularly during courses and meetings in Oslo. Thus, it appears that all the go-betweens not only shared a deep commitment to the *seljefløyte*, as to older folk-music traditions in general, but also gained some personal benefit from the instrument in one way or another. Concerning their ages, Røine, Storbekken, and Sevåg – all of whom were born between 1908 and 1923 – can be compared to the old-timers. My own year of birth (1940) more closely approached those of the contemporaries.

The fifteen *contemporaries* constituted a socially mixed group. Two were farmers and the remaining thirteen were white-collar workers, including five musicians (one of them also a student and one a music teacher), four who were either teachers or

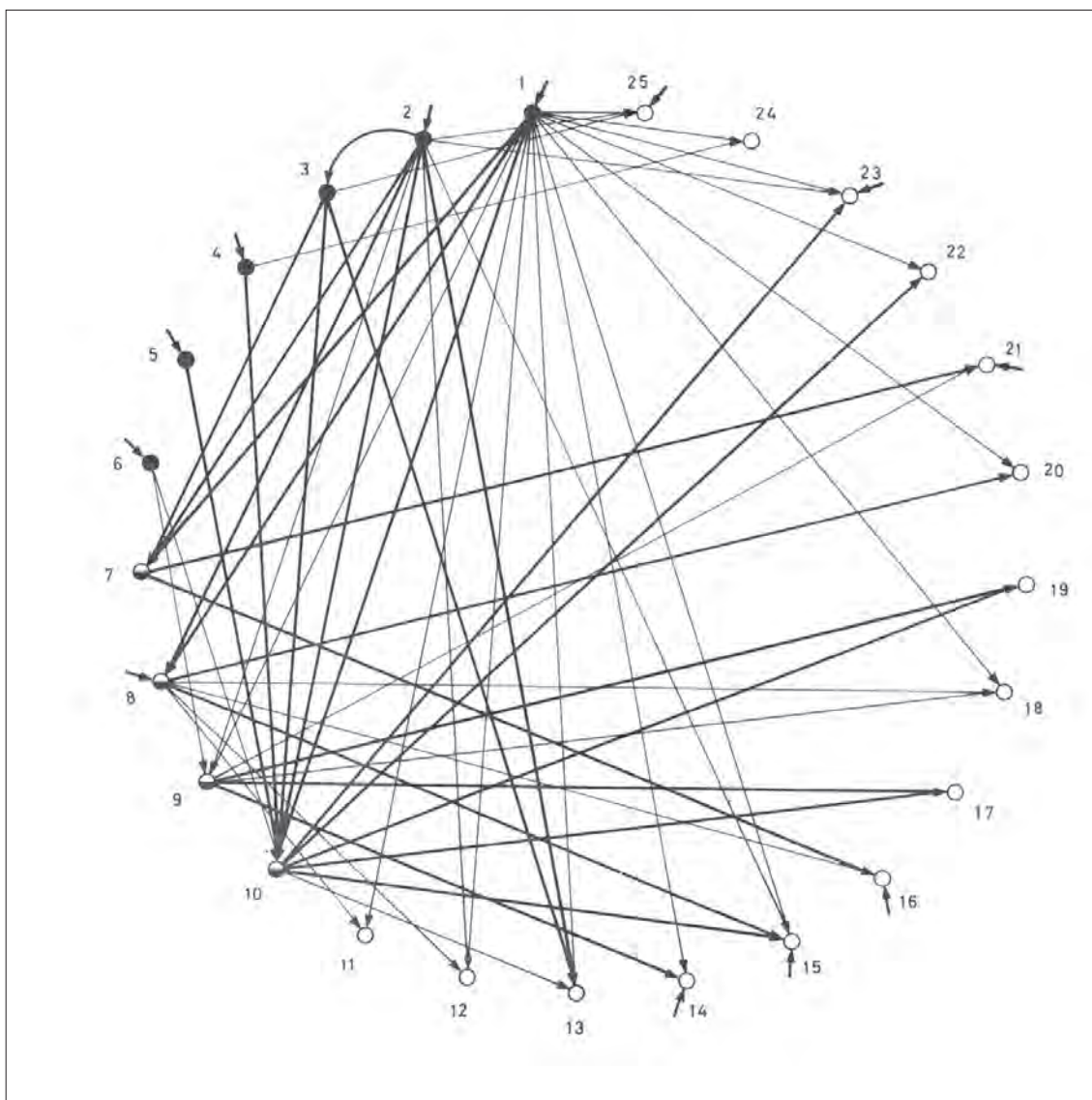
lecturers (one also a journalist and musician, another a businessman and member of the Norwegian Parliament), two university-employed musicologists, one engineer, and one office worker. The majority (eight) of the white-collar workers were living in cities (six of them in Oslo), and five of the white-collar workers were living in rural places. A striking feature of the contemporaries, taken as a group, was the dominance of persons with higher education, many of whom had achieved contact with large numbers of people through their work. A considerable number of the contemporaries were making a living as musicians, teachers, or musicologists. It is also noteworthy that as many as seven (including the two farmers) were living in rural locales. As for their commitment to the *seljefløyte*, there was a multitude of attitudes and uses, ranging from playing merely for personal pleasure to professional performance in concert contexts. Most of the contemporaries were relatively young: one had been born in the nineteen-tens, two in the nineteen-twenties, one in the nineteen-thirties, but six in the nineteen-forties and five in the nineteen-fifties. It is a regrettable fact that the sample of active players included only one female individual – typically enough, one of the old-timers. Presumably that was an outcome of the lacking gender-equality in contemporary Norwegian society.

A structuralist approach was applied when analyzing the way in which the *seljefløyte* tradition is passed on from player to player. The 1984 survey reported on from whom and in what manner each of the players learned how to play, as well as how they developed their repertoire. Similar information is known concerning old-timers who were not included in the survey. The collected data confirm what seems to be generally the case: the flow of tradition involves various kinds of human interaction. However, in the survey, emphasis was on two main categories of communication: 1) the direct, two-way communication through personal, face-to-face contact, which is characteristic of conventional oral traditions, and 2) the mainly indirect, one-way communication achieved through modern mass media.

Ill. 102 presents a flow network model based on these two categories. The model offers a simplified picture of how *seljefløyte* tradition is passed on from one player to another. The underlying design, representing certain documented relationships between individuals within the total population of known *seljefløyte* players, is derived from a book by Hage and Harary (1983), who describe a study of social relationships in a karate club that was conducted by Zachary (1977).

The model reveals several basic characteristics. Not only does it confirm the unique role played by the go-betweens in “mediating” the tradition from old-timers to contemporaries, but it also allows for analysis of the dynamic transformation process. I venture merely a few suggestions in this direction and try to point out some aspects that are relevant to the concepts of revival and innovation.

Firstly, the communicational aspects of the model reveal a basic difference between the go-betweens and the contemporaries, which could not be readily identified directly from my fieldwork experience. Whereas every go-between has both an input and an output, the contemporaries have only input, implying that every contemporary is in a position such as an “apprentice” or “disciple” but not (yet) “teacher” or “master.” This is a significant distinction, which emphasizes the fact that go-betweens might play a unique role in mediating – and thus influencing – the transformation process whereby an old rural tradition is reborn into contemporary society. It also indicates that each contemporary reflects the tradition of one or more old-timers or go-betweens or both, as there is no flow of tradition (i.e., repertoire) among contemporaries. Additional data from the survey indicate that to a certain extent each of the



Ill. 102. A flow network model showing how the *seljefløyte* tradition is passed on from player to player. The black, black-and-white, and white circles represent old-timers, go-betweens, and contemporaries, respectively. The arrows from outside represent local traditions; the directed lines represent the flow of tradition from player to player; and heavy and lighter lines respectively depict communication through face-to-face personal contact and through mass media (Ledang 1986:151).

most prominent contemporaries had specialized in the repertoire of one old-timer. This again seems to reflect certain preferences among the contemporaries, with each one choosing to base their own repertoire on one old-timer only.

Not unexpectedly, Ill. 102 demonstrates that each old-timer represents their own distinctly local tradition. With the exception of the father-son relationship between players 2 and 3, there is no evidence of music exchanged among old-timers – perhaps a trivial observation, since each of these players was the only surviving representative of a strictly local practice of making and playing the *seljefløyte*. More surprisingly, the model indicates a lack of internal flow of tradition among either go-betweens or contemporaries. While go-betweens have learned playing techniques and repertoire from old-timers, rather than from each other, the contemporaries have acquired their tradition both from old-timers and go-betweens, but not from each other. However,

a reservation needs to be mentioned: certain kinds of influence between players are not taken into consideration in the model. More subtle, informal contacts, e.g., at concerts, in different kinds of gatherings, or through mass media have certainly been at work, but in general most players seem to be unaware of – or to under-communicate – the significance of such contacts. Thus, one must assume that the total picture is more detailed – and much more complex – than that indicated by the flow network model, which only conveys a simplified picture of the flow of tradition. Furthermore, the apparent lack of internal flow among contemporaries may be seen as an influence from popular culture as expressed in mass media, with stress on individuality as prerequisite for success.

As mentioned above, the model points out the role of the go-betweens. In some cases, individual contemporaries may lean on direct communication as well as indirect communication (via go-between) from an old-timer. For example, contemporaries may or may not take advantage of face-to-face communication with go-betweens in their interpretation of musical material inspired from old-timer mass media performances. Sometimes, go-betweens play a crucial role, while at other times they do not contribute to the flow of tradition. Nevertheless, the effect of go-betweens is fundamentally that of *reinforcement* of the traditions emanating from the old-timers.

The positions of the go-betweens, as revealed by the general flow network model, might throw some light upon the cultural and social role of this group of players. The transformation process involves change as well as stability. Both factors are present in the activities of the go-betweens. One of the go-betweens who participated in the survey had created and promoted the modern plastic flute. Two, who are established musicologists, have in their research and teachings contributed to promoting status of the traditional *seljefløyte* made from bark. All of the go-betweens, being recognized as people with certain professional competence – including tacit knowledge of the maker-player – of the *seljefløyte* tradition, have contributed to coining a new, more substantial notion of the instrument. While being largely based on the tradition of the old-timers, this new concept might in some ways differ from the olden one. Thus, it reflects not only objective knowledge but also an interpretation of this knowledge, which meets needs that arise when old traditions are integrated into new contexts of contemporary society. Thus, a small group of go-betweens may influence the way the whole process develops.

It appears from the general model that surviving traces of local traditions may be a significant factor contributing to renewed interest in the long *seljefløyte*. While only one go-between claimed basic influence from a local tradition, almost half the contemporaries mentioned local traditions as part of their background. In those cases, the concept of revival seems fully justified – the contemporaries had contributed to the revival of local *seljefløyte* traditions by adapting necessary skills and knowledge from local (and perhaps other) traditions. Thus, the influence directly exerted by go-betweens or indirectly by old-timers has been instrumental to the revival of almost-forgotten local traditions. Seen from another angle, the rise of a contemporary *seljefløyte* tradition at the national level is not only the outcome of efforts from a few influential old-timers reinforced by go-betweens (cf. Ledang 1984a), but also a reflection of the very last, scattered traces of traditional ways of making and playing *seljefløyter* in different local communities.

Because of loss of local knowledge regarding the traditional way of making the long *seljefløyte*, general *accessibility* to the instrument might be regarded as a key requisite for the revival process. The ability to make a functioning, traditional long

seljefløyte can hardly be acquired without some individual guidance from someone who knows the art or has experienced how a good flute is made. The most efficient way to learn this is still through initial demonstration by a skilled maker-player, followed by repeated, patient repetitions of making and playing. This process requires own efforts that can be encouraged – or discouraged – by accessibility to the plastic “*seljefløyte*” replacement (sold in souvenir stores and music shops). The commodity of the hardware instrument is likely to be a double-edged sword: it is a thought-provoking fact that among the contemporaries, there were active players who did not know how to make a traditional *seljefløyte* from bark. Hence, the ready-made plastic flute furnished contemporaries with the one and only device they needed to be able to take full advantage of the one-way communication of musical sound through the mass media. The very concept of a durable, ready-made *seljefløyte* that can be used all year long is fundamentally different from the traditional, seasonal, throwaway instrument. In summation, it appears that in the case of the Norwegian *seljefløyte*, innovation and revival at times have functioned as complementary – occasionally antagonistic – forces acting within the same process of change.

On the international level, the *seljefløyte* has occurred in various contexts. *Seljefløyte* sound – in its traditional form or played on a hardware flute replacement – in an improvisational vein has efficiently created a sense of naturalness (summer though, not winter) for a Christmas greeting from northern Scandinavia, which depicted accompanying a row of reindeers pulling a sleigh, with Santa Claus, and sent during a CNN broadcast on December 25, 1989.

A subjective feeling of genuine “Norwegianness” and staid trolls, emanating from the sound of the traditional *seljefløyte* has been effectively exposed by the prominent Norwegian composer Arne Nordheim (1931–2010). He used authentic *seljefløyte* recordings, as well as other traditional recorded music – processed at a studio for electronic music in Warsaw – as raw material in his electronic music for Ibsen’s drama *Peer Gynt* (1969).⁶³⁰

⁶³⁰ Personal communication and taped copy of the *Peer Gynt* music.

FINALITY: COUNTERPOINTS

The research process behind this monograph has included fragments of natural, social, and humanities studies to achieve a broad comprehension of a traditional group of musical sound artifacts: bark flutes, in Norway known under the generic name *seljefløyte*. Such academic inquiry may generate multiple pieces of knowledge, but is it possible to merge these meaningfully to accomplish a holistic understanding of relevance to the bark-flute world? To approach this goal, we need to pay a humble visit to alternative fields of understanding, such as poetry and philosophy.

A Poetic Outlook

My interest in *seljefløyte* poetry was initially awakened by my lifelong love, Marit, and her ardent passion for literature. I am indebted to her for directing my attention to a considerable number of poems aimed at, referring, or dedicated to the *seljefløyte*. It was only after many, many years of having the privilege to share and enjoy this literary treasure with Marit that I finally realized that *seljefløyte* poetry invites a kind of intuitive – not haphazard – afterthought that is different from and adjunct to the cognizance attained by scholarly studies.

Doubtless, the *seljefløyte* as artifact and concept is deeply embedded in Norwegian tradition, including folk culture as well as elite culture. Traces of such influence can be found in our poetry. A thorough investigation of this matter surely goes beyond the scope of the present monograph and is – true enough – more properly the responsibility of the field of linguistic and literature studies. For the present, a side view of some relevant sources must suffice, to trace how, in which contexts, and with what meaning and connotations the *seljefløyte* occurs in our poetry. Perhaps the very existence of poems and songs touching the *seljefløyte* points to certain values and qualities peculiar to this kind of instrument?

Bjørnstjerne Bjørnson (1832–1910) ranks among Norway's most influential writers of the nineteenth century (Beyer and Beyer 1996:204ff., *Store norske leksikon* 1995:403f). As son of a pastor, he received strong impressions of nature and folk life in Romsdal during his childhood and youth. His extensive production includes novels, plays, short stories, and poems. In his "*bondefortellinger*" ("stories dealing with peasants and country life" Haugen 1984:84), Bjørnson substantiates his familiarity with rural culture. This applies among other things to his novel *Arne*, in which the leading character Arne voices his innermost feelings in a remarkable poem, in which a *seljefløyte* occupies a prominent part. Significantly, the writer does not use the common term for the instrument but a more poetic expression. Thus, the lyrics are spun around "*en fløyte av selju*" (a flute from a willow spray), and Arne's effort to recover "*en underlig sang*" (a wonderful song) from the sound of the flute. The

poem – occasionally referred to under the title *Tonen* ('The Tone') – follows in extenso (Bjørnson 1858:136f):

I skogen smågutten gikk dagen lang,
gikk dagen lang,
der hadde han hørt slik en underlig sang,
underlig sang.

Gutten en fløyte av selju skar,
av selju skar, –
og prøvde om tonen derinne var,
derinne var.

Tonen, den hvisked og nevnte sig,
og nevnte sig,
men best som han lydde, den løp sin vej,
den løp sin vej.

Ofte, han blunded, den til ham smøg,
den til ham smøg,
og over hans panne med elskov strøk,
med elskov strøk.

Vilde den fange og våkned bratt,
og våkned bratt;
men tonen hang fast i den bleke natt,
i den bleke natt.

“Herre min Gud, tak mig derinn,
tak mig derinn;
ti tonen har fått mitt hele sinn,
mitt hele sinn.”

Herren, han svared: “den er din ven;
den er din ven;
skjønt aldrig en time du ejer den,
du ejer den.

Alle de andre dog litt forslår,
dog litt forslår
mot denne du søker, men aldrig når,
men aldrig når. –

The following is a translation of the poem, made by Augusta Plesner and S. Rugeley-Powers and published in an English edition of *Arne* (Bjørnson 1884:172f):

He went in the forest the whole day long,
 The whole day long,
 For there he had heard such a wonderful song.
 A wonderful song.

He fashioned a flute from a willow spray,
 A willow spray,
 To see if within it the sweet tune lay,
 The sweet tune lay.

It whispered and told him its name at last,
 Its name at last;
 But then, while he listened, away it passed,
 Away it passed.

But oft when he slumbered, again it stole,
 Again, it stole,
 With touches of love upon his soul,
 Upon his soul.

Then he tried to catch it, and keep it fast,
 And keep it fast;
 But he woke, and away in the night it passed,
 In the night it passed.

“My Lord, let me pass in the night, I pray,
 In the night, I pray;
 For the tune has taken my heart away,
 My heart away.”

Then answered the Lord, “It is thy friend,
 It is thy friend,
 Though not for an hour shall thy longing end,
 Thy longing end;

And all the others are nothing to thee,
 Nothing to thee,
 To this that thou seekest and never shalt see,
 Never shalt see.”

In addition to the generally acknowledged literary quality of *Tonen*, Bjørnson's way of writing reveals close familiarity with making and playing *seljefløyte*. The opening verses evoke a situation where a young boy in a forest cuts a willow flute and starts playing carefully, as if trying out the sound. This real-life situation not only mirrors common usage of the *seljefløyte*, but also goes deep into the underlying experience. In Bjørnson's words, the traditional way of testing out the sound universe of a fresh

willow flute is turned into magic: a way to discover the sweet tune that “*has taken my heart away*.” Thus, the quivering state of ambiguity when luring pleasing sounds from a newly self-made flute merges together with the dreamlike feeling of wonder. A good convergence of something well known, albeit uncertain, and something excitingly new, is born. In this way, the poem approaches the unreachable from plain everyday experience. The curiosity, openness, excitement, and practical skill that govern the trying out of a simple *seljefløyte* turns out to be a way into the unknown world of imagination. Today, in retrospect, one can also discern an ecological message in the poem, namely that man’s ability or desire to control nature has its limits. Even the sound of a simple contrivance such as the *seljefløyte* challenges human aspiration to rule nature and leaves man virtually awestricken.

Thus, *Tonen* basically refers to a common, traditional way of making and trying out the sound of a new *flute from a willow spray*, which simultaneously is presented as an act of seeking an unknown tune in the wondering mind of the young boy. The longing, wonder, and love of *Arne* is expressed with reference to a genuine folk-music context that adds to the mystery and imagination of the setting.

Bjørnson’s impact on Norwegian culture and society is undisputable, and presumably his poem has been known to and appreciated by generations. It has also inspired Norwegian, Swedish, and Danish composers. Perhaps the most well-known is Richard Nordraak, who also composed the music for our national anthem. His music to Bjørnson’s poem *Tonen* appeared in the successful and widespread collection *Norges Melodier* (Norway’s Melodies) (*Norges Melodier* 1919). This collection of folk and art music in arrangements for song and piano for the public domain was first published in 1874, later reprinted and expanded, and then edited as a shortened edition in 1947. One can hardly underestimate the significance of the poem, against the background of the flood of *seljefløyte* poems in the wake of Bjørnson’s poem. Perhaps it lurks behind later poetic creations?

Herman Wildenvey (1886–1959) was a prominent Norwegian poet of the twentieth century, born in Mjøndalen, Nedre Eiker, close to Drammen (Beyer and Beyer 1996:319ff., *Store norske leksikon* 1998:497). His production included forty-four books of his own poetry, in addition to translations of works by William Shakespeare, Ernest Hemingway and Heinrich Heine. He was known for his linguistic mastery, elegant humor, and joy of life. His poetry earned him the byname “*sommerens sanger*” (summer singer), but one also meets something searching in his poetry. His debut collection *Nyinger* was a spontaneous success and includes the poem *Tør jeg tro?* (Dare I believe?) in which he refers repeatedly to the playing of willow flutes (Wildenvey 1907:12f).

The first stanza opens with a high-flown praise of summer, nature, and love, ending in *Siljufløiters junispil* (Willow flutes playing in June) waking *kærlighedens vætter* (the spirits of love). After this introduction, calling forth a mysterious sense of love and romance, comes the personal adventure, about passion and youth; the loving one coming, with sweet, young, and wild glance, and the atmosphere is still filled with *fløiters junispil* (flutes playing in June). Then doubt comes sneaking in: *Tør jeg tro dig end, dit trolde? / skal en sådan skat jeg eie?* (Dare I believe you, you troll? / Shall I own such a jewel?). In the wake of this question follows a memento of autumn, when *fløiterne og spillet dør* (the flutes and playing die). Finally, the doubt culminates in *Neigu’ tør jeg tro! For du gøner kun i lyse netter ... hver en gang kjærlighedens gamle sang lyder ...* (No, indeed, I dare believe! You just make fun during bright nights ... each time, the old song of love sounds ...).

The reader is likely to left wondering whether perhaps the whole course of events was just little more than a jest or joke. Nevertheless, the poem embraces the dreamlike feeling of wonder and enjoyment of life, spun around the moment of love. The *seljefløyte* sound and the “old song of love” support the lyrical description of passion and nature, as symbols of playful youth and vigor. The repeated references to several flutes appear like a poetic reinforcement of the *seljefløyte* element.

Olav Aukrust (1883–1929) was a Norwegian poet and teacher from Lom in Gudbrandsdalen. He worked in the local *folkehøgskole*⁶¹⁹ for seven years until 1917, after which he tried to support himself as poet, writing in a renewed national romantic style. He joined the Anthroposophical Society in 1921. Aukrust ranks among the leading Norwegian poets of the twentieth century. Two collections of his poetry were published in his lifetime, as well as one that was nearly finished before his death and was printed postmortem.

His second collection, *Hamar i Hellom* was published in 1926 and includes *Emne* (*Raw Material*), a monumental poem celebrating Norwegian traditions, focused on the refinement of domestic culture. Among a multitude of material and immaterial cultural manifestations, one can meet the sound of a flute made from willow: *Det dei gjorde, handgjort var det. / Dåmen av naturi bar det. / Galdt det fagert fløyteljud, / då var seljegræini god.* (What they did, was handmade. / It carried the flavor of nature. / Was it a matter of beautiful flute sound, / then the willow branch was good.) (Aukrust 1942:370). Here, the making of a willow flute is pointed out as a praiseworthy way to achieve beautiful music. The context indicates that the statement includes matters related to aesthetical qualities, as well as dexterity in making the flute. The poem is an outstanding appreciation of a humble instrument with limited sound potential that is made in a few minutes and has a short life.

Jakob Sande (1906–1967) was a Norwegian writer and folk singer from Dale in Sunnfjord, Western Norway (Beyer and Beyer 1996:389f). Ten collections of his poetry and three collections of short stories have been published. Sande became a much beloved poet, known for his exuberant humor and deep compassion, expressed through singable lyrics in set form, inspired by nature, rural culture, and the sailor’s life.

The poem *Fløytelåt* (Flute-tune) appeared in his collection *Guten og grenda* (The Boy and the Hamlet) (Sande 1945:15f). The lyrics inspired the composer Geirr Tveitt to write a simple but utmost touching melody. The song is well known and still popular in Norway. The lyrics consists of eight short stanzas, starting with the willow and the flute sound, which give fuel to philosophical thoughts about life, all expressed with an economy of words typical of Sande’s poetic mastery.

The first stanza presents the setting: *Selja står saftgrøn ... / ... ferdig til fløytebruk / for hage smågutehender.* (The willow stands sap green ... / ... ready for flute use / by the boy’s deft hands). The flute sound is pictured in two stanzas: *Tonen kjem smygande, mjuk og var, ...* (The tone comes stealing, soft and gentle, ...); *Solgylt ... / ... og vemodig sår ...* (Sungilded ... and melancholy painful...). Then unfolds a wide perspective of life: *Gåta om livet ligg løynd der i ...* (The riddle of life is concealed therein ...); *Småfuglen tagnar ...* (The songbird becomes silent ...); *Barnet som stabbar i garden lær / undrar seg på kva vel dette er ...* (The child toddling on the farm laughs / wonders what this can be ...). It ends with an elderly man: *... ein gamal mann, / minnest ...*

619 Vide footnote 7.

(... an old man, / remembers ...); *Tonane leikar i hugen hans, /augo står fjerne med dimslørd glans / mot barndommens bleike minne.* (The tones play in his mind, / his eyes are far-off with dimmed glisten / against the pale memories of childhood).

Fløytelåt is a masterpiece of concise message: words in perfect rhyme and rhythm, eight short three-liners that bring together a substantial scenario of life and environment. The earthbound images possess great associative power. Being perhaps most of all recognized publicly as a popular song, the poem points to – and confirms – the sound of the *seljefløyte* as an expression of life with a latent undertone of wistful longing, appealing to both young and old – humans and nonhumans. Perhaps a reminder of Bjørnson's *Tonen* hovers behind the idea that the *riddle of life* is concealed in flute sound, whereas the old man's memories inspire philosophical reflections. In both cases, the distinctive sound quality of an everyday willow flute triggers thoughts and wisdom of life and our natural environment.

Olav H. Hauge (1908–1994) was born in Ulvik, a small town in Western Norway, where he made his living as a gardener and fruit farmer (Beyer and Beyer 1996:454, *Store norske leksikon* 1997:596, Brumo & Furuseth 205:145). He is recognized as one of Norway's leading poets of the twentieth century, with a considerable and versatile production, including eight collections of his own poems. He also translated poems by French, American, and German writers. Although Hauge was deeply rooted in his domestic background, he also contributed to European modernism tradition.

Hauge's debut *Glør i oska* (Embers in the Ashes) (1946) contains poems in flawless, perfect set form, including *Seljefløyta*. The latter poem appears as a personal story from his youth. It starts with a piece of willow: *Eg fann ein seljerunne ... skar ei vakker fløyte ... og bles ein liten slått.* (I found a willow sapling ... cut a pretty flute ... and blew a little air). Then follow brief hints about the content of the "little air": *Um kjærleik ... liv og død ... ljose voner ... men lell var hugen sår, for eg var sjuk ... og berre femtan år.* (About love, ... life and death ... bright expectations ... still my mind was sore, I was sick ... and only fifteen years). Then, the poem leaps from the past to the present: *Det græt ei seljefløyte ... og denne ljoden plistrar i hugen all mi tid.* (A willow flute weeps ... and this sound always whistles in my mind). As a conclusion, he exclaims: *Som smågut bles eg fløyte, no har eg alle ord, men maktar ikkje tolka mi sorg og sut på jord.* (As kid I played flute, now I have all words but am unable to interpret my sorrow and grief on earth). A strong testimony by a great writer to the expressive potential of a simple flute! The reader spontaneously grasps the meaning but is also likely to wonder: What is behind it? Hauge's focus on childhood memories versus mature verbal communication is challenging and brilliantly exposed with reference to a simple *seljefløyte*. It is no wonder that several composers have been inspired to set the poem to music. Twenty years later, in his collection *Dropar i austavind* (1966), Hauge included another remarkable poem, called *Selja* (The Willow), with a different vein in which the willow and flute are comprehended in a wider perspective, all expressed in a few words.

SELJA

Selja
stend gul
som i fjor,
men færre ser henne.
Fløytor høyrer ein
heller ikkje no.

The following translation is by Robin Fulton in *Drops in the East Wind* (Hauge 2003:43):

WILLOW

Willow
stands yellow
as it did last year
but fewer see it.
Nor do you hear
flutes now.

This short poem evidently takes its point of departure in two closely related kinds of concern: human ignorance of nature (willow), and culture (flute sound). The concise yet touching description of the willow tree in early spring, with the sumptuous yellow flowers on bare sprigs – a suitable time to start *seljefløyte* making and playing – is somehow challenging, particularly if seen against the widespread notion of willow as a weed growing wildly (sometimes in the farmer's way) and luxuriantly along roads, railroads, and paths. However, the perspective goes farther: Does the missing flute sound – a loss of culture – foreshadow the consequences of human ignorance towards the wonders of nature and culture? In last instance, an environmental – including aesthetic – perspective is underlined. Thus, the words meaningfully may be read as a poetic expression of cultural criticism or concern. Along the same lines, the poem may also be interpreted as a tribute to the sound of bark flutes as an expression of distress in the present world.

Hans Børli (1918–1989) was born in the village of Eidskog, in south-eastern Norway, close to the Swedish border (*Store norske leksikon* 1996:192, Beyer and Beyer 1996:452f). He was raised on a small farm and worked throughout his life as a lumberjack, but he was also a productive – although largely self-educated – poet and writer. A lifestyle close to nature and early experiences of loneliness, hardship and poverty have left their marks on his poetry:

From his rich, imaginative, and sometimes lonely experience of the forest, Hans Børli gained a perspective on life that directed his eyes outward as well as inward. A poet of range and compassion, he richly deserves the affection of his countrymen. (Louis Muinzer, in the introduction to his translations of a selection of Børli's poems, Børli 2005:11)

Børli's production includes twenty poetry collections and seven prose works. His early collection *Men støtt kom nye vårer* (But Spring Would Always Come) includes the poem *Seljefløyta* (1949:11). The opening phrase addresses the frosty winter: *Jeg gikk alltid / med tele under foten ...* (I always went / with frozen ground under the foot ...). Then, brief poetic assertions on nature's winter scene follow. Finally, there is a thoughtful statement that unexpectedly explains the title of the poem: *Jeg maktet vandranga gjennom vintrene / fordi jeg ville skjære / ei fløyte av selje / og spille på den om våren.* (I endured the walk through the winters / because I would cut / a flute of willow / and play upon it in the spring). It is a powerful testimony to the very expectation of making and playing willow flute in spring, granted the strength to survive the winter hardships! The poem goes deep into the personal reality – and existential foundation

– of life. One needs to live the unique experience of cutting and sounding a simple bark flute alone in the deep forest to perceive the existential impact of Børli's poem.

Aslaug Vaa (1889–1965) was born in Rauland, Telemark, and studied literature and history in Paris and Berlin (Beyer and Beyer 1996:391, *Store norske leksikon* 1998:428). She worked for some time as teacher and journalist, debuted in 1934 with a poetry book, and had altogether six poetry collections published. Her poetry often has a strong sense of nature feeling, folklore, and the past, combined with a modern sense of life.

Vaa's poem *Seljufloyta* (1964:166) opens with an image of elemental forces and spring break-up under willow root. Against this background follows an accurate poetic rendering of traditional bark-flute making: *Guten skar ein siljutein / sneidde ut eit lite svikk / banka på den gylne borken / truga, ba og trolla ...* (The boy cut a willow sapling / sliced loose a little bung / knocked at the golden bark / threatened, begged, and cursed ...). Then a fairytale-like scene unfolds: *Dei ternur dansa / den fløyta song / – det gjorde so vondt / i gutens bringe* – (The maidens danced / the whistle song / – it hurt so badly / in the boy's chest – .) One can dimly perceive a mythical occurrence: dancing maidens, the flute singing, and finally a feeling of pain in the boy's chest. In the poem, contrasts of thoughts and feelings – earthly nature poetry, with a boy performing a magic ritual, and dancing supernatural beings – interact to create an intense atmosphere of something ethereal and painful, a many-faceted image of the bark-flute world. Philosophical reflection is woven into a lyrical mood of nature, anxiety, and searching, caught in a state of mysticism.

Jon P. Enlid (1913–1983) was a farmer from Budal, a rural district a short distance from the public highway in Sør-Trøndelag. He participated actively in social and political life at the local level and had articles and poems in print. Three of Enlid's poetry collections have been published.

His debut collection (Enlid 1969) covers 34 short poems, including one titled *Seljefløyte*. The opening lines take the reader right into a cattle-herding context: *Skar seg ei seljefløyte / stolt av sin gjeterkniv* (Cut himself a willow-flute / proud of his shepherd knife). Then follow brief typifyings of spring, summer, and fall seasons, concluding rather pensively as follows: *Åtte ei seljefløyte, / skar ho da gauken gol* – (Owned a willow-flute, / cut it when the cuckoo called – .) In this unpretentious short poem, Enlid has literally framed the cattle-herding season by means of the willow-flute and his sheath knife. Simultaneously, the flute binds it all together. The phlegmatic rounding off with the reminder of the cuckoo call – a typical sign of spring – adds a discrete hint of humor and well-being to Enlid's shepherd reflections. The poem also signals environmental awe and attention.

Bjarne Slapgard (1901–1997) was born in Verdal (Nord-Trøndelag), educated as a teacher, and worked for some years in primary schools, but he was particularly known for his achievements as teacher and headmaster at several *folkehøgskoler*⁶²⁰. Alongside the teaching profession he was also a productive writer and had more than 70 books published, including novels, plays, children's books and poems.

His poem *Sommar og seljefløyte* (Summer and Willow-Flute) (Slapgard 1978:68f) highlights summer memories and inspires reflection on *seljefløyte* sound. However, the sound surprises: *Du skjer ei seljefløyte / og prøver om det læt. / Då kvekk du til og lyster, / for seljefløyta g r æ t!* (You cut a willow-flute / and try if it sounds. / Then you

620 Vide section Background: From Outsider's to Insider's View, footnote 7.

startle and listen, / because the willow-flute w e e p s!) This weeping sound – *ein tone som det er vemod i* (a tone with sadness in it) – generates reflection: *Snart kjem den siste våren / du blæs i fløyta di!* (Soon comes the last spring / when you blow your flute!) The second thought follows immediately: *Og difor seljefløyta / ber jubel i sin gråt.* (And therefore, the willow-flute / carries rejoicing in its weeping). The poem is somehow melancholy, but the *seljefløyte* ultimately *kved den same lovsong / som skjelv i lerce-låt!* (chants the same hymn of praise / that quivers in song of the lark!). One can discern a fundamental ambiguity – joy mixed with grief – in the voice of the *seljefløyte*. Slapgard's poem was published when he was 77 years of age, and his thoughts evoked by the flute sound ultimately circle around the end of life. Presumably, the poem reflects the mixed feelings of an old man, prompted by the ambiguous, vague quality of *seljefløyte* sound.

Triztan Vindtorn (1942–2009), born Kjell Erik Larsen (Brumo & Furuseth 2005:183f, *Store norske leksikon* 1998:373), a poet and performance artist, was born and grew up in the city of Drammen. After his debut in 1970, nearly 30 books of his poetry were published, and he is sometimes referred to as the only surrealist poet in Norway.

One of Vindtorn's poems (2003:77), without a title, opens with the following statement: *Du vil ha kontrabass og får seljefløyte / Forlanger skrikets intervaller og får sordin* (You want to have double bass and get willow flute / Demand the intervals of the scream and get mute). It is not easy to discover a specific meaning behind the singular mention of *seljefløyte* other than used as an illustrative, expressive counterpart – and contrast – to the double bass. Perhaps the poem as whole can be understood as developed from the opening lines by means of free associations. The term *seljefløyte* appears without any obvious, deeper reference to the unique qualities of the instrument, but it rather signifies something subdued and soft, and is seemingly released from any traditional context.

The poems quoted above cover a wide range of feelings and topics, although bark-flute sound and the making process occur in various ways as a source of inspiration. In the poems by Wildenvey, Aukrust, and Vindtorn, the *seljefløyte* somehow plays a slightly peripheral role, though not an unimportant one. Wildenvey's *Tør jeg tro?* (Dare I believe?), which celebrates passion, youth, and love, includes the *seljefløyte* as a vivid attribute to the musical praise of summer. Aukrust, in his monumental homage to Norwegian traditions – *Emne* (Raw Material) – includes the *seljefløyte* as a precious aesthetical object among a huge selection of material and immaterial cultural achievements. In Vindtorn's poem, the term *seljefløyte* occurs like an abstraction or metaphor, as starting point for an unpredictable associative process.

However, in most cases, the poems are basically focused on the *seljefløyte*. Four poets – Bjørnson, Vaa, Sande, and Slapgard – share a common core, notwithstanding considerable differences in content. Bjørnson's poem describes the longing and love of the young boy *Arne*, affirming how *seljefløyte* sound in the boy's mind opens a marvellous world of wondering, imagination, and expectations. A similar state of wondering – albeit more dramatic and mythic – is evoked and supported by the ritual and fairytale-like setting in Vaa's poem *Seljufløyta*. Also, Sande's poem *Fløytelåt*, with elementary, earthbound images triggering philosophical afterthought, creates a deep sense of wonder. In Slapgard's occasional poem *Sommar og seljefløyte*, the flute sound invites an old man's existential wondering about life and death in a slightly nostalgic vein. Altogether, the poems by Bjørnson, Vaa, Sande, and Slapgard converge on a wondering, strong emotional and existential response evoked by *seljefløyte* sound, or possibly compelling memories derived therefrom.

Related qualities are revealed through the poetic production of Hauge and Børli. In his poem *Seljefløyta*, Hauge takes a retrospective and slightly nostalgic glance at his habitual flute making and playing during his youth, contemplating the expressive and emotional potential of *seljefløyte* sound, which he – as an adult (and celebrated author) – feels unable to match with words of language. In another poem, *Selja*, published twenty years later, he questions the reduced attentiveness towards willow trees, as well as *seljefløyte* sound. Thus, his affection for pure *seljefløyte* sound is linked together with an environmental attitude. Such intertwining of cultural criticism and environmentalism is also evident in Børli's poem *Seljefløyta*, which celebrates the mental strength (to endure the harsh winter logging woods), intimately related to the very thought of making and playing a *seljefløyte* in spring.

In a sober way, the poem *Seljefløyte* by Enlid presents an everyday approach: the flute, seemingly as experienced by a former shepherd (i.e., the writer) contemplating the herding season. Catchwords are the meaning-loaded terms 'knife' and 'cuckoo', curiously reflecting a similar culture-nature dichotomy as in the poems by Børli and Hauge. Enlid's poem signals environmental awe and responsibility, proudness, and joy of life.

Not surprisingly, *seljefløyte* poetry in general conveys a multifarious complex of feelings. Still, there is a core associated with ultimate qualities of *seljefløyte* sound: something appealing though fundamentally ambiguous, unclear, or vague, inviting indulgence in matters of existential or philosophical character – culture and nature, environment, society, life and death, love, wondering, and the like. Also noticeable is the modest role of aesthetical judgements; the poets just refer to the mere act of playing or the flute sound itself, with no assertion about aesthetical quality of sound, except for broad generalizations, such as Aukrust's *fagert fløyteljud* (beautiful flute sound) and Sande's *mjuk og var* (soft and gentle). Against the background of the poetic evidence outlined above, an outstanding foreign literary source deserves mention. In his novel *Pied Piper*, Nevil Shute (1970 [1942]) describes the adventures of an elderly Englishman vacationing in France during spring 1940, where he is caught by the sudden German attack. He is forced to return in a hurry, and to take responsibility for two children. One is struck by the old gentleman's ability to establish immediate contact with children by means of small flutes made from hazel twigs, as a mother recognized:

"It was so very kind of you to make that whistle for the children," Mrs. Cavanagh said that night, over coffee. "They were simply thrilled with it."

"Children always like a whistle, especially if they see it made," the old man said. It was one of the basic thoughts that he had learned in a long life, and he stated it simply.

"They told me how quickly you made it" she said. "You must have made a great many."

"Yes," he said, "I've made a good, many whistles in my time." He fell into a reverie, thinking of all the whistles he had made for John and Enid, so many years ago, in the quiet garden of the house at Exeter. (Shute 1942:27)

It is not in the old man's character to refuse a child, and during the dramatic flight, he picks up more children. The old man's proficiency in making and playing bark flutes not only invites children's confidence – the humble gift of a tiny whistle also

miraculously opens a shock-stricken orphan's mind and ability to speak and communicate (1970 [1942]:87–101). This approach to the distinctive character of a simple bark flute is noteworthy. Marvelously, the bark flute – with its tender sound – displays a contact, friendship, and confidence, thereby creating a potential that goes deeper than regular communication by word only.

Seen together, the literary samples presented above, seem to form a conception of the unique ability with which a bark flute may attract somebody's attention. Not surprising, *seljefløyte* poetry is often focused on flute sound and the making process, more than the instrument per se. The sources seem to cluster around an understanding of *seljefløyte* sound as a subtle means for creating a state of wondering, openness, confidence, as prerequisites for well-being. To be sure, this quality somehow reflects how and why the use of bark flutes – in some ways a futile implement – is indigenous to folk culture. The flute is simply made by means of a mere sheath knife, from easily accessible and sustainable natural resources, used for leisure and unpretentious entertainment – and short thereafter discarded. All this together makes the *seljefløyte* an outstanding instrument of folklore, particularly childlore. The basis in children's tradition is worth some reflections on my own cultural background.

Deliberations

A lifelong fascination and annually repeated *seljefløyte* make-and-play-activities – informal and formal, for sheer fun and academic study – are invested in this monograph, which has emerged from an innocent diversion during early childhood that settled to a personal habit during youth, and later a favorite research hobbyhorse. This perpetual acquaintance and fascination with bark flutes has lasted from childhood to old age. How can such lifelong, agreeable, albeit challenging process get started? It had a modest outset in my early childhood:

I grew up in the stratified society of a Norwegian town based on lumber industries. But fishing, collecting wild berries, and to some extent hunting, were also parts of my family's livelihood. My early childhood memories include playing in the wood on the steep hill right behind the row of houses on the other side of the road next to our own. [...]

One of my most cherished activities while exploring the Namsos woods was to whittle branches that I cut from *selje* (willow), *rogn* (rowan), *older* (alder), or other deciduous trees. I would make fancy walking sticks, slingshots, swords, hunting bows and arrows, or just whittle for the fun of it with no other goal. But always something would eventually come out of my effort. (Ledang 1990:105)

During springtime and early summer, I sometimes ended the day's outdoor business with a bunch of *plysterpipa*. It was an engaging and focused – yet also tranquillizing – activity, most of the time spent alone in the wood, void of any competition, just using the knife in my own way before I knew what dexterity meant. When I was too young to have my own knife, I stole into my dad's bike repair shop and picked up a suitable, well-worn but sharp-edged sheath knife. My parents must have known what I was doing, but when I returned home from my toying in the woods, bringing with

me my handiwork, they never commented on my self-appointed borrowing from my dad's workshop.

Necessarily, right after World War II, the highest priority at home was to survive respectably. My father earned the family's livelihood as a sawmill worker and mending bicycles in his spare time, while my mother had to take most of the responsibility for the children. Being left alone much of the time was a normal thing for me – a challenge and stimulus to display creativity and invent meaningful activities based on sustained contact with the external surroundings. In retrospect, I bless this opportunity for self-development, opening a world of playful activities and adventures. Such interaction with the environment made up a significant part of my childhood. Considering the importance of childhood life in a natural environment, the pioneer of human ecology Paul Shepard states:

Even as socially intense as we are, much of the unconscious life of the individual is rooted in interaction with otherness that goes beyond our kind, interacting with it very early in personal growth, not as an alternative to human socialization, but as an adjunct to it. (1982:125)

In contemplating my own childhood memories, I realize more and more the wide range and fundamental importance of “interaction with otherness” for my individual personal growth. The Namsos woods, with a great variety of a prodigious resources – fresh, “wet” wood, an Eldorado for whittling and bark-flute toying – challenged my imagination and inspired me to cut simple artifacts. Infantile fluting on my self-made *plysterpip* not only called forth fragments of the local cultural soundscape such as signals of the fire engine and ambulance or simple melodic phrases, but also opened unforeseen and surprising encounters with local wildlife, creating a feeling of interconnectedness with the natural surroundings. It was an explorative activity that stimulated sensitivity and responsiveness while I discovered my home ground through communicative attention upon nature. The environmental philosopher Freya Mathews comments on this kind of personal recognition of otherness, and contact-seeking encounter with otherness in terms of culture as follows:

A culture of encounter will be one in which modes of address, such as those expressed in poetry, song, ritual, and dance, will take precedence over modes of epistemological interrogation and exposure, such as those exemplified in science. (2003:10)

My “culture of encounter” related to *plysterpipe* making and playing, included among other things the obligatory, ritual performance of a thought-provoking bark-stripping jingle. Thus, such activities contributed to shaping the landscape of my childhood, or “home range” as described by Shepard:

“Home range” for the seven to ten years old, is the prime, patterned, concrete reality of life, upon which wavering and nubile powers of memory and logic cling and develop, like seals climbing onto the rocks to give birth. (1999:195)

Considering the unfolding life in a “culture of encounter” and “home range” as a childhood learning process, a side glance with an ecological perspective might be

enlightening. In her pioneering book *The Ecology of Imagination in Childhood*, Edith Cobb reports a major observation concerning children and their connection to nature:

If we put aside idealization of permanence or set goals and observe growth and learning in childhood as a period of gradual transcendence from level to level out of biological nature into culturally created worlds, we become more conscious of these contributions, in the shape of values and even skills, which these earlier phases of personal history and biocultural development make to the fully adult personality. (1977:101)

Presumably, such “values and even skills” include mental and motoric skills, as well as material outcomes of bark-flute activities. Even the simple process of making short flutes such as *plysterpip* involves a series of perceptive, practical, and mental aspects and considerations – some obligatory, others unimportant or functionally superfluous, yet rewarding and inspiring. The obvious goal – making and playing a flute – requires continuous extemporization, including visual inspection to locate a good raw material, select and grasp a promising shoot or branch, finger-tip feeling the bark surface to locate possible defects or irregularities, whittling, pounding on, and loosening the bark tube, licking the moisture off the stripped piece of wood, tasting, swallowing – and enjoying – the sweet juicy sap, biting and chewing the bark-stripped wood, and, lastly, joining together the flute, before checking and customizing the minute design and adjustments with the sound hole and the piece of wood before breathing carefully with subtle control, and possibly fingering, to try out the sound microcosmos, and finally, a generous sonic working out. Basically, a similar procedure (except for the ritual use of bark-stripping jingles) applies to the long *seljefløyte*, only more elaborate and demanding.

The making process, done with great care, can be likened to caressing and shaping the piece of wood, gradually transforming it to a sound tool. In the hands of the flute maker, the piece of willow twig is experienced as a live thing. The making process hints of respectfully treating something lifelike, as expressed by Mathews:

Inanimate things can indeed *seem* to acquire a life of their own when we focus on our communicative attention upon them. (2003:82)

The flute-making process is interlarded with interruptions for speculation, valuation, and control, rewarded with satisfaction and various challenges – and not unimportantly, void of competitive aspects. It is a spontaneous, creative outcome of imagination and inventiveness from handling and caring for a piece of willow twig, an easily accessible natural resource. Finally, there is a sensory and perceptual test, involving trial by playing, and – in case of success – crowned with sound toying.

Considering perceptive and cognitive challenges, Cobb maintains that

Although structured language – that is, language with grammar and syntax – is indeed the greatest difference between animals and humans, the true scope of human cognitive processes continues to lie in plasticity of perception, by means of which mutual relations between systems in nature and systems of the body can be organized into form and meaning in linguistic or aesthetical form. (1977:99)

In bark-flute tradition, “plasticity of perception” is essential to the merger of sensibility, imagination, and practical skill needed – and fostered – by active participation, and the activity per se – including outcomes such as jingles, artifacts, and sonic patterns – indeed triggers “form and meaning.”

Bark-flute sound occasionally unfolds unforeseen environmental responses – another “interaction with otherness” – launching an immediate human-nonhuman dialogue with voices of nature, such as the “bird symphony” (Schafer 1977:31). Reacting instantly to the first, groping flute sound, songbirds in the vicinity occasionally turn silent for a moment, after which the natural soundscape is promptly reestablished, yet including one or more birds responding invitingly to the “newcomer.” Thus, a human-nonhuman feedback situation is established, a mutually contact-seeking act. Something like that occurs in Sande’s poem *Fløytelåt* (1945:15): *Småfuglen tagnar i skogen då, / undrande sit han og lyder på / og gløymmer seg lange stunder.* (Then the songbird becomes silent, / wondering, he sits listening / and forgets himself for a while.) In retrospect, I realize how my childhood life with *plysterpipe* activities included a wealth of similar encounters with local wildlife. Mathews appropriately comments on this kind of incident as follows:

Recognition that a wild creature is responding to our signals, for instance, will not occur until its behavior ceases to conform to instinctual patterns – patterns that are universal for its kind – but assumes an unpredictable and singular character instead. (2005:16, 207)

My childhood experiences of immediate contact with the live vicinity through sounding simple bark flutes naturally led to increased awareness of human-nonhuman interconnections. Such incidents have become an integral part of my life residing in the wood; I still remember my naïve amusement and satisfaction when recognizing an unforeseen response to my faint fluting by birds singing, after a moment of silence. It was a stimulating encounter, encouraging spontaneous dialogue between my infantile bark-flute expressions and songbirds’ responses – still today approachable whenever I relive the “bird symphony.”

For some years, though, the understanding, pride, and convenient touch I had acquired by *plysterpipe* toying were overshadowed by school. Adult culture and the educational system took the lead, and I became an ardent user of the public library, and an active member of the school band (besides unpretentious music activities, such as playing accordion and ukulele at home). New sonic worlds opened. All the same, during spring and early summer, the unassuming *plysterpipe* popped up annually – to be sure, mainly within my “home range” that imperceptibly turned into my “cultural backyard” – reviving my curiosity and zest concerning the wonders of nature. However, at school I took a genuine interest in theoretical subjects such as mathematics and physics.⁶²¹ In years to come, playing church organ became a favorite activity. Slowly, I grew consciously aware of the close relationship – despite the obvious contrast – between a simple handmade bark flute and the luxurious grand organ. My reflections on these matters developed further through the years as I studied physics (at The Norwegian Institute of Technology (NTH), 1959–63) simultaneously with organ playing (at Trondhjems Musikskole (music school in Trondheim), 1959–62).

⁶²¹ The author was awarded H. K. H. Kronprinsens premie (His Royal Highness the Crown Prince’s Prize) in a national mathematics competition in 1959 (*Nordisk Matematisk Tidsskrift* 7:189).

Later, the use of not only bark flutes but also custom-made metal organ pipes for my early empirical frequency studies (cf. Part II of this book) confirmed the acoustical analogy between the long *seljefløyte* and flue pipes. On the other hand, years of practicing as church organist also deepened my understanding of the fundamental dissimilarity between, on the one hand, the great organ – a luxurious high-tech musical instrument of a type known since ancient times and aimed at complete control of numerous standardized pipes (each one being allowed to give one single pitch only) managed by means of a complex interface, mastered by a trained player – and, on the other hand, the long *seljefløyte* – a low-tech bark flute, made in a few minutes and capable of producing a limited series of pitches elicited by a self-taught maker-player. Pushed to extremes, I experienced organ playing as a noble art of performing culturally conditioned, synthesized sound, whereas playing the long, overblown *seljefløyte* was more like an introspective voyage of discovery into the organic inherent, sonic microcosm of a single, unique bark flute.

As shown in Part I, the Norwegian bark-flute tradition basically appears to be a folklore offshoot firmly established in childlore, probably with prehistoric roots. Generally, the practice of annual making and playing simple bark flutes still exists as a quite high frequent and persistent practice in Norway, widely valued (and occasionally, locally resuscitated by well-intentioned adults) across urban and rural, folk, and elite culture. The abundant, playful bark-flute usage is still a viable part of childlore, revived every spring and summer season. Presumably, the core of this tradition is the flute making and sound toying, whereas the ritual use of bark-stripping jingles perhaps is less known today. However, there can be little doubt that the traces of beliefs and practices of earlier times bear witness to ancient roots. Moreover, references to related jingles such as the bear rhymes possibly evoke the ancient, northern hemispheric mythology of the bear (see e.g., Shepard 1999:92ff.). Also, the noteworthy use of poetry and singing or chanting are akin to Mathew's "culture of encounter" (2003:10).

Thus far, the underlying bark-stripping jingle corpus has been interpreted as derived from a prayer or invocation to some supernatural force (cf. "Traditional Practices: Magic Jingles"). On second thought, a more fundamental and general interpretation would be as spontaneous – perhaps unconscious – manifestations of respect, veneration, and vulnerability for nature's forces, known or unknown. Most jingles address the flute-to-be directly, thereby attributing a psychic dimension to the piece of wood. Liberally interpreted, the bark-stripping jingles simply voice a panpsychist worldview, expressed verbally and realized ritually. A recent version of this philosophical position – revived and supporting resistance against contemporary nature-devastating civilization – has been promoted by Mathews:

I characterize *any* view that reunites mentality with materiality, and thereby dismantles the foundational dualism of Western thought, as panpsychist, inasmuch as it attributes a psychic dimension to all physicality. (2003:4)

By dismantling "the foundational dualism of Western thought," panpsychism constitutes a philosophical basis supporting protection of our natural environment. In his book *The Denial of Nature*⁶²², philosopher and Professor Arne Johan Vetlesen makes the following point:

⁶²² I am indebted to Trond Arnesen, NTNU, for directing my attention to this work.

A chief objective in panpsychism, then, is to reverse the process of desensitizing currently sustained by a physical world-narrowing materialism, philosophically backed by a moral world-narrowing anthropocentrism. (2015:203)

Common traditional bark-flute activity, including related childlore in a natural context and adult open-air music making on long *seljefløyte*, fosters environmental sensitivity and awe: a small-scale – yet not unimportant – sensitizing force. Every bark flute is a unique, simple, but functional artifact, handmade from easily accessible, natural, and sustainable raw material. In childlore contexts, bark-flute making and playing is a self-initiated process aimed at sheer fun, joy, and satisfaction. The more demanding act of making a long *seljefløyte*, requiring a higher level of dexterity with the knife, and manual strength in the bark-stripping process, has traditionally been practiced among adolescents and adults.

Archetypically, *seljefløyte* making and playing usually refer to the same individual. This maker-player unity constitutes a unique, basic connection. The live organic raw material – fresh wood and bark – from which the flute emerges, continuously undergoes a natural (yet man-made controlled) process of change, requiring daily maintenance and adjustments. Ultimately, the essential knife treatment persists throughout a bark flute's life. Thus, familiarity with knife and skill at whittling are indispensable requisites for every bark-flute maker-player.

Although bark-flute making and playing is often a leisure activity – or an outlet for surplus of energy – it is also a demanding aesthetic enterprise. The cause of making and playing short, simple bark flutes is perhaps most of all the need to explore and search, at the same time intertwining curiosity and inventiveness into innocent – though attentive – toying with sound. Abundant sources describe children and their delight in bark-flute activities, but flute sound is rather one-sidedly referred to in terms of joyfulness and simple sonic play, rather than music making per se. *Plysterpip* playfulness revolves around the bodily quality of sound, rather than the ethereal quality of sound. Underneath the physical substantiality though, one can vaguely perceive an undefinable potential of wondering attributed to bark-flute sound. I used to react by being deeply spellbound by *plysterpip* sound-making as a young child, and I still embrace and enjoy the magic of it. This feeling is strengthened by – if not dependent on – the authentic environmental context, as well as the natural living material applied and the traditional usage. It is a process that stimulates human/non-human mutuality, sensitivity, and devotion to life.

Aesthetically, and from a musical standpoint, the undisputable summit among Norwegian bark flutes, the long overblown *seljefløyte*, is distinguished by its inherent, unique series of pitches. The tacit making procedure, void of the ritual bark-stripping jingles, and heavy-handed – though sensitive – twisting to loosen the bark tube without hammering, reflects an adult tradition beginning in adolescence. Each flute displays its own sound microcosmos, inviting attentive listening, melody making and toying; and some players have developed their own, individual repertoire. However, this is not to forget the fact that some elderly people I have met, who could make and sound euphonious long flutes, seemed to lack an individual melody repertoire.

Traditionally, bark-flute making and sounding simple, improvised open-ended melodic fragments possibly has been considered – and accepted – as a self-sufficient, undemanding source of delight. On the other hand, a contemporary practice focused on fixed *seljefløyte* repertoire of tunes in closed form – suitable for private

or commercial entertainment and folk-music competitions – possibly is a modern outcome favored and nurtured by mass media, popular culture, and the innovational hardware replacement, misleadingly denominated “*seljefløyte*.” Most importantly, though, making music – whether laborious or simple – on the traditional long *seljefløyte*, with its individual unavoidable imperfections and vulnerability, is always a challenging task, and an advanced ear-training exercise requiring maximum attention. In happy moments, it also stimulates recognition of subtle tonic and timbral features in the sound microcosm of a simple bark flute: a window opened slightly to the never-ending surprises of nature-in-culture, an acoustically limited sound world, yet complex enough to accommodate different ethnic styles.

In the end, the sonic output of a long *seljefløyte* is somehow influenced by an *aleatoric* element. This phenomenon includes unexpected and surprising sound events, such as irregular melodic leaps, chirps, or sharp cluster-like howls, arrived at by random hits, occasioned by delicate, minute details in the shape of the instrument beyond the control of the making procedure, and the extreme flexibility of the bark tube. Such complex, fluctuating occurrences – caused by interaction of laws of nature and human restraints – may distort the tone intended by the player, or they may be utilized creatively in free, open-ended playing, leading into a unique field of apparently haphazard – yet charming and amusing – sound events. The bark-flute sound world truly includes musical surprises.

In general, the bark-flute world elicits an essential human-nature connection. Bark-flute traditions follow the year cycle, an annual reminder of the time dimension, the grand-scale universal rhythm of life on earth. They are firmly connected to our environmental complex, a sustainable practice celebrating the vital force of nature, inspiring awe, reciprocity, and connectedness.

The bark-flute world extends throughout the temperate zone of Eurasia, from Korea in the east to the Iberian Peninsula in the west. Thus, the present work – focused on the Norwegian *seljefløyte* – embraces only fragments of this widespread tradition. Willow and other deciduous trees are fast-growing; they are a source of excellent material for flute-making and one that is produced lavishly, thereby supporting sustainable cultural applications and fostering many-sided encounters and sensitivity.

A basic unfolding of the bark-flute world is playing at leisure in the woods, creating a cultural soundscape of openness and wonderment, at times instigating sonic dialogue with voices of the natural soundscape. During springtime and early summer, the bark-flute sound offers surprises, challenges, and lifelong renewable satisfaction and enjoyment for the performer, as well as for the listener – a genuine manifestation of *homo ludens* amidst voices of nature. This setting is perhaps most strikingly caught in *seljefløyte* poetry, where reality and imagination meet: the magic yet earthbound character, tonal ambiguity, and fluctuating timbre of bark-flute sound is somehow reflected in poems circling around longing, searching, and wondering – occasionally creating a dream-like atmosphere.

The archetypal maker-player unity constitutes an existential aspect of bark-flute usage, leaving total control of the entire process – preparing, making, sounding, discarding – to a single human being. The playing action may incline towards extrovert or introvert, leaving room for everyday diversion, with thoughtfulness, humor, fun, and, as an afterthought, boundless versatility potential. The maker-player unity ultimately may also stimulate acknowledgement of the interdependence or connectedness of nature and culture, encouraging acceptance and open-mindedness towards unpredictability and uncontrollability of the *seljefløyte*. Ultimately, the

most challenging task for bark-flute lovers and practitioners concerns the almost unattainable act of balancing the controllable against the uncontrollable. The tonal world of the long, overblown bark flute accommodates subtle distinctions of pitch series, physically embedded in each specimen, and which – despite their natural diversity – are readily recognizable as the voice and scale of the *seljefløyte*.

Playing the *seljefløyte* means seeking coherence and meaningfulness, simultaneously with promoting mental preparedness for the unforeseen – a sentiment of human-nonhuman mutuality, contemplated in nature. Whereas the music of the long *seljefløyte* is increasingly known and appreciated, a thorough comprehension of the sound world and cognitive potential of children's toying with self-made tiny bark flutes seems to be almost non-existent. Perhaps future investigations might unveil an ancient, yet viable, secret music workshop and magic-aesthetic expertise concealed in bark-flute childlore?

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TABLES

| Flute | l | d ₁ | d ₂ | w | h | Remarks |
|------------------|-----|----------------|----------------|-----|-----|-------------------------|
| S1 | 457 | 13 | 11 | | | $\alpha \cong 74^\circ$ |
| S2 | 468 | 14 | 12 | | | |
| S3 ₁ | | | | | | cf. Ill. 71. |
| S3 ₂ | 476 | 17.5 | 14 | 10 | 7 | |
| S3 ₃ | | | | | | |
| S4 | 494 | 17 | 15 | | | $\alpha \cong 77^\circ$ |
| S5 | 557 | 16 | 13 | | | $\alpha \cong 57^\circ$ |
| S6 | 557 | 16 | 13 | | | $\alpha \cong 89^\circ$ |
| S7 | 565 | 15 | 12 | 8 | 4 | |
| S8 ₁ | | | | | | cf. Ill. 71. |
| S8 ₂ | 573 | 23 | 18 | 13 | 7 | |
| S8 ₃ | | | | | | |
| S9 | 577 | 18 | 15 | | | $\alpha \cong 65^\circ$ |
| S10 | 580 | 18 | 14 | | | |
| S11 | 582 | 19.5 | 14.5 | 10 | 6 | $\alpha \cong 65^\circ$ |
| S12 | 594 | 24 | 19 | 14 | 8 | |
| S13 | 596 | 24 | 20.5 | | | |
| S14 ₁ | | | | | | cf. Ill. 71. |
| S14 ₂ | 625 | 15.5 | 12 | 8.5 | 5 | |
| S14 ₃ | | | | | | |
| S15 ₁ | | | | | | |
| S15 ₂ | 717 | 20.5 | 15.5 | 12 | 6 | |
| S15 ₃ | | | | | | |
| S16 ₁ | | | | | | |
| S16 ₂ | 770 | 22 | 15 | 13 | 7.5 | |
| S16 ₃ | | | | | | |
| SG1 | 661 | 21.5 | 17.5 | | | |
| SG2 | 707 | 20 | 15 | | | |
| SN1 | 387 | 13.5 | 11.5 | 10 | 5 | $\alpha \cong 51^\circ$ |
| SN2 | 395 | 14.5 | 13 | 10 | 4.5 | $\alpha \cong 53^\circ$ |
| SV | 628 | 22 | 16 | 13 | 7.5 | $\alpha \cong 66^\circ$ |

Table 1. Dimensions of seljefløyter used for fundamental frequency measurements. S1-S16 made and played by the author, SG1-2 made and played by Eivind Groven, SN1-2 made and played by Jostein Nytrøen, SV played by Marie Vøllestad (maker not known). Cf. Ill. 51.

| Flute | l | d ₁ | d ₂ | w | h | i | g | d ₃ | Remarks |
|-------|-----|----------------|----------------|------|-----|-----|----|----------------|--------------|
| M1 | 350 | 15 | 15 | 10,5 | 3,5 | 105 | 47 | | Common basis |
| M2 | 450 | 15 | 15 | | | | | | |
| M3 | 550 | 15 | 15 | | | | | | |
| M4 | 650 | 15 | 15 | | | | | | |
| M5 | 693 | 20 | 13 | 14 | 4,5 | 118 | 47 | | Common basis |
| M6 | 693 | 20 | 16 | | | | | | |
| M7 | 693 | 20 | 18 | | | | | | |
| M8 | 693 | 20 | 20 | | | | | | |
| M9 | 693 | 20 | 20 | 14 | 7 | 118 | 47 | | ¹ |
| M10 | 693 | 20 | 20 | 14 | 5,5 | 118 | 47 | | ² |
| M11 | | | | | | | | | |
| M12 | 700 | 15 | 13,5 | 10 | 4 | 79 | 45 | 11 | |
| M13 | 700 | 21 | 19,5 | 13 | 6 | 105 | 80 | 13,5 | |

Table 2. Dimensions of metal flutes used for fundamental frequency measurements. As for *l*, *d*₁, *d*₂, *w*, *h*, *i*, *g*, and *d*₃ (cf. Ill. 589).

¹ The same components as M8, but with mouth height increased.

² M10 and M11 have identical components, but only M11 has 32 dents equally distributed over the walls.

| Tone No. | S1 | S2 | S3 ₁ | S3 ₂ | S3 ₃ | S4 | S5 | S6 |
|----------|------|------|-----------------|-----------------|-----------------|------|------|------|
| 6 | 1257 | 1025 | 1024 | 1033 | 1040 | 957 | 878 | 874 |
| 7 | 1257 | 1209 | ¹ | 1234 | 1242 | 1139 | 1044 | 1039 |
| 8 | 1402 | 1361 | 1370 | 1371 | 1377 | 1288 | 1174 | 1174 |
| 9 | 1612 | 1551 | 1563 | 1580 | 1580 | 1476 | 1337 | 1330 |
| 10 | 1770 | 1699 | 1715 | 1721 | 1718 | 1621 | 1466 | 1470 |
| 11 | 1973 | 1919 | ² | 1934 | 1934 | 1817 | 1629 | 1638 |
| 12 | 2130 | 2059 | 2066 | 2067 | 2056 | 1957 | 1761 | 1766 |
| 13 | 2331 | 2279 | 2283 | 2294 | 2285 | 2160 | 1933 | 1933 |
| 14 | 2492 | 2412 | 2422 | 2418 | 2410 | 2295 | 2061 | 2058 |
| 15 | | 2635 | 2648 | 2643 | 2641 | 2487 | 2219 | 2225 |
| 16 | | 2755 | 2775 | 2792 | 2768 | 2635 | 2353 | 2358 |

Table 3A. Mean fundamental frequencies of seljefløyter, measured in Hz. Unless otherwise stated, the fundamental frequencies refer to measurements (or tape recordings) made on newly made flutes, i.e., flutes not more than one day old.

| Tone No. | S7 | S7 ³ | S8 ₁ ⁴ | S8 ₂ | S8 ₃ | S9 | S10 | S11 ⁵ | S11 ⁶ |
|----------|--------------|-----------------|------------------------------|-----------------|-----------------|------|------|------------------|------------------|
| 4 | | | | | | | | 565 | 560 |
| 5 | | | | | | | | 718 | ⁷ |
| 6 | 869 | 864 | 851 | 844 | 846 | | 833 | 853 | 850 |
| 7 | 1037 | 1025 | ⁸ | 1006 | 1002 | | 986 | 1010 | 1021 |
| 8 | 1174 | 1157 | 1148 | 1122 | 1124 | 1125 | 1111 | 1139 | 1145 |
| 9 | 1337 | 1330 | 1312 | 1290 | 1288 | 1273 | 1266 | 1297 | 1312 |
| 10 | 1471 | 1457 | 1422 | 1408 | 1406 | 1411 | 1386 | 1426 | 1438 |
| 11 | 1646 | 1627 | 1607 | 1578 | 1573 | 1561 | 1548 | 1584 | 1607 |
| 12 | 1770 | 1755 | 1713 | 1696 | 1692 | 1688 | 1671 | 1714 | 1727 |
| 13 | 1944 | 1931 | 1898 | 1869 | 1856 | 1844 | 1843 | 1879 | 1909 |
| 14 | 2073 | 2055 | 2020 | 1979 | 1971 | 1964 | 1975 | 2009 | 2021 |
| 15 | ⁹ | 2246 | 2198 | 2159 | 2147 | 2133 | | | 2201 |
| 16 | 2360 | 2370 | 2303 | 2264 | 2254 | | | | 2322 |

Table 3B. Mean fundamental frequencies of seljefløyter, measured in Hz. Unless otherwise stated, the fundamental frequencies refer to measurements (or tape recordings) made on newly made flutes, i.e., flutes not more than one day old.

¹ Could not be produced.

² The tone was mixed up with too much noise to permit frequency measurement.

³ Repeated measurements after three days. The flute was then not so easily playable. Several small adjustments were necessary in order to produce the full range of tones.

⁴ Indirect measurements on S8-1, S8-2, and S8-3.

⁵ Several small adjustments were necessary to achieve the full range of tones

⁶ Repeated measurements after three days.

⁷ Could not be produced.

⁸ Could not be produced.

⁹ Could not be produced.

| Tone No. | S12 ¹ | S12 ² | S12 ³ | S13 | S14 ₁ ⁴ | S14 ₂ | S14 ₃ | S15 ₁ | S15 ₂ | S15 ₃ |
|----------|------------------|------------------|------------------|--------------|-------------------------------|------------------|------------------|------------------|------------------|------------------|
| 4 | 551 | 553 | 550 | 505 | | | | | | |
| 5 | 705 | 711 | 712 | ⁵ | | | | | | |
| 6 | 820 | 827 | 827 | 778 | 779 | 782 | 783 | 672 | 687 | 682 |
| 7 | 975 | 991 | | 922 | 921 | 919 | | 808 | 813 | 806 |
| 8 | 1093 | 1105 | 1106 | 1038 | 1034 | 1051 | 1053 | 909 | 913 | 906 |
| | 1107 | | | | | | | | | |
| 9 | 1273 | 1278 | 1286 | 1200 | 1179 | 1189 | 1191 | 1033 | 1038 | 1035 |
| 10 | 1397 | 1395 | 1286 | 1320 | 1308 | 1310 | 1313 | 1133 | 1139 | 1134 |
| 11 | 1568 | 1576 | 1407 | 1477 | 1456 | 1461 | 1454 | 1265 | 1273 | 1267 |
| 12 | 1682 | 1692 | 1585 | 1594 | 1569 | 1573 | 1567 | 1363 | 1374 | 1363 |
| 13 | 1847 | | 1699 | 1658 | 1729 | 1730 | 1718 | | 1511 | 1500 |
| 14 | 1961 | | 1873 | 1866 | 1842 | 1836 | 1821 | 1597 | 1614 | 1595 |
| 15 | | | | | 1997 | 1993 | 1975 | | 1751 | 1730 |
| 16 | | | | | 2107 | 1096 | 2080 | 1824 | 1846 | 1824 |

Table 3C. Mean fundamental frequencies of seljefløyter, measured in Hz. Unless otherwise stated, the fundamental frequencies refer to measurements (or tape recordings) made on newly made flutes flutes, i.e., flutes not more than one day old.

¹ Measurements on a newly made flute. In order to produce the upper part of the range, the block was slightly adjusted, this caused an alteration of f_8 from 1093 to 1107 Hz. Thus, $f_8 = 1093$ Hz refers to the lower part of the range and $f_8 = 1107$ Hz to the upper part.

² Repeated measurements after one day.

³ Repeated measurements after four days.

⁴ Indirect measurements on S14₁, S14₂, and S14₃.

⁵ Could not be produced.

| Tone No. | S161 ¹⁵ | S162 | S163 | SG1 ¹⁶ | SG2 | SN1 ¹⁷ | SN2 | SV |
|----------|--------------------|------|------|-------------------|------|-------------------|------|---------------|
| 6 | 639 | 629 | 633 | 717 | 702 | 1273 | 1230 | 771 |
| 7 | 753 | 747 | 753 | 875 | 832 | 1509 | 1458 | 923 |
| ø | | | | | | 1650 | 1570 | 963 |
| 8 | 841 | 837 | 843 | 976 | 938 | 1697 | 1639 | 1032 |
| 9 | 961 | 961 | 967 | 1120 | 1067 | 1931 | 1871 | 1179 |
| * | | | | | | 2071 | 1972 | |
| 10 | 1058 | 1951 | 1057 | 1234 | 1175 | ¹⁸ | 2048 | 1283 |
| 11 | 1187 | 1181 | 1188 | 1378 | 1306 | 2361 | 2286 | 1441 |
| * | | | | | | | 2388 | |
| 12 | 1274 | 1267 | 1272 | 1402 | 1406 | 2545 | 2460 | 1530 |
| 13 | 1399 | 1401 | 1405 | 1649 | 1540 | | | 1695 |
| 14 | 1487 | 1494 | 1488 | 1744 | 1651 | | | 1800 |
| 15 | 1618 | 1624 | 1623 | 1894 | 1792 | | | ¹⁹ |
| 16 | 1701 | 1705 | 1704 | 1994 | 1889 | | | 2057 |

Table 3D. Mean fundamental frequencies of seljefløyter, measured in Hz. Unless otherwise stated, the fundamental frequencies refer to measurements (or tape recordings) made on newly made flutes flutes, i.e., flutes not more than one day old.

¹⁵ Indirect measurements on flutes S161, S162, and S163.

¹⁶ SG1 and SG2 were not newly made flutes.

¹⁷ Indirect measurements on flutes SN1, SN2, and SV necessitated because the duration of the recorded tone did not always exceed one second.

¹⁸ Was (unconsciously) omitted by the player.

¹⁹ Could not be produced.

| Tone No. | M1 | M2 | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 | M12 | M13 |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 3 | | | | | | | | | | | | | 350 |
| 4 | 923 | 723 | 591 | 505 | 468 | 469 | 470 | 472 | 473 | 473 | 473 | 469 | 464 |
| 5 | 1172 | 921 | 749 | 639 | 598 | 595 | 595 | 596 | 602 | 599 | 599 | 594 | 588 |
| 6 | 1386 | 1094 | 891 | 758 | 707 | 709 | 708 | 710 | 713 | 712 | 713 | 707 | 700 |
| 7 | 1646 | 1285 | 1059 | 897 | 841 | 835 | 837 | 835 | 843 | 840 | 841 | 833 | 829 |
| 8 | 1843 | 1452 | 1194 | 1018 | 948 | 945 | 948 | 946 | 953 | 948 | 950 | 949 | 941 |
| 9 | 2127 | 1653 | 1357 | 1154 | 1083 | 1076 | 1077 | 1077 | 1084 | 1078 | 1083 | 1080 | 1068 |
| 10 | 2323 | 1813 | 1496 | 1273 | 1189 | 1187 | 1186 | 1186 | 1195 | 1188 | 1192 | 1192 | 1181 |
| 11 | 2603 | 2031 | 1663 | 1418 | 1322 | 1322 | 1322 | 1323 | 1329 | 1324 | 1325 | 1326 | 1312 |
| 12 | 2793 | 2187 | 1789 | 1528 | 1428 | 1427 | 1429 | 1430 | 1435 | 1425 | 1428 | 1434 | 1420 |
| 13 | 3087 | 2409 | 1970 | 1668 | 1563 | 1566 | 1564 | 1565 | 1574 | 1564 | 1566 | 1571 | 1551 |
| 14 | 3284 | 2562 | 2094 | 1782 | 1672 | 1672 | 1674 | 1672 | 1677 | 1669 | 1673 | 1678 | 1664 |
| 15 | | 2784 | 2269 | 1934 | 1819 | | 1814 | 1815 | 1815 | 1808 | 1810 | 2069 | |
| 16 | | 2932 | 2396 | 2043 | 1921 | 1916 | 1915 | 1913 | 1920 | 1908 | 1911 | 1923 | |
| 17 | | 3172 | 2580 | 2189 | 2062 | 2059 | 2058 | 2056 | 2069 | 2053 | 2055 | 2069 | |
| 18 | | 3310 | 2702 | 2296 | 2166 | 2159 | 2158 | 2157 | | 2156 | 2157 | 2160 | |
| 19 | | | 2891 | 2455 | 2310 | 2305 | 2308 | 2302 | | 2301 | 2302 | 2305 | |
| 20 | | | | 2560 | 2410 | 2405 | 2408 | 2400 | | 2398 | 2404 | 2402 | |
| 21 | | | | | | | | | | | | 2547 | |
| 22 | | | | | | | | | | | | 2642 | |
| 23 | | | | | | | | | | | | 2782 | |
| 24 | | | | | | | | | | | | 2881 | |

Table 4. Mean fundamental frequencies of metal flutes, measured in Hz.

| Frequency ratio | cent | Frequency ratio | cent |
|--------------------|------|--------------------|------|
| 1:2 | 1200 | 1:2 | 1200 |
| 2:3 | 702 | 2:3 | 702 |
| 3:4 | 498 | 2:4 | 1200 |
| 4:5 | 386 | 4:5 | 386 |
| 5:6 | 316 | 4:6 | 702 |
| 6:7 | 267 | 4:7 | 969 |
| 7:8 | 231 | 4:8 | 1200 |
| 8:9 | 204 | 8:9 | 204 |
| 9:10 | 182 | 8:10 | 386 |
| 10:11 | 165 | 8:11 | 551 |
| 11:12 | 151 | 8:12 | 702 |
| 12:13 | 139 | 8:13 | 841 |
| 13:14 | 128 | 8:14 | 969 |
| 14:15 | 119 | 8:15 | 1088 |
| 15:16 | 112 | 8:16 | 1200 |
| 16:17 | 105 | 16:17 | 105 |
| 17:18 | 99 | 16:18 | 204 |
| 18:19 | 93 | 16:19 | 297 |
| 19:20 | 89 | 16:20 | 386 |
| 20:21 | 85 | 16:21 | 471 |
| 21:22 | 80 | 16:22 | 551 |
| 22:23 | 77 | 16:23 | 628 |
| 23:24 | 74 | 16:24 | 702 |

Table 5. Frequency ratios of the harmonic scale.

| Tone No. | Frequency ratios between neighbouring tones | | | Frequency ratios relative to f_8 | | |
|----------|---|-----------------|-----|------------------------------------|-----------------|------|
| | SN ₁ | SN ₂ | SV | SN ₁ | SN ₂ | SV |
| 6 | | | | -498 | -496 | -505 |
| 7 | 294 | 294 | 312 | -204 | -202 | -193 |
| * | 155 | 128 | 73 | -49 | -74 | -120 |
| 8 | 49 | 74 | 120 | 0 | 0 | 0 |
| 9 | 224 | 229 | 231 | 224 | 229 | 231 |
| * | 121 | 91 | | 345 | 320 | |
| 10 | | 65 | 146 | | 385 | 377 |
| 11 | 227 | 190 | 201 | 572 | 575 | 578 |
| * | | 76 | | | 651 | |
| 12 | 130 | 51 | 104 | 702 | 702 | 682 |
| 13 | | | 177 | | | 859 |
| 14 | | | 104 | | | 963 |
| 15 | | | | | | |
| 16 | | | 231 | | | 1194 |

Table 6. Intervals of the extended scales in SN₁, SN₂, and SV, expressed in cents.

| | Tone No. | Resonance No | | | | | | | | | | | | | | | | | | | | | |
|-------|----------|--------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Flute | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| S4 | 4 | | | | * | | | | | | | | | | | | | | | | | | |
| | 5 | | | + | | * | | | | | | | | | | | | | | | | | |
| | 6 | | | | | | * | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | * | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | * | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | * | | | | | | | | | | | | | |
| | 10 | | | | | | | | + | | * | | + | | | | | | | | | | |
| | 11 | + | | | | | | | | + | | * | | + | | | | | | | | | |
| | 12 | | + | | | | | | + | | + | | * | | + | | + | | + | | | | + |
| | 13 | | | | | | | | | | | | | * | + | | | | | | | | |
| S6 | 4 | | | | * | | | | | | | | | | | | | | | | | | |
| | 5 | | | | | * | | | | | | | | | | | | | | | | | |
| | 6 | | | | | | * | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | * | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | * | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | * | | | | | | | | | | | | | |
| | 10 | | | | | | | | + | | * | | + | | | | | | | | | | |
| | 11 | | | | | | | | | | | * | | | | | | | | | | | |
| | 12 | | | | | | | | + | | + | | * | | + | | + | | | | | | + |
| | 13 | | | | | | | + | | + | | + | | * | | + | | + | | + | | | |
| | 14 | | | | | | | | | | | | + | | * | | | | | | + | | + |
| | 15 | | | | | | | | | + | | + | | + | | * | | | | + | | | |
| | 16 | | | | | | | | + | | | | + | | + | | * | | + | | + | | + |
| S10 | 4 | | | | * | | | | | | + | | | | + | | | | | | | | |
| | 5 | + | | + | | * | | + | | + | | + | | + | | | | + | | | | | |
| | 6 | | | | | | * | | | | | | | | | | | | | | | | |
| | 7 | + | | | | | | * | | | | | | | | | | | | | | | |
| | 8 | | + | | + | | | | * | | + | | | | + | | | | | | | | |
| | 9 | | | | | | | | | * | | | | | | | | | | | | | |
| | 10 | | | | | | | | + | | * | | | | | | | | | | | | |
| | 11 | | | | | | | | | + | | * | | | | | | | | | | | |
| | 12 | | | | | | | | + | | + | | * | | + | | | | | | | | |
| | 13 | | | | | | | | | | | + | | * | | + | | + | | | | | |
| | 14 | | | | | | | | | | + | | + | | * | | + | | | | | | |
| | 15 | | | | | | | | | | | + | | | | * | | + | | | | | |
| | 16 | | | | | | | | | | + | | + | | + | | * | | + | | + | | |
| | 17 | + | | | | | | | | | | + | | + | | + | | * | | | | | |

Table 7. Chart of lower nonharmonic components occurring in the stationary state spectra of three seljefløyter. The fundamental is represented by an asterix; harmonics and unidentifiable components by a plus sign.



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