

Kåre Kolberg – from analog craft to digital technology

Kåre Kolberg is a pioneer of electroacoustic music in Norway, and wrote the first piece of computer music by a Norwegian composer in 1973. Computers had been used as musical tools in Norway before that time, but only to create smaller elements for inclusion in live performances. Kolberg's work was composed from synthetic sounds, which at the time was typical for computer music, since processor speed and lack of disk space made it practically impossible to store and process recorded sound digitally. It was not until the 1980s, when new technological developments emerged, that computer music could easily include pre-recorded sound.

Kolberg's basic ideas for electroacoustic form were shaped in his first works made in Sweden and Poland in the early 1970s, and he used a collage technique with easily recognizable elements that communicated well with audiences. Later, he extended his technique by adding a more electronic-sounding and abstract timbral palette.

It is natural to see Kolberg's compositions as contributions to the cultural debates in the 1970s and 80s, not because he composed particularly political music, but because his attitudes and opinions were reflected in writing, organizational activities and music. Kolberg represented a radical departure from rigid genre hierarchies, combining modernist artistic approaches with the affordances of increasing available technologies. Kolberg drew on ideas from concrete music's associative character, where sounds from widely diverging contexts and perspectives were combined into new experiences, while at the same time challenging the strict construction principles that were dominant in early electronic music.

Background

Kolberg was born in Birkenes in Aust-Agder in 1936, and his parents held posts in the educational system. In 1957, he moved to Oslo to study as a cantor and organist, completing his exams in 1959. He then studied musicology, receiving his Magister degree in 1963 with a dissertation on Klaus Egge's *Symphony no. 2*. He taught at the University of Oslo from 1964 to 1966, and worked for the newspaper *Dagbladet* as a music critic from 1967 to 1970. He was also a research fellow during this period, and worked as an organist in Grorud church from 1961 to 1981.¹

Kolberg was elected president of Ny Musikk (Norwegian section of ISCM) in 1970, and he later served as Chairman of the Artist Campaign 74, which was a political organization to better the financial working conditions of artists. During 1979 to 1984, he was chairman for the Society of Norwegian Composers, the most important proponent of composers' rights in Norway at the time. His innovative organizational contributions made a significant impact on the Norwegian music community, securing improved economic conditions for artists and composers. Naturally, these activities had consequences for Kolberg's activities as composer, and after a hectic period with studio work in Poland and Sweden in the early 1970s, he would not return to electronic music until 1987.

Kolberg was also one of the initiators of what was later to become NOTAM (Norwegian network for Technology, Acoustics and Music), as the center was named for ten years after its founding.²

From analog to digital

Kolberg's first work with electronic tools was for a radio dramatization of the short novel *Anne* by Paal Helge Haugen. It was executed at the Norwegian Broadcasting Corporation's (NRK) studios, and Kolberg used recorded voices for his material. At the time, NRK did not have a lot of equipment for Kolberg to use. However, there was an echo plate, a good Brüel and Kjær filter with narrow center frequencies, as well as an instrument where Kolberg could change the frequencies of the sounds without changing their speed. Kolberg used a feedback loop with the level set to the border of distortion, and also worked with the sound material at home on his Revox-machine and an older Tandberg recorder that had problems maintaining a stable speed when playing back or recording. This imperfection became part of his compositions.

With support from NRK, Kolberg travelled to Stockholm in 1970 to work in the Electronic Music Studio (EMS). He brought with him numerous recordings of the jazz singer Karin Krog, which were made at NRK. Under the direction of Knut Wiggen, EMS was a pioneer institution in developing a hybrid technique for the digital control of analog sound synthesis and sound processing. Kolberg's first

¹Harald Herrestal in SNL, http://snl.no/nbl_biografi/Kåre_Kolberg/utdypning, visited March 18, 2013

² NOTAM is now named Norwegian Center for Technology in Music and the Arts. (www.notam02.no)

complete electronic composition was made in the EMS tape music studio with analog techniques; the digital control system was not ready until his next visit.

The EMS studio had a ring modulator, and the reverb unit that Kolberg used was housed in the radio building (SR) several blocks away. The sound was transferred between SR and the studio by cable, but the parameter adjustments needed to be done manually on the unit itself. Composer Lars Gunnar Bodin, who was Kolberg's assistant, would have to call over to SR to have the adjustments made. As an engineer, Bodin was careful not to influence the compositions, giving instructions as to how the equipment was to be used but little feedback on the sound and music.³ Kolberg's first piece at EMS was entitled *Agathe*.

Kolberg also brought the recordings of Karin Krog to Warsaw when he travelled there together with Arne Nordheim. Nordheim worked with Eugeniusz Rudnik, who was educated as an electrical engineer, while Kolberg worked with Bohdan Mazurek, who had been educated in Germany as tonmeister. The fact that Nordheim and Kolberg worked with both these engineers created a balance in the studio, since travel to the West for performances was a privilege at that time.

There were two Telefunken tape machines in the experimental studio of the Polish radio, but the most important piece of equipment was a particularly good ring modulator that had been developed at the studio. The ring modulator completely removed the carrier signal in the processing of the sound and became Kolberg's most important tool. In addition, the studio developed instruments that became part of the studio environment. Kolberg's first piece in Warsaw was called *Omgivelser (Surroundings)*, completed in 1970.

Kolberg made several pieces in Warsaw, including *Til Mozart i himmelen (To Mozart in Heaven)* and *Nova*. He also received a commission from the experimental studio, resulting in the piece entitled *Anonymous*. It was completed in 1972, however Kolberg was never completely satisfied with the piece, and the only time it was performed was at the 40-year anniversary of the studio in 1997.

Following *Anonymus*, Kolberg travelled back to Sweden, where he made *The Emperor's New Tie* in Knut Wiggen's recently completed hybrid studio. The work was composed in 1973 and is purely synthetic. The programming was done in the language EMS-1, which is quite similar to Fortran. During the course of one year Kolberg had both taught himself this language and produced a piece. The computer was programmed using paper tape with punched holes, and this time-consuming process, combined with the processing power at the time, made the production of this piece quite an achievement. The first computer music works were *constructed* to a larger degree than most works in the analog tradition - the calculations and the coding took a long time and became in themselves important. In contrast, testing of parameter settings could be done while the tape was running in traditional analog work. *The Emperor's New Tie* is the first computer music piece by a Norwegian composer.

Following *The Emperor's New Tie*, Kolberg decided to spend his time doing organizational work and composing for acoustic instruments. He did not return to electronic music until 1987 when he created the piece *Portando*. The piece employed synthesizers and sequencer programs, and was completed with the assistance of Mats Claesson at the Henie Onstad Arts Center. In the 1990s, Kolberg composed *Sombre* in Switzerland, as well as *Vitrage* and *Cercare* in Oslo. *Amore* is Kolberg's most recent electronic work, completed in 2003.

Sonic and intellectual perspectives

In the 1960s, as modernism gained influence in Norway, Kolberg chose to follow these radical new ideas while his fellow students composed church music in a traditional conservative and tonal style. When participating in the modernist summer course in Darmstadt in 1962, Kolberg met Josef Patkowski, who was the director of the experimental studio in Warsaw. Patkowski explained to Kolberg that modernism had a strong position in Poland. Since the studio had gained artistic independence in 1956 they were able to perform modern music, in contrast to the rest of Eastern Europe where it was forbidden. They purposely played modern music because they knew it irritated the Russians, and the concerts were well attended.

This was not the case in Norway. Here, modernist works involving the destruction of pianos or cutting of neckties were met with predominantly negative reactions. The argument that twelve-tone music was particularly democratic because the notes were of equal value did not help the modernist cause.⁴ The general public had patience for neither the symbolism nor the new music. However, as Princeton

³ Kåre Kolberg in an interview with Jøran Rudi, April 10, 2013.

⁴ Kåre Kolberg in an interview with Jøran Rudi, April 10, 2013.

professor Milton Babbitt wrote in his famous article *Who cares if you listen*,⁵ many proponents of the new music regarded it as made mainly for specialists. This point of view insisted that atonal music contained artistic value independent of the norms, opinions and attitudes of society due to the research aspects of gaining new insights. Modernism had after all developed as a protest against traditional tonal hierarchies, and National Romantic attitudes in music had been thoroughly scandalized during WWII and the events that let up to it.

Even though Kolberg was fully on the modernists' side when it came to going against tradition, folklorism and Neo-Classicism, he wanted to both communicate with his audience and resist the arrogance of some of the modernists. His method was to fill the music with genre-transgressing elements that did not belong there stylistically. Doing something 'inappropriate' through mixing musical styles became an important means for Kolberg, and the music has later been described as being humorous. The listener can easily recognize sounds and elements evocative of different styles and genres, and Kolberg used this approach to develop a distance to his primary expression. He often used elements from jazz, and in particular the voice recordings of Karin Krog, who became an icon in Norwegian jazz in the 1970s.

By using the element of surprise and breaking taboos in the contemporary music scene in this way, Kolberg provoked both concert audiences and modernist proponents alike. In this manner, he engaged himself in discussions concerning the role and function of contemporary music in society. He was also able to influence this discussion through his administrative posts in the music community.

Kolberg was among the first working with multimedia compositions in which the role and identity of composer and work were challenged. His works *Nova* and *To Mozart in Heaven* were both composed for exhibitions. Kolberg wanted to provoke indifference and in this way draw the audience into the music. He also brought this idea into his work in the press, where he saw music criticism less as a corrective gesture to the composer than as a tool for helping the audience to engage with the music.

In his electronic music, Kolberg worked with combinations and juxtapositions in the tradition of concrete music. He used voice recordings of emotional expressions, singular syllables and short phrases. This is especially noticeable in his early work *Agathe*, where the voice has been playfully edited into pieces and combined into phrases with rapid character changes. This technique gave Kolberg the opportunity to create surprise, making it difficult to establish clear expectations of the direction the music was going to take. The music emerged from the mix of genres that he created, and Kolberg becomes a musical commentator and debater. One example is his piece *Blow up your dreams* from the album *Popofoni*⁶ - a notable contribution in the Norwegian debate on the Eurovision Song Contest in 1969.

Kolberg's music is often described as an example of a 'new friendliness', which is a bit problematic. The contention likely stems from his desire to communicate directly to his audience. However, his musical language is just as demanding as others in contemporary music. It is probably more fitting to describe Kolberg as an intellectual composer who, by creating distance to his own works, combinations of materials, and musical form, worked with more than just music. The musical content of his work is closely linked to broader social discourses and directly with the musical debate regarding pop and art music, high and low culture. He says the following about whether the huge expansion of music technology in the 1990s and 2000s will result in an undermining of the arts:⁷

It is the same debate about access to knowledge leading to the fall of elitism that we have found in upper secondary school – today teachers complain that they need to deal with a great deal of diversity among students when it comes to ability, while previously only elite students attended upper secondary schools. But we need to see the positive value of this type of knowledge being available to so many. I believe that really good art benefits from a situation where many can give it a try. Today, in principle, everybody can write a book, but there are not many that go through with it, even though they know the grammar and have a good command of the language.

The resource situation for electronic music has always been very different in Norway and Sweden, and Kolberg was a driving force in the efforts to establish a national studio in Norway. As an intermediary step, Ny Musikk acquired a simple synthesizer with external patching in 1971, and after the closing of the first attempt of creating a national studio, the Norwegian Studio for Electronic Music (NSEM) at

⁵ Milton, B. "Who Cares If You Listen". In *High Fidelity*, No. 8, February 1958. Great Barrington, Mass. Downloadable from <http://mypage.iu.edu/~tcbest/babbitt%20article.pdf>, visited October 31, 2012.

⁶ *Popofoni*, Aurora CD 5015.

⁷ Kåre Kolberg in an interview with Tilman Hartenstein and Jøran Rudi, September 13, 2005.

Henie Onstad Arts Center in 1978,⁸ Kolberg continued to work for the establishment of what was to become NOTAM – the Norwegian Center for Technology in Music and the Arts. Kolberg was steadfast in his conviction that the center needed to have a profile anchored in artistic work, and NOTAM has had this orientation since it opened its doors in 1994.

About the music

Kolberg composed electronic music in a painstaking manner due to the way he systematically explored possibilities in the systems he employed. He developed huge amounts of material that he would later choose from and combine. In his works from the 1970s, this way of working resulted in pieces that resembled a collage-type of expression that became one of his aesthetic signatures. Most often, the sounds were combined in rhythms and pulses with a lumbering and skewed tempo, and the unconventional assembly of material gave listeners associations that led away from the repetition and stasis that often results from more conventional rhythmic arrangements. There is a flow and irregularity in Kolberg's development of time that is often found in jazz. But perhaps the most important general characteristic of Kolberg's music is that he juxtaposes material from different musical genres, and in a number of works he also does this in combination with other types of media.

In 1969, Kolberg composed music and background soundscapes for Paal Helge Haugen's short novel *Anne* produced as a radio drama by Viktor Sandal at NRK. Voice material figures prominently in many of the seven parts that have been preserved, and the electronic work was closely integrated into the general dramatic narrative. Three excerpts from this work have been included on the CD, and it is particularly in the first of these that the voice material is predominant. The second fragment consists of a pure pulse, and the third has a somewhat uncertain electronic melody and a more dramatic development. Together, these three excerpts form a picture of Kolberg's early timbral palette.

Agathe was composed at EMS in 1970 in their analog studio. The piece was constructed around the voice material from the jazz singer Karin Krog from which Kolberg used phrases and singular expressions as source material. Although Kolberg cuts and processes the material freely, it is Krog's voice that gives the piece its character, which is light and fleeting. It is very different from most of the other electronic music of that period, which is often more serious and much less playful and multi-faceted. A small element of cabaret also appears at approximately 3:30 into the piece, quickly followed by an electronic sequence with several voices.

The tempo of the piece changes constantly, and in this regard the voice recordings gave Kolberg much to work with. Most of the piece happens in the foreground, and at a distance that makes it personal, but not intimate. The ease and variation in the processing of sounds shows that Kolberg was a virtuoso when it came to using technology. *Agathe* was first performed at the concert stage *Fylkingen* in Stockholm on July 1st, 1970.

Surroundings was commissioned by NRK for a TV production with Jan Horne. The concept behind the piece was to join abstract film expressions about environmental issues with experimental music. The piece was made in Warsaw in 1970 from archival material that belonged to the studio, in combination with the recordings of Karin Krog that Kolberg brought with him. The light collage technique with whims and surprises was combined with heavier themes, and the piece develops a darker and more serious character in which strong sequences with sounds of explosions and machine guns enter into a narrative with the sounds of mass rallies and amplified speeches. This is contrasted with sections of a more undefined and nuanced richness, with an example found approximately 7 minutes into the piece. After about 10 minutes, Kolberg again combines different fragments to a rhythmic weave, and this signature form is also recognizable in *The Emperor's New Tie* that was made three years later. The film was broadcast on NRK TV in 1970.

Nova was also composed in Warsaw for a multimedia installation with the painter Anders Kjær. The installation was mounted at the Henie Onstad Arts Center August 2– 22, 1972, and again, environmental issues were the central topic. The installation consisted of strings and threads on different frames, and garbage on the floor. Kolberg describes this as a commentary on the trash that we generate while we are creating what we desire. The work develops slowly, and is shaped into several sections. For example, percussion sounds are combined with breaths of noise and voices that create movement. Fragments from brass instruments interrupt and are developed into an independent section, which is later replaced by new sections. Several parts of the composition have been shaped into floating and purely electronic soundscapes, and it is the temporal development that becomes the piece's common denominator. The shaping allows for contemplation in the exhibition space, but the

⁸ NSEM only existed for three years, 1975-1978.

work stands on its own as well. Kolberg has also found room for a string-like major triad, on top of a low, unsteady drone. The piece was released on CD a few years ago by the arts center.⁹

Anonymus was commissioned by the experimental studio in Warsaw for its 15-year jubilee in 1972. Here, Kolberg had an idea for a multi-track technique where he needed to synchronize several tape machines and control the small time deviations that would occur. However, it was not possible to do this with the technology in Warsaw at the time, and Kolberg was never quite pleased with how the piece came out. With the permission of the composer, it is nonetheless included in this release.

In this piece, we can recognize the composition technique that uses disparate sonic elements in combination with rhythmic figures of increasing complexity. It is not difficult to hear how the irregularity in the rhythm could have been developed in a very interesting manner with the type of time-variation that Kolberg originally envisioned. In the piece, Kolberg makes use of traditional instrumentation in combination with the strong expressiveness of the voice, and the piece moves in and out of an electronic-sounding timbral character. Following a strong intensification, a fragile pattern lingers as an echo of the foundation of the piece.

The Emperor's New Tie is the first piece of computer music created by a Norwegian composer, and it was made at EMS in Stockholm on their PDP 15/40-machine in 1973. The piece was a commission from Fylkingen, and was first performed in 1975. The music sounds tight, clear and precise, largely because it is composed with controlled spectra and not recorded sounds from the acoustic world. Both timbral and time scales are computer controlled, and, as in much of the early computer music, this gives a robust insistency in the expression – the piece moves forward, and the somewhat irregular rhythm from Kolberg's earlier works is not present here.

The piece is divided clearly into sections, and Kolberg ties the sections together by pulling elements from one section into other sections while at the same time introducing new material. Another characteristic of the piece is that the sounds have been made through additive synthesis where each partial is carefully described. This results in clarity despite the analog origins of the sounds. As previously discussed, the technical tools were new to Kolberg, but the musical identity of the composer is easily recognizable in the piece due to the light character of its timbral aspects, repeating loops of diverse-sounding rhythmic elements, and contrasting parts that create surprising constellations.

Cercare was written in 1989, and Kolberg also made *Sombre* and *Vitrage* around this time. In these works, he ceased using the collage form with its pre-recorded elements, while retaining a focus on complex, rhythmic loops of different duration. The use of tonal elements is generally more prevalent than before, as is the use of space and distance in the compositions. One example is found at the start of *Sombre*, where the work is kept at a distance through spectral damping. The synchronization of the elements in the loops becomes tighter in these works, and it is easier to separate the elements. Thus, terms like construction and deconstruction seem to be more useful than intensification and dissolution in describing the music. The loops are more complicated than earlier, and it is easy to assume that this has to do with Kolberg's use of digital tools. Ease in controlling complex elements is a characteristic of the digital domain.

Cercare is mainly a work for synthesized sound, and rhythmic combinations characterizes the piece. The user interfaces on the early digital synthesizers most often made only one parameter available for change at a time, and the compositional focus often drifted away from sound processing and towards the combination of elements.

Vitrage is constructed from sound snippets that were manipulated in Øyvind Hammer's self-made computer *Fredag (Friday)*, and in this piece it is easy to notice that a far greater focus is placed on the sound processing. The sounds change throughout the piece, which contains many elements frequently found in computer music from the early 1990s. The dynamics are stronger in this piece compared to previous works.

Sombre was created in Geneva, in the electrophonic studio directed by Rainer Boesch. In this piece Kolberg uses a texture consisting of repetitions in a complicated, lilting pulse, more advanced than before. The different layers in the texture develop in different tempi, and the piece is softly placed at a distance so that the listener must make an effort to hear what is in the work. The texture is the main element and carries the piece, and although one can hear the looping technique in several places, there is no recognizable and repeating theme. The piece barely hints at development and moves carefully around it, full of nuance and curiosity.

⁹*Omgivelser*: Prisma Records 705

Amore from 2003 is Kolberg's most recent piece. Here, he uses several structuring algorithms and synthesis techniques, such as formant synthesis. The production of the piece is clean and well-defined, typical for computer music, and the form is episodic, with different parts that follow the same temporal development. Light, vigorous, independent phrasing is predominant, and it forms the core of the piece. The work ends without an energy concentration or a traditional closing, and stands as an excerpt of endless processes without conclusion.

Concluding remarks

Throughout his entire musical production, Kåre Kolberg shows a strong orientation toward the contemporary social situation, and a strong interest in the qualities of emerging technologies. His extensive development of compositional material exposed their characteristics and qualities, which he subsequently brought into his compositions. His analog works clearly belong to the tradition of concrete music, where recorded voice is crosscut with other elements in a surprising looping technique that forces associations beyond the limitations of the music itself. The archive material that he uses provides contemporary associations, while the spatial and temporal colors transgress established aesthetic borders. With MIDI, synthesizers and samplers, possibilities to combine precision and complexity open up, and Kolberg exploits these in his works from the late 1980s and early 1990s. His articulation becomes firmer, and a focus on the composition relieves the focus on rhythm, pulse, and his intellectual parcourse across genres. In his later works, he employs computer control over the development of phrase, timbral development, and the signal processing that computer technology encourages.

Kolberg is a thoroughly investigative composer who continually appropriates new techniques. Yet this has not hindered the pursuit of a number of core compositional ideas. He has maintained a focus on complicated rhythm and pulse, which is carried by unusual combinations of sounds that evoke associations moving in disparate directions. Through his techniques of repetition, he developed an aesthetic of texture, timbrally achieved by layers that develop at different speeds, and semantically through the use of familiar voice expressions that speak directly to us.

Kolberg's works leave it to the listener to find the way. He rarely binds the works to a specific narrative, and there are few energy climaxes that formulate how time is to be experienced. It is up to the listener to allow Kolberg's sonic world absorb the attention – and to appreciate the intellectual leaps between interesting combinations that give his music its Kolberg signature.

- Jøran Rudi, Høvringen, September 2013