

# Studies in Transformational Theory

M9520B  
Winter 2021

Dr. Catherine Nolan  
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Tuesdays, 1:30 – 4:30 p.m.  
Synchronously, on zoom

## Overview of course content

Transformational theory refers to a branch of music theory whose origins lie in the work of David Lewin, particularly his influential treatise, *Generalized Musical Intervals and Transformations* (1987). Transformational theory shifts our focus from the study of musical objects and events to the processes that transform one object or event into another and the properties, relations, and musical spaces revealed by such processes. For the last thirty years or more, transformational theory has contributed and continues to contribute significantly to a wide range of scholarship on music-theoretical topics ranging from nineteenth-century and twentieth-century pitch relations and harmonic practice, transformational structures in diatonic and other scale systems, and new ways of conceptualizing relations and processes in music theory and analytic practice.

This course will introduce students to the accessible formalisms involved in mathematical musical transformations, will explore the realm of non-mathematical and contextual transformations, and will explore a variety of representative scholarly literature that reflects both theoretical speculation and analytical application across diverse musical repertoires.

## Requirements

Each student is responsible for assigned weekly readings, participation in class discussions, written assignments, reports on supplementary readings, and one research project on an approved topic. Details appear in the course syllabus and in additional material provided by the instructor.

## Learning Outcomes

- Students will develop a strong understanding of technical and conceptual issues in mathematical and contextual transformations in music theory and analysis.
- Students will also demonstrate skills in creating and interpreting transformationally inspired analyses of musical works across a wide range of styles.

- Students will be prepared to engage in meaningful scholarly discourse about transformational theory and its analytic application to music of various repertoires.

## Evaluation

Assignments	15%
Participation	20%
Oral reports (on supplementary readings)	15%
Presentation on final research project	15%
Final research project	35%

Class meetings will include discussions of assigned readings, theoretical and analytical demonstrations, and broader discussions relating to the week’s topic. Selected meetings will include reports by students on supplementary readings that will be assigned early in the course. Further information on the oral reports (supplementary readings) and the final research project will be provided at the first class.

## Due dates

Jan. 26	Assignment 1
Feb. 2	Assignment 2
Feb. 9	Assignment 3
Mar. 9	Assignment 4
Mar. 19	Final Project Proposal
Apr. 16	Final Project

## Owl Site

All information about the course, including access to Zoom meetings, will be available on our course OWL site (<https://owl.uwo.ca/portal>). You will need to use your UWO email account to access the meetings on zoom.

## Readings

Readings will be available on the course OWL site under “Resources.”

## Online etiquette

Keep in mind the different cultural and linguistic backgrounds of the students in the course. Be courteous toward the instructor, your colleagues, and authors whose work you are discussing. Be respectful of the diversity of viewpoints that you will encounter in the class and in your readings. The exchange of diverse ideas and opinions is part of the scholarly environment. Be professional and scholarly in all online postings and messages. Use proper grammar and spelling. Cite the ideas of other appropriately.

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### **Statement on accommodation for medical illness**

University policy regarding medical illness can be found here:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_medical.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf). [The policy for graduate students follows that for undergraduate students.]

### **Statement on scholastic offenses**

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic offence, as found at

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_grad.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf).

### **Statement on health and wellness**

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on-campus health-related services to help students achieve optimum health and engage in healthy living while pursuing a graduate degree. Students seeking help regarding mental health concerns are advised to speak to someone in whom they feel comfortable confiding, such as a faculty supervisor, a program advisor, or the Associate Dean (Graduate Studies). Campus mental health resources may be found at

<https://www.uwo.ca/health/>.

**Music 9520B (Winter 2021)**  
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Course meeting schedule at a glance  
(Detailed syllabus below)

<b>Class #</b>	<b>Date</b>	<b>Topic</b>	<b>Due</b>
<b>1</b>	Jan. 12	Representations of Musical Space	
<b>2</b>	Jan. 19	Formalisms (1)	
<b>3</b>	Jan. 26	Formalisms (2)	Assignment 1
<b>4</b>	Feb. 2	Neo-Riemannian Theory	Assignment 2
<b>5</b>	Feb. 9	Hexatonic Systems	Assignment 3
	<i>Feb. 16</i>	<i>No meeting, Spring Reading Week</i>	
<b>6</b>	Feb. 23	Transformational Graphs and Networks	
<b>7</b>	Mar. 2	Contextual Transformations	
<b>8</b>	Mar. 9	Extended Transformational Analyses	Assignment 4
<b>9</b>	Mar. 16	Animations and Perspective	
<b>10</b>	Mar. 23	Retracing the Pathways (1)	
<b>11</b>	Mar. 30	Retracing the Pathways (2)	
<b>12</b>	Apr. 6	Final project presentations	

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**Preliminary Syllabus**

This syllabus indicates the topic and assigned readings to be prepared for each class meeting. Note that supplementary readings are *not* shown. These will be added to the syllabus during the week after the first class.

This syllabus also indicates the due dates for four assignments designed to reinforce concepts related to mathematical group-theoretic concepts introduced in the first few weeks of the course.

N.B. The readings listed below are subject to change. Any changes will be announced at least a week in advance.

Date	Topic and Readings	Assignments
Jan. 12	<p><b>Representations of Musical Space</b></p> <p>Devlin, Keith. 2000. "Finding Your Inner Mathematician: As the Abstraction Turns." <i>The Education Digest</i> 66.4: 63 – 66.</p> <p>Hook, Julian. 2002. "Hearing With Our Eyes: The Geometry of Musical Space." In <i>Bridges: Mathematical Connections in Art, Music, and Science Conference Proceedings</i>, ed. Reza Sarhangi: 123 – 34.</p> <p>Westergaard, Peter. 1996. "Geometries of Sound in Time." <i>Music Theory Spectrum</i> 18.1: 1 – 21.</p>	
Jan. 19	<p><b>Formalisms (1)</b></p> <p>Lewin, David. 1987. <i>Generalized Musical Intervals and Transformations</i>. New Haven: Yale University Press, 16 – 30. [Chapter 2, "Generalized Interval Systems (1): Preliminary Examples and Definition"]</p> <p>Morris, Robert. 2001. <i>Class Notes for Advanced Atonal Music Theory</i>. Lebanon, NH: Frog Peak Music, 9 – 18. ["Groups"]</p> <p>Satyendra, Ramon. 2002. "An Informal Introduction to Some Formal Concepts from Lewin's Transformational Theory." <i>Journal of Music Theory</i> 48.1, 99 – 103. [excerpt]</p>	

	<p>Nolan, Catherine. 2002. "Music Theory and Mathematics." In <i>Cambridge History of Western Music Theory</i>, ed. Thomas Christensen, 272 – 98. Cambridge: Cambridge University Press.</p>	
Jan. 26	<p><b>Formalisms (2)</b></p> <p>Satyendra, Ramon. 2002. An Informal Introduction to Some Formal Concepts from Lewin's Transformational Theory." <i>Journal of Music Theory</i> 48.1, 104 – 117. [excerpt]</p> <p>Rings, Steven. 2011. <i>Tonality and Transformation</i>. Oxford: Oxford University Press, 9 – 27. [from Chapter 1, "Intervals, Transformations, and Tonal Analysis."]</p> <p>Lewin, David. 1987. <i>Generalized Musical Intervals and Transformations</i>. New Haven: Yale University Press, 1 - 15. [Chapter 1, "Mathematical Preliminaries"]</p>	<p>Assignment 1 due</p> <p>(Symmetries of the square)</p>
Feb. 2	<p><b>Neo-Riemannian Theory</b></p> <p>Cohn, Richard. 1998. "Introduction to Neo-Riemannian Theory: A Survey and Historical Perspective." <i>Journal of Music Theory</i> 42.2: 167 – 80.</p> <p>Engebretsen, Nora. 2008. "The Over-Determined Triad as a Source of Discord: Nascent Groups and the Emergent Chromatic Tonality in Nineteenth-Century German Harmonic Theory." In <i>Music Theory and Mathematics: Chords Collections, and Transformations</i>, ed. Jack Douthett, Martha M. Hyde, and Charles J. Smith, 107-36. Rochester: University of Rochester Press.</p> <p>Harrison, Daniel. 2011. "Three Short Essays on Neo-Riemannian Theory." In <i>The Oxford Handbook of Neo-Riemannian Music Theories</i>, ed. Edward Gollin and Alexander Rehding, 548 – 53 and 564 – 77 [Essay 1, "The New Riemann: Same as the Old Riemann?: A Meditation on Transformational Music Theories;" and Essay 3, "Remarks on <i>Fantasia on a Theme by Thomas Tallis</i> by Ralph Vaughn Williams"]. Oxford: Oxford University Press.</p>	<p>Assignment 2 due</p> <p>(Neo-Riemannian of historical circles of 24 keys)</p>
Feb. 9	<p><b>Hexatonic Systems</b></p>	<p>Assignment 3 due</p>

	<p>Cohn, Richard. 1996. “Maximally Smooth Cycles, Hexatonic Systems, and the Analysis of Late Nineteenth-Century Triadic Progressions.” <i>Music Analysis</i> 15.1: 1 – 66.</p> <p>Cohn, Richard. 2012. <i>Audacious Euphony: Chromaticism and the Triad’s Second Nature</i>. Oxford: Oxford University Press, 17 – 41. [Chapter 2, “Hexatonic Cycles”]</p> <p>Satyendra, Ramon. 2002. An Informal Introduction to Some Formal Concepts from Lewin’s Transformational Theory.” <i>Journal of Music Theory</i> 48.1, 118 – 123. [excerpt]</p>	(P/L group table)
Feb. 16	No meeting, Spring Reading Week	
Feb. 23	<p><b>Transformational Graphs and Networks</b></p> <p>Rings, Steven. 2011. <i>Tonality and Transformation</i>. Oxford: Oxford University Press.</p> <ul style="list-style-type: none"> <li>• “Between GISs and Transformation Networks,” 27 – 35</li> <li>• “Oriented Networks,” 110 – 116</li> <li>• “Spatial and Event Networks,” 140 – 144</li> </ul> <p>De Souza, Jonathan. 2017. <i>Music at Hand: Instruments, Bodies, and Cognition</i>. Oxford: Oxford University Press, 109 – 44. [Chapter 5, “Compositional Instruments”]</p> <p>Devlin, Keith. 1994. <i>Mathematics: The Science of Patterns</i>. New York: Scientific American Library, 173-82. [Chapter 6, “Position”]</p>	
Mar. 1	<p><b>Contextual Transformations</b></p> <p>Pearsall, Edward. 2004. “Transformational Streams: Unraveling Melodic Processes in Twentieth-Century Motivic Music.” <i>Journal of Music Theory</i> 48.1: 69 – 98.</p> <p>Nobile, Drew. 2013. “Interval Permutations.” <i>Music Theory Online</i> 19.3.</p> <p>Gollin, Edward. 1998. “Some Unusual Transformations in Bartók’s ‘Minor Seconds, Major Sevenths’.” <i>Intégral</i> 12: 25 – 51.</p>	
Mar. 8	<b>Extended Transformational Analyses</b>	<p>Assignment 4</p> <p>(Reflection paper on the</p>

	<p>Rings, Steven. 2011. <i>Tonality and Transformation</i>. Oxford: Oxford University Press, 185 – 202. [Chapter 6, Brahms, Intermezzo in A major, op. 118, no. 2]</p> <p>Roeder, John. 2013. “Transformational Aspects of Arvo Pärt’s Tintinnabuli Music.” <i>Journal of Music Theory</i> 55.1: 1 – 41.</p>	analytical approaches in the two assigned readings)
Mar. 15	<p><b>Animations and Perspective</b></p> <p>Attas, Robin. 2009. “Metaphors in Motion: Agents and Representation in Transformational Analysis.” <i>Music Theory Online</i> 15.1.</p> <p>Lind, Stephanie and John Roeder. 2009. “Transformational Distance and Form in Berg’s ‘Schlafend trägt man mich’.” <i>Music Theory Online</i> 15.1.</p> <p>Roeder, John. 2009. “Constructing Transformational Signification: Gesture and Agency in Bartók’s Scherzo, Op. 14, No. 2, measures 1 – 32.” <i>Music Theory Online</i> 15.1.</p>	
<b>Final Project Proposal Due: Friday, March 19</b>		
Mar. 22	<p><b>Retracing the Pathways (1)</b></p> <p>Cohn, Richard. 2004. “Uncanny Resemblances: Tonal Signification in the Freudian Age.” <i>Journal of the American Musicological Society</i> 57.2: 285 – 324.</p> <p>Kopp, David. 2002. <i>Chromatic Transformations in Nineteenth-Century Music</i>. Cambridge: Cambridge University Press. Chapter 6, “Riemann’s Legacies and Transformation Theories,” 135 – 64.</p> <p>Hook, Julian. 2002. “Uniform Triadic Transformations.” <i>Journal of Music Theory</i> 46.1-2: 57 – 126.</p>	
Mar. 29	<p><b>Retracing the Pathways (2)</b></p> <p>Brower, Candace. 2008. “Paradoxes of Pitch Space.” <i>Music Analysis</i> 27.1: 51 – 106.</p> <p>Murphy, Scott. 2013. “Transformational Theory and the Analysis of Film Music.” In <i>The Oxford Handbook of Film Music Studies</i>, ed. David Neumeyer, 1 – 31. Oxford: Oxford University Press.</p>	
Apr. 5	Final project presentations	



**Final Project Due: Friday, April 16**