



Teaching Music through Performance in Band

VOLUME 7

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Teacher Resource Guide

Turbine

John Mackey

(b. 1973)

Unit 1: Composer

John Mackey was born in New Philadelphia, Ohio, October 1, 1973. Many in his family were musicians, but, prior to college, he received almost no musical training. At a young age he enjoyed using an early music notation computer program, given to him by his grandfather, to play back musical scores that he input. After experimenting with composition for several years during middle and high school, Mackey was accepted to study composition with Donald Erb at the Cleveland Institute of Music, where he graduated with a bachelor of fine arts degree in 1995. He continued his studies with Pulitzer Prize-winning composer John Corigliano at The Julliard School and graduated with a master of music degree in 1997.

While attending Julliard, Mackey participated for three consecutive years in a Composers and Choreographers Workshop. This type of collaboration yielded several new compositions for instrumental chamber ensembles and led to the format for much of Mackey's work over the next several years: music to accompany dance. This included pieces that paired Mackey with prominent choreographers such as Robert Battle.

His work with wind ensemble began with a transcription he undertook of his own *Redline Tango* in 2004 and his first original composition for wind ensemble, *Sasparilla*, in 2005. Since then, several new original works and transcriptions of earlier chamber ensemble and orchestral pieces have been completed. His complete list of compositions for wind ensemble as of 2008 includes *Kingfishers Catch Fire*, *Undertow*, *Concerto for Soprano Sax and Wind Ensemble*, *Strange Humors*, *Redline Tango*, *Turning*, *Sasparilla*, *Turbine*, and *Clocking*.



Mackey is a two-time winner of the Morton Gould Young Composer Award, nine-time winner of the ASCAP Concert Music Award, recipient of grants from the American Music Center, the Mary Flagler Cary Charitable Trust, and the NEA, and has received several composer-in-residence appointments. His *Redline Tango* won the Walter Beeler Memorial Composition Prize in 2004 and the ABA/Ostwald Award from the American Bandmasters Association in 2005. He currently resides in Los Angeles, California where he composes full-time and runs his ASCAP publishing company, Osti Music, Incorporated.

Unit 2: Composition

Turbine is a single-movement original work featuring a constant tempo of quarter note = 184 (although Mackey prefers 190) and is both multimetric and polymetric in design. In this contemporary piece, the composer uses both harmonic and metric dissonance (metric dissonance occurs when musical factors [in this case polymeter and conflicting syncopated accent patterns] combine to create a passage that is metrically ambiguous). The harmony employs atonality, modality, and shifting tonal centers. Melody, in the traditional sense, is often absent and is replaced by alternating ostinatos and motivic development through which the composer explores the myriad of tone colors afforded him within the wind and percussion sections.

Mackey writes of the work:

I'm afraid of flying. This piece was my way of dealing with that. The first three minutes are rough, grinding, and tense, as the jet engine builds up speed (through texture, not tempo), and eventually goes racing down the runway. Once the jet takes off, though, the music changes, and we realize that flying really isn't so bad. In fact, it can be beautiful once the plane is airborne. But in the back of my mind, I'm always aware that we're up quite high—and our lives (and that beauty) depend on these massive pieces of machinery. If that machinery (in this case, the percussion) should fail, we'd all be in serious trouble, so I keep my knuckles gripped to the armrest, look out at the clouds, think pretty thoughts, and hope that the pulse of that engine never lets up.

Unit 3: Historical Perspective

The Southeastern Conference Band Directors Association commissioned *Turbine*, Mackey's second original work for wind ensemble, and the piece is dedicated by the composer to Frank B. Wickes, director of bands at the Louisiana State University. The piece was commissioned to be performed at the Southern Division Convention of the College Band Directors National

Association at Vanderbilt University in Nashville, Tennessee and was premiered by the University of Kentucky Wind Ensemble, John Cody Birdwell, conductor, on February 24, 2006. *Turbine* continues to be performed throughout the United States and other countries, and has been performed at numerous regional and national conferences. *Turbine* has been also been professionally recorded by several outstanding college and university wind ensembles.

Unit 4: Technical Considerations

Turbine is an advanced work, and the demand on each player, particularly in terms of rhythm and energy, are extremely high. Extended dynamic ranges from *niente* to *ffff* can be found within the piece, and having players on all instruments able to produce these levels with controlled tone and intensity is crucial. A constant eighth-note pulse can be heard throughout the majority of the work, and this pulse is unaffected by the frequent meter changes. An irregular meter of $5/8 + 2/4$ is used often to create an effect of a $9/8$ measure with an irregular grouping of eighth notes (2 + 3 + 2 + 2). The piece is a fast-paced and aggressive exploration of the many textures and timbres of the ensemble. Performers must exhibit confidence and independence in order to effectively communicate each shifting nuance of color as voices are removed or brought in amidst the layered and rhythmic ostinatos.

Much of the demand in the woodwind voices is created through the presence of triplet, sixteenth-note, quintuplet, and sextuplet runs that are usually chromatic and often occur with several rhythms combined in the same line. Solo lines appear for most woodwind instruments. Scoring includes prominent parts for E-flat clarinet, contrabass clarinet, and contrabassoon. There are two parts for piccolo, oboe, bass clarinet, and bassoon, and four parts for flute and clarinet. Ranges are extended in most woodwind voices (C4 for piccolo and flute and G3 for B-flat clarinet).

For brass, effects such as flutter-tonguing and glissandos are common, and many of these effects occur at extreme dynamic levels and at higher or lower extents of range. Clear articulation on frequent eighth-note ostinatos is necessary, and the ability to sustain and control both gradual and *subito* dynamic figures with quality tone and attention to ensemble balance is a must. There are four parts for trumpet, horn, and trombone, and range issues are minimal (C-sharp 3 in trumpet 1, B2 in trombone 1, and CCC-sharp in the tuba).

The piano part is fundamental to this composition and is featured prominently as a solo melodic instrument as well as an integral part of the percussion section. The use of non-traditional percussion instruments and techniques, such as four varying brake drums or metal sheets, muted and randomly tuned timpani, trash can lids, and an assortment of cymbal and tam-tam scrapes are featured. Players are encouraged to discover the strangest



and most grotesque sound possible in many instances. Percussionists can expect a highly physical performance, where constant energy and intensity are expected. Of particular note is that the work calls for two five-octave marimbas. In his online blog, Mackey credits James Campbell, professor of percussion at the University of Kentucky, with a great deal of refinement of the percussion elements of *Turbine*.

Unit 5: Stylistic Considerations

Mackey's *Turbine* forces players to control a broad range of expressive tools. Dynamics reach extremes, and producing a controlled tone at all levels is critical. Additionally, in areas of sustained and gradual dynamic movement, performers must have a clear understanding of the ultimate goal of each segment and must execute crescendo or decrescendo effects evenly. Maintaining balance in the ensemble is of paramount importance, as important motives or melodic fragments can easily be lost among the layered ostinatos. It is important to ensure that elements such as the individual notes of the frequent tone clusters or chromatic runs (often in intervals of a second or third among voices) are in appropriate proportion to one another.

Precision and clarity of articulations in *Turbine* will require constant focus by performers and a clear conveyance of expectations from the conductor. Performers must have a uniform view of how to produce each articulation in terms of attack, sustain, and release. With regard to percussion, attacks and releases must be executed precisely and care must be taken to avoid lengthy decay unless written or appropriate.

The tempo of the work, whether set at quarter note = 184 or faster, should be considered inflexible, and the conductor must move forward with unyielding drive. The guide for tempo choice must come from the conductor's understanding of the ensemble's ability to perform the more technical aspects of the piece. Once tempo is determined, all must agree to remain steadfast. Drive and intensity are inherently required of both the conductor and performers. In lighter sections there is always a sense of restrained energy and the need for aggressive focus by performers.

Unit 6: Musical Elements

MELODY:

Within *Turbine*, melody is secondary to rhythm, as melody appears sparsely and in varying forms. There is a primary melody, a secondary melody, a counter-melody, and four melodic/harmonic motives. Of all of the melodic elements, only two appear before m. 111. All other melodic elements occur during Part B of the work (see Unit 7). The primary melody appears in its entirety only four times throughout the composition, as well as in fragments (mm. 155–156, 206, and 208). The secondary melody appears once (mm.

128–138), centered in F, and the Lydian countermelody appears. The four thematic motives are varied and of simple construction.

HARMONY:

Mackey's harmonic language in *Turbine* features the use of modes, most prominently Lydian, and an abundance of atonality, tone clusters, and simple tertian harmonies. Often within the work, harmonic progressions are created simply by the direction in which tone clusters move.

RHYTHM:

Without question, rhythm is of primary importance in *Turbine*. Central to this is the feeling of constant energy, drive, and forward motion that must be sustained by rhythm. This is mainly achieved through Mackey's creative use of four principal ostinatos. They are presented in a variety of formats, including non-pitched percussion presentations, single pitches in tonal voices, harmonic rhythms in piano or other combinations of instruments, and as both melodic/harmonic rhythms when motives are incorporated.

Meter may or may not play an important role on these ostinatos, as some work within the confines of barlines while others do not. Syncopated accent patterns coupled with layering of ostinatos create and maintain a frequent sense of metric ambiguity (dissonance). Interest is maintained by incorporation of these rhythmic complexities and mixed meters.

TIMBRE:

An array of tone colors within the contemporary wind ensemble is used by Mackey to create an ever-shifting pallet of sounds and textures. From subdued, fragmented motives and single-instrument ostinatos to forceful tutti sections that push the dynamic limits of the ensemble, Mackey explores them all. Special care must be taken by the conductor and performers to ensure an appropriate balance of these colors. The use of non-traditional percussion instruments and techniques leads to many unexpected and often surprising timbres. Percussionists are encouraged to think big and experiment with items like drill bits, scuba tanks, and steel pipes in order to create the sounds called for. As this piece is meant to depict flying on a jet, Mackey considers the percussion to be the "engine" in this composition.

**Unit 7: Form and Structure**

Turbine is essentially a work in two parts (A-B) with sections governed by shifting tonal centers, orchestration, and varying rhythmic/melodic material.

SECTION	MEASURE	EVENT AND SCORING
Part A (mm. 1–110)		
Introduction	1–18	Presentation of ostinato 1 (mm. 1–4) in percussion and ostinato 2 in bass drum (mm. 5–6); very loud, energetic initial introduction; sustained woodwind dynamic effects and trombone glissandos; ostinatos in bassoon and percussion
Section 1	19–45	Ostinatos 1 and 2 continue; motive 1 in bass clarinet and piano (mm. 21–23); metric dissonance created by conflicting ostinatos and hemiola; chromatic flourishes in woodwind voices; brass alternate between ostinato figures and sustained dynamic effects
Section 2	46–66	Ostinatos 1 and 2, motive 1; metric dissonance continues; thinner texture than earlier sections; increase in density as m. 66 approaches; trombone glissandos; conflicting ostinatos in woodwinds and percussion; climactic two-measure tutti at mm. 65–66
Section 3	67–78	Metric dissonance continues; trombone glissandos; multiple chromatic woodwind flourishes with a variety of beat divisions; ostinatos continue; sustained tone clusters in brass voices
Section 4	79–88	Ostinatos 1 and 2, motive 1; chromatic woodwind flourishes; brass glissandos and sustained tone clusters; metric dissonance continues; very loud, intense ending to this section with the entire ensemble from mm. 84–88
Transition	89–110	Ostinatos 1 and 2, motive 2 presented by bassoons in mm. 105–106; becomes thinner in texture following m. 88; piano and marimba are the primary vehicle of the ostinato; motive fragments and runs in woodwinds; brass has subdued dynamic effects

SECTION	MEASURE	EVENT AND SCORING
Part B	111–303	
Section 1	111–139	Ostinatos 1 and 2, secondary melody, motive 2; marimba duet; secondary melody in solo woodwind voices; isolated, important fragment in the piano
Section 2	140–148	Primary melody in bass clarinet, motive 2; ostinato continues in percussion; sustained left hand octaves in piano; fragments and dynamic effects in other voices
Section 3	149–184	Ostinato 2; fragments of primary melody appear in several voices; motive 2; motive 3 in bass clarinet mm. 180–181; subito <i>piano</i> effect and return of ostinato in marimbas; flute and piccolo runs; <i>forte-piano</i> sustained tones in trumpet
Section 4	185–192	Primary melody in woodwinds voices; ostinatos continue; sustained dynamic effects; dynamic push and chromatic runs in woodwinds ends the section
Section 5	193–213	Multiple layers of alternating motives and ostinatos; motive 2 becomes an ostinato in marimbas; motive 4 in bass clarinet mm. 199–202; ostinato 3 in flute, oboe, and marimba m. 203; motive 3 reappears m. 209
Section 6	214–221	Primary melody in oboe, alto saxophone, and trumpet; countermelody in tenor saxophone, trombone, and euphonium; more flourishes in woodwinds; trombone glissandos
Section 7	222–241	Alternating extremes of dynamics and orchestration; measures of loud ensemble tutti alternate with lighter statements of ostinatos, motive 2, and chromatic woodwind flourishes
Section 8	242–276	Layering of ostinatos and motives; texture becomes more dense; number of layers increases; energy and dynamic intensity builds; extensive woodwind runs with varied beat divisions



SECTION	MEASURE	EVENT AND SCORING
Section 9	277–284	Primary melody first in piccolo, tenor sax, trumpet, and upper horns. then E-flat and soprano clarinets; and saxophones join; countermelody appears in several of the low brass and winds; piano is the primary vehicle of the ostinato eighth-note pulse
Coda	285–303	Ostinatos 1 and 2; ending with components of previous themes, motives, and ostinatos; tone clusters; woodwind runs (including extended chromatic runs) and trombone glissandos; the work concludes on a unison concert D

Unit 8: Suggested Listening

John Mackey:

Clocking

Kingfishers Catch Fire

Redline Tango

Turning

John Adams:

Harmonielehre

Short Ride in a Fast Machine

Slonimsky's Earbox

Lateralus. By the rock band *Tool*.

Turbine. *Distilled in Kentucky*. University of Kentucky Wind Ensemble.

John Cody Birdwell, conductor. Mark Records MCD 6739.

Turbine. *Stravinsky and Friends*. University of Florida Wind Symphony.

David A. Waybright, conductor. Mark Records MCD 6565.

Unit 9: Additional References and Resources

Phillips, Rebecca L. "John Mackey: The Composer, His Compositional Style and a Conductor's Analysis of *Redline Tango* and *Turbine*." Monograph. Louisiana State University, 2007.

Websites:

Battleworks Dance Company. www.battleworksdance.com (Robert Battle, choreographer, runs the Battleworks Dance Company in New York City. Info and some video clips of performances of works by Battle and John Mackey can be found here.)

John Mackey's personal weblog. <http://ostimusic.com/blog/2006/02/> (Has an account of the premier of *Turbine*.)

Osti Music, Incorporated. <http://www.ostimusic.com> (The online home of John Mackey's ASCAP publishing company.)

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