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Translating Birds: The Use of Birdsong in Contemporary Music

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Translating Birds:
The Use of Birdsong in Contemporary Music

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MSU Acoustic Composition

By Emmett Tyler Aschim II

Abstract

Inspired by the timeless tradition of composers who have found musical inspiration in birdsong, this project delves into the possibilities of transcription and transformation within the context of contemporary chamber music. My string quartet, Syrinx (2025), is a direct exploration of this practice, using the unique vocalizations of common birds found in the Bigfork, Montana, region—specifically the black-capped chickadee, American robin, crow, and blue jay. The work is structured into two contrasting movements to demonstrate the versatile compositional potential inherent in these natural sounds. The first movement, "Birdsong," is a lyrical and romantic exploration of direct transcriptions of these avian melodies. Unlike the purely imitative approaches of earlier composers, this movement integrates the inherent melodic and rhythmic contours of the birds' songs into a modern chamber music idiom. The fluting warbles of the robin and the characteristic fee-bee call of the chickadee are rendered with extended, romantic expressiveness, creating a soundscape that is both familiar and newly interpreted. This approach not only honors the source material but also reveals the complex musicality already present in the natural world. In stark contrast, the second movement, "Broken Wing", reconfigures the same core themes through the rigorous lens of serial technique. This movement transforms the previously lyrical birdsong into a fragmented, disorienting sound. The systematic reordering and manipulation of the transcribed pitches creates a sonic impression of a bird in distress—its song broken, its movements erratic. By using the same source material for both movements, Syrinx highlights the dramatic difference that compositional method can create, transforming the serene beauty of the first movement into the unsettling struggle of the second. This project goes beyond a simple musical exercise by situating Syrinx within the larger historical use of birdsong in music, citing pioneers like Olivier Messiaen and Einojuhani Rautavaara. Messiaen, for instance, saw birdsong as a sacred expression and developed a system to accurately notate it, while Rautavaara incorporated recordings of arctic birds directly into his orchestral work, *Cantus Arcticus*. My work adds to this lineage by drawing on contemporary biological research into the avian syrinx—the bird's specialized vocal organ. The syrinx's unique two-sided structure, which allows birds to produce two separate melodies simultaneously, offers a fascinating model for compositional methods. By treating birdsong as not only a subject but also a structural blueprint, this paper and the accompanying quartet demonstrate a path for contemporary composers to integrate natural phenomena into their practice in a deeply meaningful and innovative way.

Literature Review

The dialogue between biology and music in the study of birdsong is deep and complex. On the biological side, avian song is understood primarily as a product of the syrinx[1] . Research shows that its dual sound soures can produce intricate melodic interplay, occasionally generating two pitches at once. Composers from Olivier Messiaen[2] to Kaija Saariaho[3] find inspiration in these complexities, using transcription, imitation, and transformation to translate avian voices into hu-

1 The syrinx is the vocal organ of birds, located at the base of the trachea, capable of producing multiple pitches simultaneously.

2 Olivier Messiaen (1908–1992), French composer and organist, is especially known for integrating detailed birdsong transcriptions into works such as Catalogue d'oiseaux (1956– 1958), treating avian material as primary compositional structure rather than ornament.

3 Kaija Saariaho (1952–2023), Finnish composer associated with post-spectralism, in corporated birdsong-inspired timbral and gestural transformations in works such as Aile du songe (2001), where flute writing evokes avian contour and texture.

man contexts. Rautavaara's[4] *Cantus Arcticus* famously sets recordings of birds against orchestra. These precedents frame my work in Syrinx, where birdsong functions as primary thematic material, grounded in biology and flexible compositionally.

In addition to the broader international lineage of birdsong composition, regional works engaging species native to Montana provide important contextual grounding for this project. Paul Naylor's *Symphony No. 4: The Chickadee* Symphony centers explicitly on the black-capped chickadee, integrating avian motives into a symphonic framework that emphasizes environmental identity. Similarly, Philip Aaberg's "No Wonder They Sing" reflects an ecological awareness of northern Rocky Mountain birdlife, embedding regional soundscapes within an orchestral idiom. These works situate birdsong within large-scale programmatic and environmental narratives. By contrast, Syrinx [5] adopts a chamber setting and emphasizes direct transcription as compositional genesis, treating birdsong not only as representational material but as structural source. In this way, the project engages regional traditions while emphasizing methodological transformation as its core focus.

Research Methods

The material for Syrinx was generated entirely through transcription by ear. I listened repeatedly to birds native to Montana, translating their vocal gestures and interplay into traditional notation. This method was inherently subjective; my choices shaped rhythm, contour, and harmony, but the goal was true representation of natural sound. Through transcription, I preserved the distinct melodic, rhythmic, and timbral characteristics of each species, allowing their natural patterns to serve as collective foundational material.

In the first movement, "Birdsong", transcriptions are presented directly within a lyrical and extended tonal framework. Multiple birds appear simultaneously across the quartet, with melodic lines exchanged between instruments in a hocket-like fashion, creating the impression of dialogue. Harmonization emphasizes the intervals and expressive qualities of the natural calls, producing a flowing texture while maintaining each bird's unique voice.

The second movement, "Broken Wing", abstracts these melodic gestures through serial techniques. Intervallic content is reorganized into structured pitch sequences, while rhythms are fragmented and displaced, producing instability and distortion. Following an expressive narrative in which a bird collides with a window, previously lyrical material is rendered in a tense, fragmented, and expressionist idiom. Serial transformations show how transcription functions as both source and framework for structural and expressive exploration.

These methods demonstrate how attentive listening, transcription, and procedural transformation generate material that is biologically informed and narratively expressive, situating Syrinx at the intersection of ecological observation and compositional technique.

Findings

The compositional results of Syrinx reveal both continuity with and departure from prior traditions. Like Messiaen, I sought to preserve the unique rhythmic and melodic signatures of birdsong, capturing the irregularities, phrasing, and expressive nuances of each species. Rather than treating the avian source as exotic ornament, I used it as the foundation of the piece, allowing natural patterns to guide melodic development, harmonic choices, and structural pacing.

The romantic idiom of the first movement emphasizes the lyrical potential of these transcriptions, with interweaving lines creating contrapuntal textures and implying interaction between species. In contrast, the serialized abstraction in the second movement demonstrates the structural fragility of these gestures, fragmenting melodic material and displacing rhythmic and harmonic elements to generate tension. The metaphor of the broken wing arises not only from narrative intent but from an abstract sonic re-interpretation of a real event.

While the biology of the syrinx provided grounding for understanding complex avian sounds, the compositional act reframed those mechanisms within human practice. Translating natural vocal gestures into notated, performable music required negotiating fidelity to the source with formal design. Syrinx is therefore both a study in avian biology and a reflection on the possibilities of attentive listening and procedural manipulation to produce a unique formal approach.

Conclusion

By treating the syrinx as a biological model and birdsong as compositional material, Syrinx situates itself within a lineage that includes Messiaen and Rautavaara, while establishing a personal space rooted in Montana's soundscape. Centering native species within a chamber framework, Syrinx engages a localized acoustic ecology, positioning compositional practice as a form of environmental attentiveness. The project illustrates how attentive listening, systematic transcription, and procedural manipulation can produce material that is both biologically informed and musically coherent, reinforcing the compositional potential inherent in natural sound.

Beyond this work, the methods developed in Syrinx suggest pathways for future inquiry. Similar transcription-based approaches could explore interactions between more species of bird. Procedural transformation of biological source material also opens opportunities for interdisciplinary collaboration, bridging composition with bioacoustics, ecology, and performance studies. By framing birdsong as both subject and structure, composers can expand the boundaries of musical language while remaining grounded in the natural world.

In particular, subsequent work has extended these methods to guitar composition[6] . Overall, Syrinx exemplifies how interdisciplinary approaches can yield works that resonate across performance, research, and lived experience, highlighting the potential for ecological awareness and biological inquiry to coexist within contemporary composition. Future research in this area remains open-ended, as increasingly interdisciplinary approaches enable composers to explore and express birdsong in new and expanding ways.



About the Author

Emmett Aschim II is a senior at Montana State University majoring in Music, specializing in classical guitar and composition. A post-spectralist composer, he explores xenharmony, microtonality, and the translation of natural sounds into contemporary music. His work includes music for a variety of instrumentations and reflects diverse musical philosophies. Outside of the classroom, Emmett enjoys performing, experimenting with extended techniques, and studying new approaches to acoustic and spectral sound. He plans to attend graduate school to continue developing his compositional voice and research in contemporary and experimental music.

Resources and Recording of Syrinx (2026)

Birdsong: Two Movements for String Quartet

4 Einojuhani Rautavaara (1928–2016), Finnish composer, composed *Cantus Arcticus* (1972) for orchestra and recorded birds, subtitled "Concerto for Birds and Orchestra," integrating Arctic field recordings directly into the orchestral texture.

5 My subsequent project, Xenharmonic Praxes: Compositional Studies in 31-EDO for Guitar (Aschim II, 2025), applies

6 My undergraduate thesis, *Xenharmonic Praxes: Compositional Studies in 31-EDO for Guitar* (Aschim II, 2025), applies transcription-based methods that would help relate complex birdsongs to 31-EDO subsets.

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1. Birdsong

For String Quartet

Emmett Aschim

Adagio

Violin 1
Violin 2
Viola
Violoncello

mp *mf* *mp*

9

Vln. 1
Vln. 2
Vla.
Vc.

Lento Agitato

f *mf* *mp* *subito* 7 *mf* *sim.* 7 *mp* *mf* 8 *p* < *mp*

13

Vln. 1
Vln. 2
Vla.
Vc.

Grave

8 *p* < *mp* *mf* *sim.* *p* *trippingly* *mp* < *mf* *f*

18

Vln. 1
Vln. 2
Vla.
Vc.

Lento

mp *p* *f*

26

Vln. 1
Vln. 2
Vla.
Vc.

Presto **Allegretto**

mf *f*

33

Vln. 1
Vln. 2
Vla.
Vc.

Andante

mf *p* *mp*

40

(Andante)

Vln. 1

Vln. 2

Vla.

Vc.

46

Adagio

Moderato

p sempre legato

51

rit.

mp sim.

mf Cantabile

58

Allegretto

p subito

65

Largo

rit.

2. Broken Wing

For String Quartet

Emmett Aschim

Andante

Violin 1
Violin 2
Viola
Violoncello

mp

8

mf *p* *risoluto*

16

mp *mf*

24

Scherzo

mf *f* pizz.

33

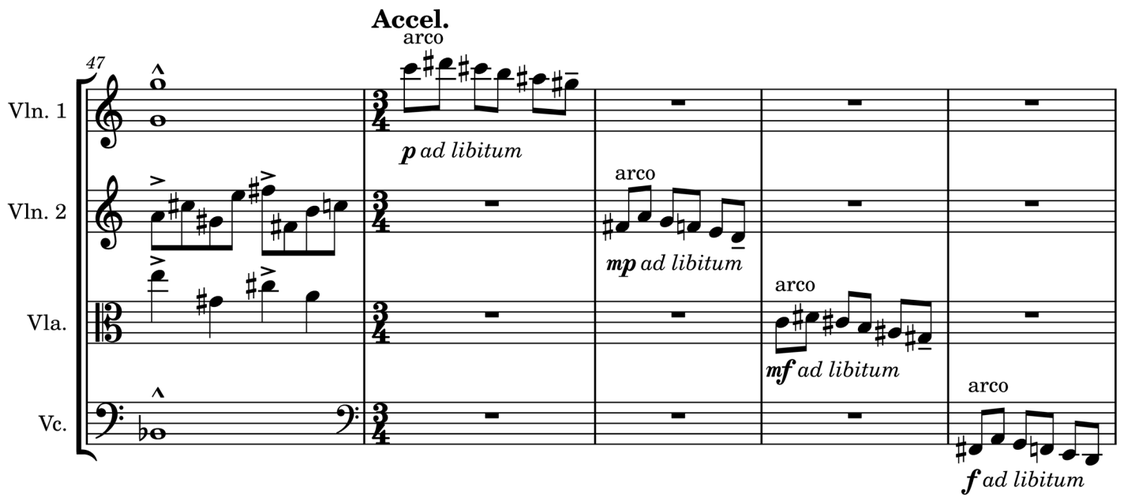
pizz. *mp*

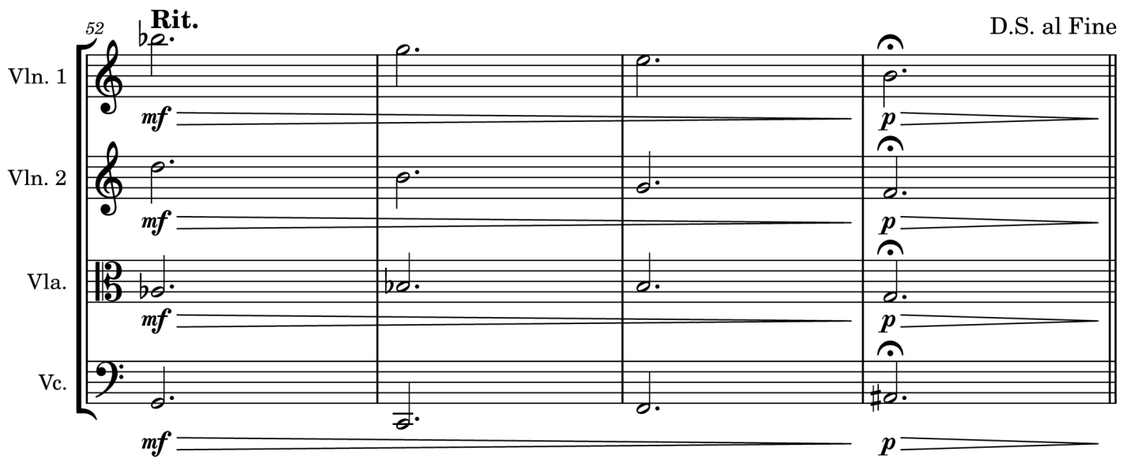
38

Fine

mf *risoluto* (pizz.) *deciso*







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