

Inside the Hyper-Instrument: Unsuk Chin's *Double Concerto*

Jong Eun Lee

A dissertation
submitted in partial fulfillment of the
requirements for the degree of

Doctor of Musical Arts

University of Washington

2014

Reading Committee:

Craig Sheppard, Chair

Ronald Patterson

Giselle Wyers

Program Authorized to Offer Degree:

School of Music

©Copyright 2014

Jong Eun Lee

University of Washington

Abstract

Inside the Hyper-Instrument: Unsuk Chin's *Double Concerto*

Jong Eun Lee

Chair of the Supervisory Committee:
Professor Craig Sheppard
School of Music

The Korean Unsuk Chin (b. 1961) has received numerous prestigious awards and accolades for works that explore new sonic worlds and attempt, in her words, to “blur the differences, the boundaries, between the ‘natural’ and the ‘artificial’”, combining these to create living musical processes inhabiting musical structures based on the principles of architecture. Her particular interest in the color and plasticity of sound is well reflected in her five concertos, in which the virtuosity of the soloist is not merely a display of flashy technique for its own sake, but a vehicle towards the creation of a complex, unified sound mass. Chin’s approach to the concerto genre compels the soloist(s) to participate in the gestation and unfolding of a larger sonic world defined largely by timbre, wherein sound character becomes an essential constitutive component. This tendency is most evident in *Double Concerto* for prepared piano, solo percussion and ensemble (2002), a work partly inspired by Balinese gamelan traditions. *Double Concerto* deemphasizes the contrasts between the soloist and orchestra, melding solo and

ensemble timbres into a composite organism the composer designates as a “hyper-instrument.” The preparation of the piano with various metallic objects pushes it towards the more purely percussive end of its spectrum. While the solo parts require exceptional virtuosity, *Double Concerto* features very few extended solo passages of the type customarily encountered in the concerto genre. Instead, Chin is chiefly concerned with sound color and percussive timbre in a work that evokes gamelan music without imitating it. Working organically from a relatively restricted palette of resources, Chin elicits complex forms, shapes, and timbres from the tiniest particles or grains, morphing and evolving recurring materials into fresh guises displaying a remarkable variety of sonic character. This dissertation discusses the sources of Chin’s inspiration for *Double Concerto* and provides an analytical overview of the work, illuminating the means by which the composer manipulates timbre and texture to create an integrated sonic mass characterized by constantly shifting sound colors and kinetic rhythms.

TABLE OF CONTENTS

Acknowledgements.....	ii
List of Figures.....	iii
List of Musical Examples.....	iv
Introduction.....	1
Chapter One: Unsuik Chin: An Introduction	6
Life.....	6
Works.....	12
Chapter Two: Introduction to the Work.....	28
Instrumentation.....	29
Form.....	35
Gamelan Influence.....	39
Chapter Three: Descriptive Analysis.....	42
Part 1.....	44
Part 2.....	53
Part 3.....	76
Part 4.....	103
Part 5.....	121
Part 6.....	129
Part 7.....	157
Conclusion.....	177
Bibliography.....	186

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to Professor Craig Sheppard, for his guidance and support in the preparation of this dissertation and throughout my study of doctoral program at the University of Washington. I extend my further appreciation to the members of my reading committee, Prof. Ronald Patterson and Dr. Giselle Wyers, for their participation in the process. I thank Dr. Timothy Kinsella for his editorial assistance and suggestions. Special thanks are due to my best friend, the soprano Yeree Suh, who introduced me to Chin's music. I am grateful to Professor Richard Braun, my former piano teacher at the Hochschule für Musik Köln, who continues to encourage me. My dearest thanks goes to my parents, Yong Il Lee and Yong Gui Yoon, and my sister, Louise Seungeun Lee, for their endless support. Finally, I would like to thank my husband Seungbum and my daughter Lauren Haneul for their patience and understanding during the long process of writing this dissertation.

LIST OF FIGURES

	Page
Figure 1a. Placement of piano and solo percussion instruments.....	31
Figure 1b. Placement of piano and solo percussion instruments.....	32
Figure 2. Double Concerto, Instructions for Preparation of Piano.....	34

LIST OF MUSICAL EXAMPLES

	Page
Example 1. Chin, <i>Double Concerto</i> , mm. 1–6, opening ostinato.....	44
Example 2. Chin, <i>Double Concerto</i> , mm. 7–9, crossing glissando gesture.....	47
Example 3. Chin, <i>Double Concerto</i> , mm. 24–28, winds.....	49
Example 4. Chin, <i>Double Concerto</i> , mm. 35–40, winds, brass, harp, ensemble percussion.....	50
Example 5. Chin, <i>Double Concerto</i> , mm. 53–56, winds.....	54
Example 6. Chin, <i>Double Concerto</i> , mm. 53–62, piano, solo percussion, strings.....	55
Example 7. Chin, <i>Double Concerto</i> , mm. 72–78, piano, solo percussions, strings.....	56
Example 8. Chin, <i>Double Concerto</i> , mm. 85–87, m. 107, versions of the interruptive gestures..	57
Example 9. Chin, <i>Double Concerto</i> , mm. 106–111.....	60
Example 10. Chin, <i>Double Concerto</i> , mm. 119–130.....	63
Example 11. Chin, <i>Double Concerto</i> , mm. 131–140.....	65
Example 12. Chin, <i>Double Concerto</i> , mm. 148–153.....	67
Example 13. Chin, <i>Double Concerto</i> , mm. 154–159.....	69
Example 14. Chin, <i>Double Concerto</i> , mm. 160–165.....	71
Example 15. Chin, <i>Double Concerto</i> , mm. 166–172, piano and solo percussion.....	72
Example 16. Chin, <i>Double Concerto</i> , mm. 173–182.....	73
Example 17a. Chin, <i>Double Concerto</i> , mm. 183–191, piano and solo percussion.....	74
Example 17b. Chin, <i>Double Concerto</i> , mm. 192–200, piano, solo percussion, strings.....	74
Example 18. Chin, <i>Double Concerto</i> , mm. 201–204, cymbals and strings.....	75
Example 19. Chin, <i>Double Concerto</i> , mm. 201–210, cymbals, piano, solo percussion, brass, contrabassoon.....	77

Example 20. Chin, <i>Double Concerto</i> , mm. 211–216.....	80
Example 21. Chin, <i>Double Concerto</i> , mm. 217–223.....	81
Example 22a. Chin, <i>Double Concerto</i> , mm. 224–230, marimba, piano, cencerros.....	83
Example 22b. Chin, <i>Piano Etude No.1 in C</i> , mm. 1–5 and mm. 43–44.....	84
Example 23. Chin, <i>Double Concerto</i> , mm. 231–237.....	86
Example 24. Chin, <i>Double Concerto</i> , mm. 238–244.....	89
Example 25. Chin, <i>Double Concerto</i> , mm. 245–250, piano.....	90
Example 26. Chin, <i>Double Concerto</i> , mm. 251–256, winds and brass.....	91
Example 27. Chin, <i>Double Concerto</i> , mm. 257–263, piano	92
Example 28. Chin, <i>Double Concerto</i> , mm. 264–269.....	93
Example 29. Chin, <i>Double Concerto</i> , mm. 270–275.....	96
Example 30. Chin, <i>Double Concerto</i> , mm. 288–293.....	98
Example 31. Chin, <i>Double Concerto</i> , mm. 300–305.....	100
Example 32. Chin, <i>Double Concerto</i> , mm. 306–311.....	101
Example 33. Chin, <i>Double Concerto</i> , mm. 312–317, harp, xylophone, piano, violin.....	104
Example 34. Chin, <i>Double Concerto</i> , mm. 324–330.....	107
Example 35. Chin, <i>Double Concerto</i> , mm. 337–342.....	110
Example 36. Chin, <i>Double Concerto</i> , mm. 349–354.....	112
Example 37. Chin, <i>Double Concerto</i> , mm. 355–360.....	114
Example 38. Chin, <i>Double Concerto</i> , mm. 369–378.....	116
Example 39. Chin, <i>Double Concerto</i> , mm. 379–385.....	119
Example 40. Chin, <i>Double Concerto</i> , mm. 392–396.....	120
Example 41. Chin, <i>Double Concerto</i> , mm. 397–401, new ostinato.....	121

Example 42. Chin, <i>Double Concerto</i> , mm. 406–410.....	124
Example 43. Chin, <i>Double Concerto</i> , mm. 411–414.....	126
Example 44. Chin, <i>Double Concerto</i> , mm. 420–424, winds, brass, ensemble percussion, solo percussion, piano.....	128
Example 45. Chin, <i>Double Concerto</i> , mm. 425–432, solo percussion and piano.....	128
Example 46. Chin, <i>Double Concerto</i> , mm. 433–441.....	130
Example 47. Chin, <i>Double Concerto</i> , mm. 442–449, winds, brass, ensemble percussion, harp, solo percussion, piano.....	132
Example 48. Chin, <i>Double Concerto</i> , mm. 455–458, solo percussion and piano.....	133
Example 49. Chin, <i>Double Concerto</i> , mm. 459–467.....	135
Example 50. Chin, Piano Etude No. 6, “Grains,” mm. 87–90, aggregate cluster formation.....	136
Example 51. Chin, <i>Double Concerto</i> , mm. 468–475, brass, solo percussion, piano, strings.....	138
Example 52. Chin, <i>Double Concerto</i> , mm. 476–480, brass, solo percussion, piano, strings.....	139
Example 53. Chin, <i>Double Concerto</i> , mm. 481–485, solo percussion, piano, strings.....	140
Example 54. Chin, <i>Double Concerto</i> , mm. 486–490, winds, brass, solo percussion, piano, strings.....	141
Example 55. Chin, <i>Double Concerto</i> , mm. 499–502.....	143
Example 56. Chin, <i>Double Concerto</i> , mm. 503–506.....	144
Example 57. Chin, <i>Double Concerto</i> , mm. 503–505, trumpet.....	145
Example 58. Chin, <i>Double Concerto</i> , mm. 503–506, piano.....	146
Example 59. Chin, <i>Double Concerto</i> , mm. 507–511.....	148
Example 60. Chin, <i>Double Concerto</i> , mm. 512–515.....	149
Example 61. Chin, <i>Double Concerto</i> , mm. 516–519, flutes, ensemble percussion, harp.....	150

Example 62. Chin, <i>Double Concerto</i> , mm. 520–523.....	151
Example 63. Chin, <i>Double Concerto</i> , two solo melodies reduced.....	153
Example 64. Chin, <i>Double Concerto</i> , mm. 524–531, solo percussion and piano.....	154
Example 65. Chin, <i>Double Concerto</i> , mm. 528–531.....	156
Example 66. Chin, <i>Double Concerto</i> , mm. 532–534.....	158
Example 67. Chin, <i>Double Concerto</i> , mm. 539–543.....	160
Example 68. Chin, <i>Double Concerto</i> , mm. 544–548.....	161
Example 69. Chin, <i>Double Concerto</i> , mm. 555–559.....	164
Example 70. Chin, <i>Double Concerto</i> , mm. 560–564.....	167
Example 71. Chin, <i>Double Concerto</i> , mm. 565–569.....	168
Example 72. Chin, <i>Double Concerto</i> , mm. 570–574.....	169
Example 73. Chin, <i>Double Concerto</i> , mm. 575–579.....	170
Example 74. Chin, <i>Double Concerto</i> , mm. 586–591, strings.....	171
Example 75. Chin, <i>Double Concerto</i> , mm. 592–597.....	173
Example 76. Chin, <i>Double Concerto</i> , mm. 598–601, winds.....	175
Example 77. Chin, <i>Double Concerto</i> , mm. 602–607, solo percussion, piano, strings.....	176
Example 78. Chin, <i>Double Concerto</i> , mm. 608–612, solo percussion, piano, strings.....	176

Introduction

The Korean composer Unsuk Chin (b. 1961) is widely recognized as one of the leading composers of contemporary classical music in the twenty-first century. Her works have been performed and recorded by many of the world's finest orchestras and chamber ensembles, and she has received numerous prestigious awards and accolades. In all of her major compositions, whether for acoustic and/or electronic instruments, Chin seeks to explore and define new sonic worlds, attempting, in her words, to “blur the differences, the boundaries, between the ‘natural’ and the ‘artificial’”¹ and combine these to create living musical processes inhabiting musical structures based on the principles of architecture. In particular, she is interested in the color and plasticity of sound.²

These ideas are well reflected in her concertos. Chin has composed five concertos to date—solo concertos for piano, violin, cello, and Chinese *sheng*, and one double concerto for piano, percussion and ensemble. Traditionally, the concerto genre has demanded considerable technical virtuosity on the part of the soloist(s), in order to fully exploit the sonic capabilities and expressive potential of the solo instrument(s). In the best examples of the concerto genre, the virtuosity of the soloist is not merely an empty or meretricious display of flashy technique for its own sake, but a vehicle or means to creating a complex, unified acoustic sound.

It is this latter aspect of the genre with which Unsuk Chin is principally concerned. Although part of the mechanism of any solo concerto is a dialectic relationship with the ensemble—a dialogue that can at times become contentious—in general, the soloist in a Chin concerto is not there to compete with the orchestra, but to participate in the gestation and

¹ “Daring to Cross Many Boundaries,” interview with Unsuk Chin. *US Asians*, accessed March 13, 2013, <http://usasians-articles.tripod.com/unsuk-chin.html>.

² Martin Demmler, “Dream architecture and sound sculptures,” liner notes to Unsuk Chin, *Xi* (Kairos 0013062KAI, 2011)

unfolding of a larger sound world defined largely by timbre. The soloist is integrated with and sublimated to the greater sound mass of the work, becoming part of the larger apparatus tasked with creating sound color in a work wherein sound character becomes an essential constitutive component of the whole, not merely a secondary or superficial aspect. In this way, Chin seeks to deemphasize the contrasts between the soloist and orchestra, rather than observing the principle of *concertare*, consisting largely of contrast and competition between the solo and tutti, that has historically governed the genre of the solo concerto.³ In Chin's concertos, the two elements of solo and tutti are treated equally as means of creating the sound color that defines the work.

Of all her concertos, this tendency is most evident in *Double Concerto* for piano, solo percussion and ensemble. Her second concerto to feature the piano as a solo instrument, *Double Concerto* was composed in 2002 for the Paris-based Ensemble Intercontemporain, and premiered in Paris in 2003 by that ensemble with the percussionist Samuel Favre and the pianist Dimitri Vassilakis as soloists, under the conductor Stefan Asbury. Chin relates that the idea of *Double Concerto* came from her previous pieces in which the piano and percussion instruments play an important role, for example the ongoing series of Piano Etudes (1995–), Piano Concerto (1996/7) and Violin Concerto (2001), *Fantaisie mécanique* for five instrumentalists (1994, revised 1997) and the composition *Allegro ma non troppo für Tonband* (1993/4) in the version for percussion and tape (1998).

In *Double Concerto*, she combines the timbres of the piano and percussion soloists with those of the ensemble in order to create a single, homogeneous body of sound: “In *Double*

³ Hanno Ehrler, “Ordnung, Chaos und Computer: Die Koreanische Komponistin Unsuk Chin,” in *Im Spiegel der Zeit. Die Komponisten Unsuk Chin*, edited by Stefan Drees (Mainz: Schott Music GmbH & Co., 2011), 41.

Concerto, I try to merge the two instrumental parts (solo and ensemble) in a total homogeneity, so that it results in a single new sound body.”⁴

In a traditional double concerto of the Baroque, Classical, and Romantic eras, the two solo instruments—whether they are similar in terms of register, timbre, such as two cellos, or dissimilar, such as a violin and a flute—typically are placed in some sort of dialectic relationship with one another, and with the orchestra. Speaking generally, we most often find that the two solo instruments are placed in some sort of call-and-response dialogue or conversation with one another, whether this is a congenial discussion, a heated argument, a contest or duel. The orchestra—symbolically representing the larger community or society—alternately serves to support, comment on, or oppose the soloists—symbolically representing the individual, in the post-Enlightenment sense of the term—who typically function as the main characters or “stars” of whatever musical or narrative drama the composer constructs in the concerto. The composer writes in such a way that the timbres of the solo instruments stand out from the sound mass of the ensemble.

In *Double Concerto*, by contrast, Chin is more concerned with *melding* the timbres of the percussion and piano soloists, along with that of the ensemble into a composite “super-instrument”—or, as she designated it recently, a “hyper-instrument”—than she is with creating a vehicle for virtuosity of the soloists. This is not to say that the solo parts are not demanding; in fact, both parts require exceptional virtuosity. However, unlike the majority of solo and double concertos, *Double Concerto* features very few extended solo passages for either piano or percussion. Certainly, there are no grandiose solo statements in the Romantic manner.

⁴ “Im *Double Concerto* versuche ich eine Verschmelzung der unterschiedlichen instrumentalen Anteile (der beiden Solisten einerseits und des Ensemble andererseits) innerhalb eines homogenen Gesamtklang zu verwirklichen, aus der sich dann ein einziger und neuer Klangkörper ergibt.” Unsuk Chin, “Double Concerto für Klavier, Schlagzeug und Ensemble (2002)”, in Drees, 2011, 97. Unless otherwise noted, all translations from the German in this dissertation are my own.

Chin's principal concern here seems to be with sound color and timbre, rather than with stating and consequently developing, transforming, and recapitulating melodic themes or juxtaposing harmonic areas as in the Classical or Romantic styles. Her experience of Balinese gamelan and other non-western music clearly influences the attention she pays to percussive timbres, without overtly attempting to imitate or replicate a gamelan ensemble. *Double Concerto* calls for the piano to be prepared with various metallic objects, and she tends to push the piano towards the more purely percussive end of its spectrum. Her attention to the sonic and timbral aspects of the concerto is obvious in the thick detail and instructions she has written into the score, paying close attention to the sonic possibilities of each instrument and how they combine and complement one another. Extended techniques and other effects are so frequent as to become structural, rather than merely decorative or superficial.

This dissertation seeks to provide an introduction to and analytical overview of Chin's *Double Concerto*, and to illuminate by what means the composer creates the "illusion of a single 'super instrument'." No single research work devoted to *Double Concerto* exists. Kay Kyurim Rhie discusses Chin's fascination with gamelan music and the rhythmic aspects of *Double Concerto* in her 2009 dissertation, *Quilting Time and Memory: The Music of Unsuik Chin*, along with those of the Violin Concerto and the *Cantarix Sopranica*.⁵ Jihye Chang's *Contextual Analysis of Unsuik Chin's Piano Etudes* (2006) presents a brief comparison of her writing for piano in the etudes to that of *Double Concerto* and *Piano Concerto*.⁶

Chapter One of the present work provides an introduction to the life, musical education, and works of this unique Korean composer. Chapter Two makes a general introduction to *Double Concerto*, details the circumstances of its composition, and identifies its large-scale

⁵ Kay Kyurim Rhie "Quilting Time and Memory: the Music of Unsuik Chin" (DMA diss., Cornell University, 2009).

⁶ Jihye Chang "Contextual Analysis of Unsuik Chin's Piano Etudes" (DMA diss., Indiana University, 2006).

components, processes and influences. Chapter Three proceeds to a descriptive analysis of the entire concerto, roughly twenty minutes in length in performance. The dissertation ends with a brief conclusion that attempts to answer a number of important questions raised by the work.

Chapter One

Unsuik Chin: An Introduction

Unsuik Chin was born into a poor family in Seoul in 1961, a time during which South Korea was struggling with the chaos, destruction, and economic dislocation due to the Korean War. She was attracted to music during her early childhood by the arrival of a piano in the Presbyterian church in which her father served as a pastor. The mysterious instrument evidently made quite an impression on the two-year old child: “I still remember the day when the piano was brought to us... bewildered, I wondered how one could play upon it and from where the sound came.”⁷ Her recollection underscores her very early fascination with *sound* and its mechanisms. At age four she learned the basics of piano and reading music from her father and mother, who, in her memory, did not play “especially well.”⁸

The economic difficulties confronting her family in postwar Korea did not allow her to take formal music lessons in piano and musical theory. As an elementary school student, she accompanied hymns at church on a “little organ”, and earned money by playing piano at weddings. The young Chin aspired to become a concert pianist. Her passion for music compelled her to listen to numerous recordings of classical music in the music classroom of her middle school. Chin recalls her admission to this private middle school, which, in comparison to the strictness of the public schools, had a relatively relaxed, “strongly western-oriented” atmosphere, as “fortunate.”⁹ The school offered her access to many artistic activities such as music, theater,

⁷ “Ich erinnere mich noch an den Tag, als man dieses Klavier zu uns brachte... Ich fragte mich daher verwundert, wie man wohl darauf spielen kann, und woher überhaupt der Klang kommt.” Unsuik Chin, interview with Stefan Drees, “Faszination und Neugier. Unsuik Chin im Gespräch mit Stefan Drees über ihre musikalischen Kindheits- und Jugenderinnerungen,” in Drees, 13.

⁸ Ibid.

⁹ Ibid., 16.

and dance unavailable in the public schools. An encounter with the school's music teacher (himself a composer) proved to be very significant for her future musical development. Recognizing her musical talent, he advised her to become a composer instead of a concert pianist, thinking that this would expand her musical horizons and opportunities. At the time, the thirteen year-old Chin was crushed, as she thought he was suggesting that she was not talented enough to be a concert pianist, and she "cried terribly."¹⁰

Realizing that, in any case, her parents could not afford the piano lessons necessary for her to become a concert pianist, she followed her music teacher's advice and changed her career path to that of a composer. The financial position of her family also precluded her ability to receive a rigorous formal music education, a situation that she later came to "regret greatly," as such an education would have, in her words, "spared me from many detours" or false starts as a composer, presumably with regard to the technical ability with which she imagines that such an education would have equipped her.¹¹ To illustrate her point, she constructs a parallel to her situation with that of her exact contemporary, the English composer George Benjamin, who later became a good friend, pointing out that even as she was listening to records of classical music in her middle school classroom, Benjamin had moved to Paris to study with Oliver Messiaen. She continues, "If I had taken such musical training at this age, I would have perhaps become a wholly different person. I cannot absolutely imagine, but still I regret it somehow."¹²

Even though the financial situation of her family continued to worsen, Chin regards her middle school years as being very productive. She remembers her father as a very "difficult" man, and she felt stifled in her relationship with him. Additionally, she was burdened from her childhood by having to do many household chores. She came to view music as a means of rescue

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid, 17.

or escape from these difficult circumstances, a means by which she could “hold on to herself” as a person and as an artist.¹³ Taking such consolation in music led her to become deeply curious about it. Each music score that she could “get her hands on,” by any means, borrowed or otherwise, became incredibly valuable to her. She recalls, “For example, holding Igor Stravinsky’s *Le sacre du printemps* was unbelievably exciting, it was almost a sacred feeling.”¹⁴

As a teen, Chin was entirely self-taught, teaching herself music theory and composition by copying musical scores (such as Tchaikovsky’s symphonies) and listening to as many recordings as she could. Access to recordings of western classical music in Korea—especially those of contemporary art music—was limited, as the recordings were difficult to find and costly.¹⁵ There is much to be said both for and against auto-didacticism in the arts. However, as she was not even aware at the time that there were standard rules of composing—for example, permissible and impermissible harmonies—she twice failed the entrance exam to the composition program at Seoul National University (SNU). Chin felt herself to be at a disadvantage compared to those applicants whose families had been able to afford expensive private music lessons in preparation for the exams.

She studied composition at SNU with Sukhi Kang, who had recently studied composition with Isang Yun in Germany and had worked in the electronic studio of the Technical University of Berlin. At the time Chin was admitted, Kang, who wrote and produced the first Korean electronic work in 1966, was just beginning his teaching career at SNU.¹⁶ Her lessons with Kang exposed Chin to the techniques and trends of the Western post-war avant-garde, and introduced her to important twentieth-century composers such as Karlheinz Stockhausen, György Ligeti,

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Hae Young Yoo, “Western Music in Modern Korea: A Study of Two Women Composers.” (DMA diss., Rice University, 2005), 57.

¹⁶ Composer biography accessed August 24, 2013, http://www.naxos.com/person/Sukhi_Kang.

and Pierre Boulez. Confessing that until these lessons with Kang her “knowledge of modern music had extended only to Stravinsky”,¹⁷ she was fascinated with the new works of these composers “from another corner of the world,” and began to imitate their techniques and styles in her composition.¹⁸

Gestalten (“Figures”), one of her early pieces from this period, was selected for the 1984 ISCM (International Society for Contemporary Music) World Music Days in Toronto and Montreal. Her compositions were performed alongside those of Isang Yun and Sukhi Kang in a concert representing the work of three generations of Korean composers. Kang arranged a series of Korean newspaper and television interviews for Chin, in which she was highly praised as “a twenty-three year old composition student.”¹⁹ The following year she won the first prize at the 1985 Gaudemus Competition in Amsterdam with her university graduation piece, *Spektra* for three cellos. Her success there was otherwise remarkable in the fact that she was the only woman, the only Asian, and the youngest participant in that competition.²⁰

Upon her graduation from Seoul National University in 1985, she studied composition with György Ligeti from 1985 to 1988 at the University for Music and Theater in Hamburg as a recipient of a DAAD (Deutscher Akademischer Austausch Dienst) scholarship. Chin chose to study with Ligeti, as his compositions spoke to her on a deeper, more personal level than did the works of many post-war composers, which Chin experienced merely as intellectually interesting. As a “born musician”, she had a particular affinity for the melodic line, and saw Ligeti as one of

¹⁷ Interview with Unsuk Chin, “Daring to Cross Many Boundaries”, *US Asians*, accessed February 21, 2013, <http://usasiains-articles.tripod.com/unsuk-chin.html>.

¹⁸ Interview with Chin in Drees, 21.

¹⁹ *Ibid.*, 22.

²⁰ *Ibid.*

the only contemporary composers to concern himself with this in a similar way to her own. He became an important influence on her music.²¹

However, Ligeti criticized her prize-winning pieces as lacking originality, telling her to “throw all this away.” He encouraged her to develop her own musical style, rather than continue imitating the same sort of post-serial music that Ligeti himself had abandoned.²² Although Chin herself realized that she had not found her own voice in those works, she found it difficult to produce completely original music, and she struggled to find another approach to composition.²³ After completing *Trojan Women* for three female singers, women’s choir and orchestra, based on Euripides’ play, she consequently experienced a “compositional crisis”, and could not write any music for three years, from 1986 to 1989.²⁴ This period of difficulty, as described by Chin, maps onto the archetypal psychological “dark night of the soul” that typically—if not invariably—precedes a personal, spiritual, and in this case, artistic breakthrough:

I did not compose any music for three years, and in effect did nothing more than age by that many years. I had a really hard time. I think my reward for this hardship was the attainment of spiritual enlightenment. I really did not do anything. I just existed in a constant state of depression.²⁵

While nothing may have been immediately obvious to Chin at the time, aside from her experience of depression, it is clear that the fruit of this fallow period was the subsequent emergence of her mature, idiosyncratic compositional style, as we shall see.

Aside from encouraging her to find her own compositional voice, Ligeti introduced Chin to several non-western musical traditions that would have an influence on her subsequent

²¹ “Ich bin eben doch eine geborene Musikerin, denke viel vom Instrument her und habe daher auch eine gewissen Sinn für die Linie. Und Ligeti war damals der Einzige, der für mich einen grossen musikalischen Bogen artikuliert hat. Bei allen anderen Komponisten konnte ich dagegen keine Linie empfinden. Ligetis Musik stand mir einfach am nächsten...” Interview with Chin, in Drees, 22.

²² Chin interview, “Daring to Cross Many Boundaries”.

²³ Interview with Unsuk Chin, in H. Yoo, 143.

²⁴ Ibid.

²⁵ Yong-Wan Park, “Chin Unsuk: At the Forefront of Contemporary Music.” *Koreana*, 21/4 (Winter, 2007), 67.

compositions, including *Double Concerto*. In an interview with Hae Young Yoo, Chin revealed that she was particularly attracted to gamelan music because

...it is very complex and abstract, yet full of vitality. I even learned to play the gamelan instruments and wrote down their music in score when I visited Bali in 1997. Its rhythmic pattern is perhaps based on some mathematical model. It is very improvisational and changes a lot...²⁶

In the same interview segment, Chin also asserts that unlike Korean music, which in its essence is accessible only to Koreans, there is something “universal” about gamelan music that is available to all. However, she does not identify these supposedly universal qualities further. Her fascination with gamelan music is apparent in several of her works, and it is especially obvious in *Double Concerto*.

The “sound world” or timbral aspect of the gamelan orchestra is one of its most important structural components. A similar concern with timbre becomes a hallmark of Chin’s mature style, and she redeploys the standard instruments of the western orchestra imaginatively with an ear to overall timbre, as well as incorporating other instruments. She relates,

In my opinion, the conventional orchestral setting is a European relict of the 19th century, although there are of course great masterworks written for it. I often call for an array of extra instruments. Through this, I always try to introduce a completely different color into my compositions based on my experience of non-European music.²⁷

After completing her studies with Ligeti in 1988, Chin moved to Berlin in order to work as a freelance composer at the electronic music studio of the Technical University, where she was to remain for a decade. She thought that working with electronic music was indispensable for contemporary composers; moreover, she wanted to begin with a completely new approach after

²⁶ Ibid.

²⁷ Chin interview, “Daring to Cross Many Boundaries”.

giving up post-serial techniques.²⁸ After three fallow years, in 1989 she wrote her first electronic piece, *Gradus Ad Infinitum* for magnetic tape, a work involving a twenty tone per octave scale and advanced canonic techniques. This piece was followed by six more electronic works. Her experience with electronic music helped her discover her own voice. Chin explains,

Since the process of composing electronic music is very abstract and complicated, it requires a total revamping of how one thinks about music. After that, my point of view towards music has changed and I could apply that into my acoustic music when I returned to writing acoustic composition again. It was indeed very helpful for me to find a way to write music with my own voice.²⁹

Accordingly, she revised her old acoustic piece *Trojan Women*, including it as the first piece in her work list. She also struck earlier pieces from her list of works, conceding that these lacked originality.³⁰

Chin rose to international notoriety in the 1990s, receiving acclaim for her break-through piece *Akrostichon-Wortspiel* (“Acrostic-Wordplay”) for solo soprano and ensemble (1991–93), which consists of seven scenes from the fairytale *The Endless Story* by Michael Ende, and *Alice through the Looking Glass* by Lewis Carroll. Arnold Whittall writes that *Akrostichon-Wortspiel* is a prime example of a work by Chin in which the influence of Ligeti is readily apparent:

Ligeti’s delight in the nonsense world of Lewis Carroll is mirrored in the materials Chin chose for *Akrostichon-Wortspiel* [...] since there are hints of the later Ligeti—the Violin Concerto in particular—in the simple malleability of the material, and the amusing yet delicate fantasy with which text and music combine.³¹

Chin’s experience with composing electronic music is obvious as well in this piece, particularly with regard to the refinements in pitch towards which she is disposed. These subtle gradations of pitch are easily accessible to a composer working with synthesizers equipped with digital tuning tables or oscillators that can produce very fine variations of pitch. They are somewhat more

²⁸ H.Yoo, 143.

²⁹ Ibid., 138.

³⁰ Hanno Ehrler, “Ordnung, Chaos und Computer. Betrachtungen zur Musik Unsuk Chins,” in Drees, 33.

³¹ Arnold Whittall, “Unsuk Chin in Focus: Meditations & Mechanics,” *The Musical Times* 141/1870 (2000), 21.

difficult to achieve for the composer working with conventional instruments. To address this, Chin's score specifies that several instruments are to be

‘tuned anywhere between a quarter and sixth of a tone higher than concert pitch, in order to achieve a fine microtonality,’ and the solo soprano ‘fluctuates between these two tuning systems, depending upon which she perceives at any time.’³²

The ambiguity of pitch and the refusal of the work to commit itself to a stable tonicity contribute to “the sense of subtle blurring, of reality and fantasy present side-by-side” observed by Whittall that characterizes the piece.³³

The seven episodes of the work traverse a range of emotional expression and affect, ranging, as Chin says, “from the bright to the grotesque.”³⁴ She engages the texts of the work in a postmodern, almost Dadaistic way, fragmenting and collaging the words in a way that seems intended to defeat customary expectations of sense and meaning: “sometimes the consonants and vowels have been randomly joined together, other times the words have been read backwards so that the symbolic meaning alone remains.”³⁵

Akrostichon-Wortspiel became her best-known composition. Since its premiere at the Queen Elizabeth Hall in London in 1993 with George Benjamin conducting the Premiere Ensemble, it has been performed over sixty times in twenty countries to date by major international ensembles. Due to the success of the work she secured a publishing contract with Boosey and Hawkes in 1994.

Chosen by the Reading Panel of the Ensemble Intercontemporain in Paris in 1992 to receive a commission, she wrote *Fantaisie mécanique* for trumpet, trombone, two percussionists and piano. The work was premiered in Paris in December, 1994, and revised in 1997. The

³² Unsuk Chin, “Composer’s Notes,” accessed May 10, 2013, http://www.boosey.com/pages/cr/catalogue/cat_detail.asp?musicid=7177.

³³ Arnold Whittall, “Unsuk Chin in Focus: Meditations & Mechanics,” *The Musical Times* 141/1870 (2000), 21.

³⁴ *Ibid.*

³⁵ *Ibid.*, 22.

commission marked the beginning of her continuing collaboration with this Paris-based institution. Given the importance of this ensemble in presenting contemporary works by major composers, this relationship was a further important step in her career.

Fantaisie mécanique is a central piece in the composer's body of works, as it makes explicit the dialectic tension between improvisation and form, an idea that is developed in later works. We see as well the emergence or development of compositional techniques that will figure prominently in her later works. In her notes to the piece, Chin writes:

As the title suggests, this piece is a union of two contradictory concepts: improvisation and predetermined structure. Whilst giving the illusion of free expression, the work actually adheres to the strictest virtuosity and ensemble playing of the performers.³⁶

Whittall points out Chin's developing concern with "a subtle blending of instrumental sonorities", and ascribes to the work an occasional "Xenakis-like vehemence".³⁷ We see in this work as well the composer exploring the extreme timbral and expressive limits of the instruments, utilizing such techniques as brass glissandos and flutter-tonguing, procedures that will subsequently become important components of *Double Concerto*.

The rhythm develops momentum through her use of "characteristic patterns extended through developing variation," a device also encountered in other works such as her Piano Etudes. Although "the material itself is more forceful and fragmented," as Whittall notes, the individual episodes of the work are unified both by tonicity and timbre. The Intrada introduces a group of four low-pitched sounds that the composer identifies as "a central core to the work,

³⁶ Unsuk Chin, "Composer's Notes," accessed May 20, 2013, <http://www.boosey.com/cr/music/Unsuk-Chin-Fantaisie-m-canique/6686>.

³⁷ Arnold Whittall, "Chin, Unsuk," in *Grove Music Online. Oxford Music Online*, accessed June 4, 2013, <http://www.oxfordmusiconline.com.offcampus.lib.washington.edu/subscriber/article/grove/music/53607>.

constituting a ‘hidden’ chromatic current that animates the work throughout”.³⁸ In this work we see as well the type of cumulative development of texture that we will encounter in *Double Concerto* created by “the placement of superimposed repetitions” of “highly ornate material”.³⁹ The “mechanics” of the work to which the title refers is the process by which subsequent musical ideas are developed to create progressively more complex textures and rhythms. As Chin explains,

[the] development [of these mechanically constructed figures] is also “mechanical”, onto which is grafted a polyphony formed of anything up to eight parts. At the same time, in the final *Improvisation* the seven metres utilised during the course of the work combine to form a polyrhythm.⁴⁰

In order to support the “illusion” of improvisation, Chin writes in the direction “improvisatorisch,” presumably allowing the players to play more freely with elements of tempo, rubato, and expression.

A noteworthy feature in the 1997 revision of *Fantaisie mécanique* is her appendage of a reprise or recapitulation to the tail-end of an arch-form, a move that Martin Wilkening describes as the violation of a taboo of contemporary music, creating a form or space in which elements of the past and future (in terms of the work) exist simultaneously, somewhat like the strands of the double spiral helix of the DNA particle.⁴¹

Chin’s association with several with IRCAM-based spectralist composers, including Tristan Murail, Gérard Grisey, and Magnus Lindberg is apparent in her works of the 1990s, as is

³⁸ Chin, “Composer’s Notes,” accessed May 31, 2013, <http://www.boosey.com/cr/music/Unsu-Chin-Fantaisie-mecanique/6686>.

³⁹ Whittall, 2000, 24.

⁴⁰ Chin, “Composer’s Notes.”

⁴¹ Martin Wilkening, “Nur der eigenen Fantasie verpflichtet. Die Komponistin Unsu Chin und ihr Schaffen,” in Drees, 121.

her contact with the Greek composer Xenakis.⁴² According to Whittall, all of these influences come together in her electroacoustic piece *Xi* (1998), another work commissioned by the Ensemble Intercontemporain in which Chin's growing compositional fluency is evident:

Though its material can be seen as consolidating the types of gestures explored in earlier scores, the expansiveness of its single-movement form makes possible a stronger feeling for the interplay and even opposition of contrasting moods and textures than the more discrete formal and expressive units of her earlier works had allowed for.⁴³

Xi is one of a trio of works composed in the 1990s—along with *ParaMetaString* for string quartet and electronics (1996) and *Allegro ma non troppo*, an electronic composition with added percussion—in which Chin blends acoustic and electronic sound sources, situating them in dialogue, in search of what Whittall describes as a process of “amalgamation”. *Xi* literally means “kernel” or “seed” in Korean, and denotes the essential or atomic origin of a thing. The title thus makes reference to Chin's use of “granular synthesis” to create the audiotape that is part of the piece. Granular synthesis is a kind of sampling procedure that allows the composer to work with minute particles of sound from the original source, layering and blending them to create unique new timbres and textures, or, out another way, “soundscapes” or “sound-clouds.” As described by Frank Harders-Wuthenow in the program notes to the score, published by Boosey & Hawkes, a sort of organic procedure is operative in the work, one that involves

metamorphosis in the formal as well as in the basic aesthetic sense: the piece emerges almost organically out of several sonic *Ur*-cells (piano, violoncello, and double bass sounds produced in the traditional manner). Their “identity,” however, is just as indistinguishable within the musical form as that of a single

⁴² Whittall, “Chin, Unsuk,” in *Grove Music Online. Oxford Music Online*, accessed June 4, 2013, <http://www.oxfordmusiconline.com.offcampus.lib.washington.edu/subscriber/article/grove/music/53607>. “Spectralism,” according to Alison Latham, is “a term, coined by Hugues Dufourt, applied to the music of several late 20th-century French composers whose works explore the acoustic properties of sound itself and the psychology of musical perception (of tempo, sound, and pulse). Spectralist composers used the overtone series of pitches as an organizing principle and transferred techniques developed for electronic music to the manipulation of live instrumental sounds.” Alison Latham, “Spectralism,” in *The Oxford Companion to Music*, accessed April 17, 2014, <http://www.oxfordreference.com>.

⁴³ *Ibid.*

atom on the skin of a human being. That the breathing sounds, with which the piece “comes to life,” have their origin in an instrumental sound will not be apparent to the listener. For the course of the piece, however, the “fate” of these sonic germ cells is of decisive importance. The traditional concept of material sees itself extended by the “atomic” layer; the “tendency of the material” is explored already in the raw sonic material.⁴⁴

Harders-Wuthenow has here aptly characterized one of Chin’s principal compositional techniques that we will encounter in *Double Concerto* (although it is not an electroacoustic work)—the organic emergence of large and complex forms, shapes, and timbres from the tiniest particles or grains. *Xi* was awarded first prize at the Bourges International Competition for Electroacoustic Music in 2000.

Continuing with her interest in granular procedures, and applying it here to a purely acoustic instrument, Chin composed the piano etude “Grains” to celebrate the 75th birthday of Pierre Boulez. Chin employs individual tones and other isolated “sound events” for their potential to be developed: “Intricate polyrhythmic and contrasting musical fragments are generated from these particles and directly collide with one another.”⁴⁵ The piece represents a deliberate departure from traditional piano music. Martin Willkening describes Chin’s transplantation of the granular procedure from the electronic to acoustic medium as follows:

Grains are a few tiny sound elements of a micro-second’s duration obtained from the computer output and re-edited. The piano piece takes up this experience from the electronic music in its own medium. Compared with the other pieces of the [piano etude] cycle, the thinned sonority with all the complexity is striking, the

⁴⁴ Frank Harders-Wuthenow, notes to *Xi*, accessed June 1, 2013, <http://www.boosey.com/cr/music/Unsuk-Chin-Xi/15297&langid=1>.

⁴⁵ “*Grains* simuliert dieses Konzept auf den Tasten des Klaviers: Einzeltöne und andere isolierte Klangereignisse werden auf ihr Entwicklungspotenzial hin abgehört. Aus diesen musikalischen Partikeln werden verschiedenste polyrhythmisch vertrackte und kontrastreiche Fragmente generiert, die unmittelbar aufeinanderprallen.” Unsuk Chin, “Etüden für Klavier,” in Drees, 102.

reduction to a few pitches and the repetitive character of some gestures.⁴⁶

As Hanno Ehrler writes in his article “Ordnung, Chaos und Computer. Betrachtungen zur Musik Unsuk Chins,” the fragmentation and organic development of musical material that *Grains* and *Xi* have in common testifies to the consistency of Unsuk Chin’s compositional thinking in all musical genres and her mature compositional aesthetic.⁴⁷ The set of piano etudes of which “Grains” is a part (six etudes have thus far been completed out of a projected twelve) provides us with insights into her approach to the piano, an instrument for which Chin has both a great affection and a difficult relationship. Ehrler identifies one likely source of Chin’s problematic relationship with the piano as stemming from her youthful, unfulfilled desire to become a concert pianist, an outcome thwarted by her family’s lack of resources.

Aside from whatever personal issues the piano brings up for Chin, the problem also arises as to how to compose something truly contemporary and relevant for what she has described as the “perfect” instrument, one that has had tens of thousands of pieces composed for it in all styles and genres in its three-hundred year existence. As Soo Kyung Kim puts it, “[composing for] piano is more stressful for [Chin] because she needs to consider the instrument’s distinctive characteristics and its practical problems more than when she composes pieces for any other instrument.”⁴⁸

After some three hundred years of repertoire composed for the piano, it also becomes

⁴⁶ “Grains sind winzige, wenige Mikrosekunden dauernde Klangelemente, die mit dem Computer aus Ausgangsklängen gewonnen und neu bearbeitet werden. Das Klavierstück nimmt diese Erfahrungen aus der elektronischen Musik in das eigene Medium auf. Gegenüber den anderen Stücken des Zyklus ist die bei aller Komplexität ausgedünnte Klanglichkeit auffällig, die Reduktion auf wenige Tonhöhen und der repetitive Charakter mancher Gesten.” Martin Willkenig, “Virtuosität und Konstruktion. Zu den Klavieretüden (1995–2003) von Unsuk Chin,” in Drees, 104.

⁴⁷ Hanno Ehrler, “Ordnung,” in Drees, 36.

Diese Fragmentierung des musikalischen Materials, die *Grains* und *Xi* gemeinsamen haben, bezeugt die Konsistenz von Unsuk Chins kompositorischem Denken in allen musikalischen Bereichen.

⁴⁸ Soo Kyung Kim, “A Study of Unsuk Chin’s Piano Etudes,” (DMA diss., University of Georgia, 2012), 13.

difficult to breathe new life into the classic genres of piano composition, such as the venerable etude. Chin finds herself in agreement with Oscar Bie that a truer or more genuine genre of piano music than the etude does not exist, as “the essence of the piano itself becomes the music.”⁴⁹ She attempts, following Liszt, to balance the demands of virtuosity with genuine musical interest and expression, with the former the servant of the latter. She is particularly attracted to the “transcendental” aspect of the Liszt, which underlies all subsequent etudes of any importance—namely, that although virtuosity should not be an end in itself, the etude as an expressive vehicle only really comes to life when the demands of virtuosity compel the pianist to push his or her limits.⁵⁰ Wilkening observes, “the virtuosity in each of her etude appears to be an expression of constructive imagination. It bears the formal processes as well as the almost physically present sonorities. Virtuosity creates complexity and is experienced as a means of forming highly individual musical characters.”⁵¹

When Chin began to work on her piano etudes in 1995, she planned to write a series of twelve etudes as Chopin, Debussy, Szymanowski or Ligeti did. However, since it required much time and extreme effort to write each etude using new pianistic and compositional ideas, she finished only six pieces between 1995 and 2003.⁵² Also, the first four pieces were heavily revised and even completely partially recomposed as the performance of the original versions had proven that they were unnecessarily complicated, making so many demands upon the pianist that they proved virtually impossible to play.

Each of these short etudes affords a window into the fundamental elements of Chin’s

⁴⁹ “Ich halte es da mit Oscar Bie, der in Bezug auf Chopin schrieb, dass es ‘echtere’ Klaviermusik als eine Etüde nicht gab, da ‘das Wesen des Klaviers in ihr zur Musik geworden’ sei.” Chin, “Etüden,” in Drees, 100.

⁵⁰ *Ibid.*, 101.

⁵¹ “In jeder dieser Etüden erscheint das Virtuose aber als ein Ausdruck konstruktiver Phantasie, es trägt die formalen Prozesse ebenso wie die fast körperhaft präsenten Klangerfindungen, Virtuosität erzeugt Komplexität und wird so erfahrbar als Mittel der Ausbildung höchst individueller musikalischer Charaktere.” Wilkening, “Virtuosität und Konstruktion,” in Drees, 105.

⁵² Chin, “Etüden,” in Drees, 101.

compositional thinking, both in terms of the individual character of each etude and how they relate to one another.⁵³ As noted by Wilkening in his introductory notes to the published etudes, “The [sub]titles of the Etudes refer to very different moments of musical practice, partly to genres, such as the “Scherzo ad libitum” in No.3 or the “Toccatà” in No.5, partly to technical composition, such as “sequences” in No. 2, “scales” in No.4 and “Grains” in No.6.⁵⁴

Noteworthy with regard to the present dissertation is the influence of Balinese gamelan music in the first etude *in C* an influence that becomes a significant element of *Double Concerto*, as well as several of her other works, including her concertos for piano and violin. Chin explains that several important gamelan concepts are operative in this etude, especially the consistent layering of three different rhythmic pulsations, and a concern for the cumulative vertical aspect of timbre, described by Chin as a “shimmering soundscape” (schimmernde Klangwelt). The piano, in the composer’s opinion, is not naturally conducive to the production of this soundscape, “but at least it can be hinted through the sonic system of the piece and through the pedal skills of trained pianists.”⁵⁵

As in *Double Concerto*, the references to gamelan are allusions rather than actual paraphrases or imitations of gamelan music. The harmonic realm of the etude is based on the overtone series generated from the pitch C, although the harmonic structures here have nothing to do with functional harmony. That she begins her set of etudes in a C tonicity is a nod to tradition, as many notable collections of etudes, including those of Chopin, Debussy, and Bach (The Well Tempered Clavier), likewise begin in C Major.⁵⁶ Ehrler notes that although the works

⁵³ Martin Wilkening, “Programme Note,” accessed June 7, 2013, http://www.boosey.com/pages/cr/catalogue/cat_detail.asp?site-lang=en&musicid=5422&langid=2

⁵⁴ Ibid.

⁵⁵ Chin, “Etüden,” in Drees, 101.

⁵⁶ Ibid.

share a title, Chin's etude has nothing to do with Terry Riley's famous piece of the same name.⁵⁷

The overtone series generated by the pitch C forms the entire harmonic foundation of this piece. The etude begins starts with the tone C, heard three times successively in different octaves. The overtone structure, appearing in the middle layer of the piece, is modulated several times in order to derive the remaining tones that appear in the outer layers of the piece. The various layers are defined by degrees of relative activity and stasis, a technique that becomes a signature stylistic device of Chin's composition. According to Chang, the Etude No.1 *in C* utilizes the combination of active and static layers to a greater degree of complexity than that encountered in the remaining five etudes.⁵⁸ The technique of "lucid" layering, according to Whittall, creates structures that can appeal to a broad spectrum of listeners, from the 'musical' to the 'musicological'.⁵⁹ One encounters notable stylistic echoes of the etudes in Chin's Piano Concerto and *Double Concerto*.⁶⁰

Following the completion of the first three etudes, in 1996, on a commission from the BBC for the BBC National Orchestra of Wales, Chin began work on a piano concerto, completed in 1997. In this work, relates Chin, she "wanted to emphasize particularly the vitality, kinetic and virtuoso aspects—in short, the playful side—of the piano".⁶¹ It is worth exploring the Piano Concerto here in some detail, as Chin will carry over many of the techniques she employs to the subsequent *Double Concerto*. As in *Double Concerto*, the orchestral parts here do not serve merely as accompaniment for a brilliant solo line, as they tend to become in the Romantic tradition. The Piano Concerto, with its close integration of solo and orchestral parts, more closely

⁵⁷ Ehrler, "Ordnung," in Drees, 38.

⁵⁸ Chang, 38.

⁵⁹ Whittall, 2000, 32.

⁶⁰ Chang, 38 .

⁶¹ Chin, Composer's Notes, accessed June 10, 2013,

http://www.boosey.com/pages/cr/catalogue/cat_detail.asp?site-lang=en&musicid=247&langid=1

resembles a “concerto for orchestra” than it does a traditional solo concerto, a sentiment voiced by the conductor Mark Wigglesworth as he rehearsed the orchestra for the premiere of the piece, which took place in St. David’s Hall, Cardiff on June 6, 1997.⁶²

The solo piano is fused in an organic fashion with the orchestra throughout, a technique that Chin will carry over to the *Double Concerto*. Ehrler observes, “...Although the piano clearly occupies the foreground in many places, it is almost always involved in the whole sound. Together with the other instruments, it contributes to the specific tonal characteristic of the piece.”⁶³

In Chin’s notes to the piece, we see her particular concern for timbre, and the ways in which the layered sounds become a *structural* element of the concerto, as opposed to being mere accompaniment to the solo piano:

The second movement is a tone painting with a virtuoso interlude, which divides the movement into two segments. In the first section numerous layers of sound are introduced, complementing and opposing one another. The interlude presents a marked contrast to the static sonorities at the opening and closing of the movement.⁶⁴

It is interesting to note her attribution of the qualities of stasis—and, by implication, kineticism—to the element of *timbre*. We are more accustomed to other elements of music—melody, harmony, rhythm—as being described in terms of their relative stasis or movement.

Chin’s attention to timbre compels her to feature a large orchestra employing forty-two instruments, including twenty-four percussion instruments. The orchestral instruments interact dynamically with the solo piano at the timbral level, especially the tuned percussion instruments

⁶² James Webb, “Unsuk Chin’s Piano Concerto No. 1,” *Tempo, New Series* 202 (Oct. 1997), 51.

⁶³ “Das Klavier tritt zwar an vielen Stellen deutlich in den Vordergrund, ist aber dennoch fast immer in das Klangganze eingebunden. Zusammen mit den anderen Instrumenten trägt es seinen Teil zur spezifischen Klangcharakteristik des Stücks bei.” Ehrler, in Drees, 41.

⁶⁴ *Ibid.*

which, as Webb observes, are used “to shadow and elaborate the piano timbres”.⁶⁵ Soloist and orchestra are engaged in a very dynamic, interdependent relationship, instead of the more typical foreground/background context one typically encounters in the late Romantic concerto repertory.

What the concerto’s four movements have in common, despite their very different character, is that none of the movements arise from a strictly preplanned formal structure. Chin describes her compositional method in terms of explicit organicism: “Each movement develops spontaneously from a common cell, where simple rules produce highly complex, unpredictable results”.⁶⁶ Kay Kyurim Rhie characterizes these cells as consisting of “limited pitch material and recurring pulse patterns.”⁶⁷

This approach is particularly obvious in the third movement, wherein some thirty different fragments are set together in a collage or patchwork fashion. Two recurrent tutti chords serve, in the composer’s words, as “pillars” that provide the structure for the patchwork.⁶⁸ In Ehrler’s opinion, Chin’s use of a collage technique is not for the sake of heterogeneity as an end in itself as much as it contributes to the overall sonic complexity and richness of the piece. The heterogeneous elements gain cohesion in the refinement of the form, wherein every detail is exactly planned and precisely placed in relationship with the other parts.⁶⁹

The influence of Ligeti’s later, frantic “perpetuo moto” style—described by Webb as “brittle”—is apparent in the rapid, reiterated figures of Chin’s concerto. We will encounter similar figures in *Double Concerto*. In Webb’s opinion, however, the concerto “was most successful when it stepped away from the brittle style, as in the third movement”.⁷⁰ Of this

⁶⁵ Webb, 52.

⁶⁶ Ehrler, “Ordnung,” in Drees, 41.

⁶⁷ Rhie, 19.

⁶⁸ Chin, “Composer’s Notes”.

⁶⁹ Ehrler, in Drees, 41.

⁷⁰ Webb, 52.

movement, he observes, “After the beautifully executed dissipation of energy which ended the second movement, the flow dissolved into a riskier, more innovative structure allowing precarious, disjointed musical ideas slowly to assimilate—a genuine excursion into a strange and distinctive landscape.”⁷¹ Chin’s painstaking attention to sonic detail is what animates the realm to which Webb alludes.

Chin’s increasing renown earned her an appointment as composer-in-residence with the Deutsches Symphonie-Orchester Berlin for the 2001/2002 season, and a commission for a violin concerto. The concerto premiered in January 2002 with Viviane Hagner as soloist, and Kent Nagano, “one of the principal champions of Chin’s music”, conducting.⁷² The Violin Concerto earned her the prestigious University of Louisville Grawemeyer Award for Music Composition in 2004, and has been performed throughout the world by notable orchestras, the BBC Symphony, the Los Angeles Philharmonic, and the Berlin Philharmonic, among them.⁷³ The Violin Concerto is described by the Grawemeyer Award announcement poetically and aptly as “a synthesis of glittering orchestration, rarefied sonorities, volatility of expression, musical puzzles and unexpected turns.”⁷⁴

The popularity of her Violin Concerto is perhaps partly due to the successful blending of her idiosyncratic contemporary sound with a traditional four-movement classical symphonic form to create a work that fuses elements of western and eastern music. A slow movement follows the expansive opening movement, which is followed in turn by a scherzo and finale making reference to the first movement. As in her piano concerto, the soloist, although executing

⁷¹ Ibid.

⁷² “Featured Composer: Unsuk Chin,” accessed May 27, 2013, <http://www.boosey.com/shop/composer/Unsuk+Chin?langid=1&ttype=BIOGRAPHY&ttitle=Biography&id=>

⁷³ First given in 1985, the Grawemeyer Award for Music Composition is an annual award bestowed by the University of Louisville upon the composer of an outstanding work. Notable winners include Witold Lutosławski, György Ligeti, Toru Takemitsu, and Pierre Boulez.

⁷⁴ “Unsuk Chin wins 2004 Grawemeyer Award,” Boosey & Hawkes Press Release, accessed June 2, 2013, <http://www.boosey.com/downloads/ChinGrawemeyer.pdf>.

a highly technical, virtuosic part, largely works in tangent with the orchestra, rather than opposing it, thereby creating an organic whole greater than the sum of its parts.

Chin's signature attention to atmospheric timbre is paramount here. Like her Piano Concerto, the Violin Concerto also makes extensive use of percussion instruments, twenty-three in all, including the steel drum, rarely encountered in contemporary orchestral music. The metallic timbre of the steel drum in combination with the marimba is highly evocative of gamelan music.

As in the Piano Concerto that precedes it, and *Double Concerto* that follows, the orchestral parts are extremely complex and virtuosic, creating a context in which the virtuosity of the solo violin eventually yields over the course of the concerto to that of the orchestra, whose numbers are increasingly bolstered by the addition of instruments. Again, the relationship between soloist and ensemble is complementary rather than oppositional.

Chin is a prolific composer, with many more compositions to her credit—both prior and subsequent to *Double Concerto*—than can be adequately discussed in the present dissertation. Before passing on to an investigation of *Double Concerto*, I will mention a further work of hers for which, along with the Violin Concerto and *Acrostic Wordplay*, she is perhaps best known, a work holding a special significance for her. The world premiere of her opera *Alice in Wonderland*, performed by the Bavarian State Opera, opened the 2007 Munich Opera Festival. Directed by Achim Freyer and conducted by Kent Nagano, the event was designated by European opera critics as the 'World Premiere of the Year'.

It was Ligeti who first proposed that Chin set *Alice in Wonderland*. Much enamored of the stories, he would have liked to set the work himself, but perhaps his awareness of his

impending mortality compelled him to defer this task to his protégé.⁷⁵ The book by Lewis Carroll was also important to Chin, who first read it as an adult, and was struck by the uncanny correspondences between the imagery of Carroll's book and the content of her own dreams. The composer relates,

Lewis Carroll has often been called a “master of nonsense.” In fact, his “nonsense” is often close to the “logic” of dreams, which is too mysterious to be grasped with the “everyday” logic.

Chin's score responds to the “logic of dreams” with an appropriately surreal soundscape, described by critic Alex Ross as

seductively cavernous, suggesting not only the magical rabbit hole down which Alice tumbles but also the psychological crevasses beneath the surface of Carroll's writing. From the depths arise fluttering woodwinds, a hypnotically chiming celesta, and an ambient haze of strings. Within a few minutes, the entire orchestra is glittering weirdly: familiar shapes hover at odd angles; age-old harmonies materialize from clouds of timbre and texture; childlike snatches of song appear and disappear, like the body of the Cheshire Cat.⁷⁶

Reflecting Chin's interest in eclectic percussion and timbres, her score calls for an enormous retinue of percussion instruments, almost literally the whole “kitchen sink,” including such unusual instruments as—to name just a few—wine glasses, casserole dishes, trash cans, forks, spoons, sand paper, children's toys, rattles, ratchets, flexatones, and auto horns.

Chin's success and notoriety as a contemporary composer continues unabated, in Europe and beyond. Her tenure as Composer-in-Residence at the Philharmonie in Essen produced two further concertos, a Cello Concerto (2009), and *Šu* for *sheng* (Chinese mouth organ) and orchestra (2010). *Gougalon—Scenes from a Street Theatre* (2009) received the Music Composition Prize of the Fondation Prince Pierre de Monaco in 2010, and was performed in an

⁷⁵ Chin, “Brief an Christoph Albrecht vom December 15. 2003,” in Drees, 129.

⁷⁶ Alex Ross, “Looking Glass Opera,” *The New Yorker* (July 2007), accessed October 13, 2013, http://www.newyorker.com/arts/critics/musical/2007/07/30/070730crmu_music_ross.

expanded version in 2012 by the Ensemble Intercontemporain in Paris. Since 2006, she has served as Composer-in-Residence with the Seoul Philharmonic Orchestra, where she oversees the contemporary music series. In 2012 she received Korea's most prestigious music award, the Ho Am Prize.

Chapter Two

Introduction to the Work

As noted in the introduction, Chin's *Double Concerto* differs considerably from most previous examples of the genre, in which a pair of solo instruments engage in various virtuosic exchanges with one another and the orchestra. In these earlier concertos, the identity of the solo instruments is rarely in question, either with regard to timbre or their role as "star performers" operating clearly in the foreground. This is true whether the two solo instruments are similar in timbre and range, or very different, as stated in the introduction to this work. The concerto genre—whether for one, two or more soloists—exists largely as a vehicle for virtuosity.

Double Concerto operates on a very different concept. With this work, Chin has undertaken the creation of what she calls a "hyper-instrument" inspired in part by gamelan music—a shimmering sonic colossus in which the individual timbres of the constituent instruments are merged in the service of creating a whole that is clearly greater than the sum of its parts. Her intention is to "to blur the differences, the boundaries between the 'natural' and the 'artificial'."⁷⁷ Chin leaves the concept of "hyper-instrument" undefined, but she clearly means a sound body in which the constituent timbres of the solo and orchestral instruments are blended and melded. The role of the two soloists is not to stand out from the ensemble, but to wield their vast resources of timbre and virtuosity to form the nucleus of the super-instrument, and to spin out the germs or ideas that will be taken up and developed by the ensemble.

To say that this concerto is not a vehicle for flashy, solo virtuosity in the manner of a more traditional solo or double concerto is not to imply that it lacks virtuosity. The piece makes

⁷⁷ Interview with Chin, "Daring to Cross Many Boundaries."

extreme technical demands, not only of the soloists, but of the ensemble as well, and presumably, the conductor. In terms of difficulty this work, like her Piano Concerto, resembles in some ways a contemporary concerto for orchestra. In what follows, I will discuss the broader features and components of *Double Concerto*, including elements of instrumentation, form, and style, before proceeding to the detailed descriptive analysis of Chapter Three.

Instrumentation

Double Concerto employs a small orchestra comprised of nineteen players. Many of the players are asked to double on auxiliary instruments, and Chin often calls for an array of contemporary extended techniques. As very specific tone colors and timbral effects are an important component of the orchestral “hyper-instrument” she is seeking to create, her score is information-rich, heavily laden with very precise directions to the players.

The woodwinds consist of two flutes (doubling on alto and piccolo), one oboe (doubling on English horn in F), one clarinet (doubling on E-flat clarinet), and one bassoon (doubling on contrabassoon). Although there are only four woodwind players, the instrumentation gives them a wide range of tone colors and registers. Chin’s choice of woodwind combinations, of course, is always made with extreme attention to the timbral effects thus obtained. For example, from m.17, where the woodwinds enter for the first time, up to m. 140, Chin uses the ensemble of the flute, alto flute in G, English horn, clarinet (B-flat), and contrabassoon. Throughout this section, the woodwinds are used mostly to produce a blended background sonority. She asks the flute, alto flute, oboe, and clarinet to play constantly with an “extreme amount of air noise” until m. 99, creating a hushed, breathy effect lacking clear definition of pitch. The plaintive English horn appears only in this part.

The brass section includes two horns in F, a trumpet (doubling on soprano trumpet), a bass trombone, and a tuba. The soprano trumpet only appears for ten bars as a solo brass instrument in the “granular” section (mm. 382–392) in the latter part of Part Four, playing punctuated pitches in a high register and adding a distinct timbre to the granular music as an echo effect. The piccolo, E-flat clarinet, and bassoon are also used in the granular section from mm. 311–396, performing short repetitions of pitches in a very high register.

The string section includes two violins, two violas, two cellos, and one double bass, as well as a harp. As this piece is characterized by a variety of sonorities produced by extended technique for all instruments, including the prepared piano, the strings, in particular, use many extended techniques and effects throughout the piece, such as *sul ponticello* (bowing near the bridge), *sul tastò* (bowing over the fingerboard), *col legno* (striking the string with the wood of the bow), nail pizzicato,⁷⁸ microtones, and exaggerated tremolo (extremely fast and intensive tremolo). Chin’s technical instructions for the string players throughout the score are quite specific, showing her acute attention to the timbral aspects. The glissandi in mm. 173–183, for example, are executed with no bow changes, whereas the sustained tones use a lot of bow. The coda features a “continuously descending” string glissando effect (mm. 577–598), achieved by staggering the onset and cessation of each instrument’s pitches, and asking the string players to obscure their bow changes.

As in many of her other works, including *Piano Concerto* and *Violin Concerto*, *Double Concerto* employs a wide range of percussion. The solo percussionist must command an impressive battery of instruments including a vibraphone, xylophone, marimba, six *Herdenglocken* or cowbells (notated G \flat 4, A \flat 4, B \flat 4, C5, D5, E5 for ease of performance),

⁷⁸ Nail pizzicato is an extended technique probably invented and used extensively by Bartók. The performer snaps the string with the fingernail only, as opposed to the fleshy pad of the finger, yielding a more brittle, metallic sound.

cencerros (a set of pitched cowbells), tubular bells, one Japanese temple bell,⁷⁹ and a pair of very small hand cymbals, as well as three membranophones, including tenor drum, three tom-toms (small, medium, large), and three timpani. The solo percussion part is quite demanding, requiring virtuoso technique and the ability to physically negotiate many rapid changes of instruments. In Fig. 1a below, we can see the placement of instruments used by Jennifer Torrence in her performance of *Double Concerto* at Oberlin in 2008,⁸⁰ and in Fig. 1b that used by Owen Gunnell in a performance that took place in London during the “Total Immersion” day dedicated to Chin’s work in 2011.

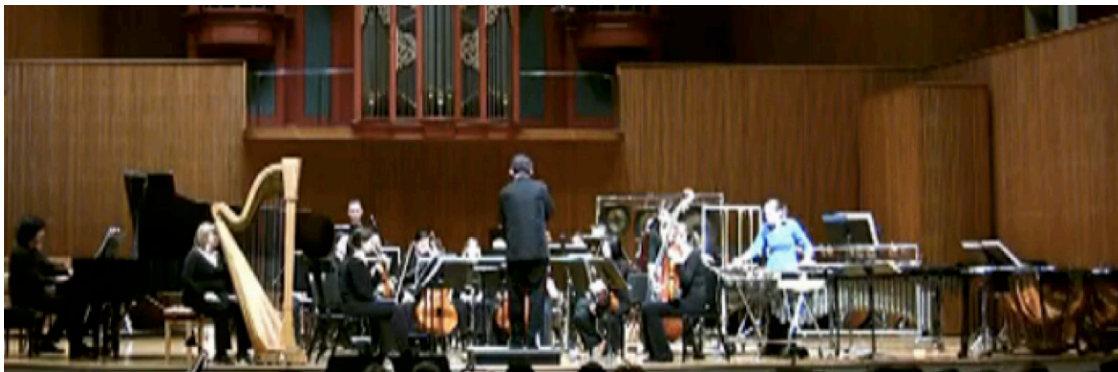


Figure 1a. Placement of piano and solo percussion instruments

⁷⁹ The *Percussionist's Dictionary* defines this instrument as “A cup shaped bell which rests on a cushion and is played on the inner rim with a leather, rubber or cloth covered mallet”. Joseph Adato and George Judy, *The Percussionist's Dictionary: Translations of Descriptions and Photographs of Percussion Instruments from Around the World* (Belwyn Mills: Melville, NY, 1984), 20.

⁸⁰ At the time of this writing, the performance of *Double Concerto* by the Oberlin Contemporary Music Ensemble is available online at: http://v.youku.com/v_show/id_XMzAyMzM4OTcy.html.



Figure 1b. Placement of piano and solo percussion instruments

The ensemble percussionist also commands a formidable array of instruments, playing on glockenspiel, lithophone⁸¹, antique cymbals, five Javanese gongs, tuned bottles (6 small bottles in different sizes), four metal blocks (4 different high tones), a pair of hand cymbals (very small), a triangle (very small), three cymbals on stand (small, medium, large), three tam-tams⁸² (small, medium, large), a tambourine (very small), two temple blocks (producing very high tones), claves, two timbales, a snare drum (small), and a bass drum. Chin uses this great variety of metal percussion instruments in order to produce timbres evocative of gamelan music. The emphasis on percussion and percussive timbres creates “a sound world whose landmarks lie both in

⁸¹ A lithophone is a xylophone-type instrument whose tongues or bars are made of pieces of stone or rock. Like the other mallet instruments, notes may be sounded in combination, (producing harmony), or in succession (producing melody).

⁸² The Vienna Symphonic Library describes the difference between the tam-tam and gong as follows: “Along with the timpani and the bass drum the tam-tam provides the bass in the percussion group. The tam-tam is often confused with the gong, but there are a number of significant differences between the construction and sound of the two instruments: the tam-tam is a relatively flat disc and, unlike the gong, has no knob in the center.” Accessed April 12, 2014, <http://www.vsl.co.at/en/70/3196/3199/3202/5705.vsl>.

Western and non-European music.”⁸³ Chin confirms that Balinese gamelan music is one of the principal influences on the work, especially with regard to sonority and rhythmic structure.⁸⁴

The piano, too, is diverted from its more typical virtuoso melodic solo role to that of serving as an 88-key percussion instrument, both by virtue of its preparation and Chin’s scoring. Her instructions for the preparation of the piano are detailed and concise, again showing her acute attention to timbre. The principal alteration consists of affixing metal shelf-pins and screw-eyes in their plastic sleeves to certain strings, as shown below in the full instructions contained in the score, as shown in Figure 2⁸⁵, below. Such preparation results in a lightly muted, metallic rattling sound throughout the prepared middle register, and a percussive sound in the prepared tones of the lower register, on the pitches F1, F#1, G#1 and B♭1 only. It is important to note the strong contrast between the prepared and non-prepared strings, as it becomes an integral component of Chin’s compositional process for the piano, and not merely an eclectic sonic ornament.

⁸³ Chin, “Dadurch wird eine Klangwelt geschaffen, deren Bezugspunkte ebenso in der westlichen wie in der aussereuropäischen Welt liegen,” in Drees, 97.

⁸⁴ Ibid.

⁸⁵ What follows is my translation of Chin’s performance instructions, with editorial emendations in square brackets: *Solo Piano; Preparation: Each of the tones in the following two registers is prepared with a shelf pin (of metal flattened on one side) between the second and third strings. The distance of the pins from the damper should be about 3 cm. The following tones are each prepared with a hook in a plastic sleeve. The distance should be about 10 cm for the notes F, F-sharp, and G-sharp, and only 5 cm for B-flat.

Accidentals: An accidental is in effect not for the entire measure but [only] for the current tone [to which it assigned]. Only [in the case of an] immediate repetition of a tone will the accidental be left out.

*Solo percussionist: Vibraphone and cowbells are often used simultaneously. Marimba and cencerros are often used simultaneously. Marimba and cencerros are often used simultaneously. The xylophone must be placed near the tympani so that rapid transitions from one instrument to the other are possible. The xylophone sounds an octave higher than written.

*Ensemble percussionist: Javanese gongs, tam-tam, and cymbals must be placed as close together as possible, so that rapid changes are possible. Bass drum and snare drum must be placed next to each other. Glockenspiel and lithophone sound an octave higher than written. Antique cymbals sound two octaves higher than written. Contrabassoon and double bass sounds an octave lower than written.”

*The score is notated in C.

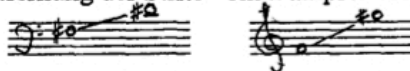
*Total playing time: about 20 min.

Spielanweisungen

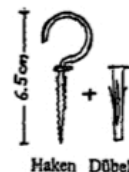
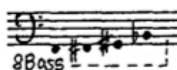
*Solo Klavier

Präparation

Die Töne in den folgenden beiden Registern werden jeweils mit einem Regalbrettstift (aus Metall auf einer Seite abgeflacht) zwischen den Saiten 2-3 präpariert. Die Entfernung der Stifte vom Dämpfer soll ca. 3 cm betragen.



Die folgenden Töne werden jeweils mit einem Haken in einem Plastikdübel präpariert. Die Entfernungen vom Dämpfer sollen für die Töne *F, Fis, Gis* ca. 10cm und für *B* nur 5 cm betragen.



Vorzeichen

Ein Vorzeichen gilt nicht für den ganzen Takt sondern nur für den jeweiligen Ton. Nur bei der unmittelbaren Tonwiederholung werden die Vorzeichen weggelassen.



*Solo Schlagzeuger

Vibraphon und Herdenglocken werden oft gleichzeitig bedient.
 Marimbaphon und Cencerros werden oft gleichzeitig bedient.
 Xylophon muß in der Nähe der Pauken plaziert werden, so dass rasches Wechseln von einem Instrument zum anderen möglich ist.

* Xylophon klingt eine Oktave höher als notiert.

*Schlagzeuger im Ensemble

Glockenspiel und Steinspiel werden oft gleichzeitig bedient.
 Javanesische Gongs, Tam-Tam und Becken müssen möglichst nah beieinander plaziert werden, so dass rasches Wechseln möglich ist.
 Gran-Cassa und Snare-Drum müssen nebeneinander plaziert werden.

Glockenspiel und Steinspiel klingen eine Oktave höher als notiert.
 Antike Zimbeln klingen 2 Oktaven höher als notiert.

*Kontrafagott und Kontrabaß klingen eine Oktave tiefer als notiert.

*Die Partitur ist in C notiert.

*Spieldauer: ca. 20min.

Figure 2. Double Concerto, Instructions for Preparation of Piano

Form

Double Concerto is cast in a continuous sectional form, consisting of seven parts played without pause. The total duration of the work is approximately 20 to 21 minutes. Sectional or ‘block’ form as a structural principle can operate in various fashions, in which the constituent sections function as clearly defined, distinct blocks of material of the type encountered in Stravinsky, Messiaen and Stockhausen, or it can manifest in a continuously evolving form in which the borders between the sections are not rigidly demarcated. In the former, the “juxtaposition [of the blocks is] determined as much by their mutual contrast as by their consistency [...] they may be self contained, closed entities; or they may be fragmentary, each rudely interrupted by succeeding sections.”⁸⁶

Smooth transitions between the seven parts of *Double Concerto* are achieved by various means that will be discussed more fully in the following chapter, including pauses, elisions, shifts of texture, instrumentation, and timbre. Never do we perceive the parts as unrelated blocks of disparate material forced together. Rather, we should consider these parts as “sound masses” connected by various mechanisms of relationship and organic growth processes. Rhie argues that the stark juxtaposition of contrasting materials in Chin’s music arises from a “cause-and-effect” or an “attack/reaction” relationship between them.⁸⁷ In instances where the sections are clearly marked by contrast or abrupt change, there is discontinuity, as Rhie notes, but these “also tend to follow an inner logic of ‘gestalt,’ or shape.”⁸⁸ Chin remarks that the form of *Double Concerto* is defined in terms of the “axis-density” of the constituent timbres, i.e., whether they are thick or thin.⁸⁹

⁸⁶ Robert Adlington, *The Music of Harrison Birtwistle* (Cambridge: Cambridge University Press, 2006), 121.

⁸⁷ Rhie, 82.

⁸⁸ *Ibid.*, 85.

⁸⁹ Chin, “Double Concerto,” in Drees, 97.

The major formal sections of the work—henceforth designated as “Parts”—will be considered in greater detail in the analysis to follow. For now, it will suffice to note the salient features of the parts in general terms:

Part 1 (mm.1–55)

Part One (mm.1–55) opens with the solo piano and percussion introducing the continuous ostinato that functions as the lifeblood of the concerto. This part establishes the gamelan-like texture, enriched by the shimmering sound of the woodwinds and the ensemble percussionist. The pitch E, emphasized both by dint of repetition and by tonal unambiguity—the pitch is unprepared on the solo piano—emerges as an important tonal point of reference for the work. The tritone and minor seventh emerge here as two of the most frequent and important intervals of the piece.

Part 2 (mm. 56–205)

The second part—elided to the first by means of a sforzando punctuation germ or motive that will become an important device in itself⁹⁰—opens with a spacious, sparse texture created by sustained pitches—E, G#, and B♭—that are central to the melodic and harmonic language of the work. Contrast is created as well by an abrupt cessation of the relentless ostinato of the first section. When the ostinato performed by the soloists resumes, it expands in registral compass, gradually introducing more pitches in the higher and lower registers. The overall texture becomes thicker and more active as all members of the ensemble gradually engage in the music.

⁹⁰ A frequent device used by contemporary composers to soften the perception of dissonance is to separate the dissonant pitches registrally. Here, Chin uses a similar technique of registral displacement in order to prevent the E of the solo piano and the G# of the first violin from acquiring any suggestion of an E major tonicity.

Towards the end of Part Two the solo instruments introduce new material, such as the rapid descending cluster-chords of the piano.

Part 3 (mm. 205–310)

Part Three is characterized by a slower tempo and a partial interruption of the ostinato. Once again, the transition between sections is signaled by a period of relatively static, sustained pitches and a thinning of the texture. The third section develops material introduced in the previous sections. The solo piano reveals more of its colors, especially in its unprepared higher and lower registers, juxtaposing static and active materials in multiple layers. Compared to the previous parts, Part Three features delicate and transparent piano sonorities in a very high register and also includes soloistic passages. “Granular” textures are introduced briefly in the middle section of the part.

Part 4 (mm. 311–396)

The fourth section is generated largely by granular procedures, and features a new texture characterized by rapid reiterations of important structural pitches. As in the preceding sections, the overall texture gradually thickens and becomes more complex as the section proceeds. The granular passages have an insistent, pulsing energy, contributing to an overall shimmering, pointillistic character.

Part 5 (mm. 397–430)

The fifth part begins with a sudden shift to new, previously unheard material, including an exciting rhythmic ostinato played by the piano in its lowest register and timpani. Several of

the pitches involved are prepared, lending a characteristic percussive sound to the piano, especially when heard in tangent with the timpani. A new compound meter underlying fast sixteenth notes with changing accent patterns creates a dramatic martial rhythmic effect. This brief part—just 33 measures long—is divided into three passages, in which the percussive material is briefly interrupted by a six-measure middle passage comprised of ascending string and wind gestures. When the martial percussive music resumes, it lasts longer, and the texture becomes thicker as more instruments join to intensify the excitement. The part ends with descending cluster-chords on the piano.

Part 6 (mm. 431–531)

The sixth part begins with granular fragments and repetitions of the “punctuation motive” in the piano and vibraphone. The two soloists likewise explore granular textures. The texture of the beginning is relatively thin, especially with regard to the loud, busy music of the preceding section. However, the texture and timbral density thickens considerably as the piece moves to its eventual dual climaxes and subsequent collapse.

Part 7 (mm. 532–612)

The final part serves as a transition, recapitulation, and coda in which materials heard previously are variously reprised, including the quintuplet ostinato that drove the opening of the work. The ethereal timbres—among them glassy continuous glissandos by the strings and winds—and slow movement of the processes create a striking contrast to the previous sections. If indeed this is an “organic” work—in the sense of it constituting a living subject—then whatever that subject is clearly deflating and expiring. Notwithstanding a few final outbursts by the

soloists and ensemble, the relative stasis of this section provides much-needed relief and closure from all of the frenetic music that preceded it.

The Gamelan Influence

Chin's interest in non-western music, especially gamelan, has been discussed briefly in the introduction to the present work. She describes witnessing a Balinese shadow puppet performance as "one of the most emotional and overwhelming musical experiences" of her life.⁹¹ She is not the first western composer to have been intrigued with and inspired by gamelan music, having been preceded by Debussy, Lou Harrison, Colin McPhee, Steve Reich, and her mentor Ligeti. By way of definition, as Margaret Kartomi and Maria Mendonça explain,

Gamelan music generally refers to diverse types of Indonesian orchestras, which differ in size, function, musical style and instrumentation, but usually include tuned single bronze gongs, gong-chimes, single- and multi-octave metallophones, drums, flutes, bowed and plucked chordophones, a xylophone, small cymbals and singers.⁹²

The diverse types of gamelan ensembles are distributed geographically throughout Indonesia, and display important differences in aesthetic and performance technique. Balinese gamelan is characterized by virtuoso technique, and many rapid changes of tempo and dynamics. By contrast, Javanese gamelan is distinguished by a slow, contemplative style. Chin's *Double Concerto* is inspired by the Balinese gamelan, which, as Kartomi and Mendonça write, "is characterized by paired tuning, where the individual instruments of a pair are carefully tuned

⁹¹ Chin, 2006 interview, cited in Rhie, 26.

⁹² Kartomi, Margaret J. and Mendonça, Maria. "Gamelan." *Grove Music Online. Oxford Music Online*. Oxford University Press, accessed June 4, 2013, <http://www.oxfordmusiconline.com.offcampus.lib.washington.edu/subscriber/article/grove/music/45141>.

slightly apart from one another, creating a ‘beating’ effect which is part of the characteristic shimmering timbre of most ensembles.”⁹³

While an exhaustive description of the components and processes of Balinese gamelan music exceeds the scope of the present work (and Kay Rhie has done an admirable job of investigating Chin’s use of gamelan elements in her dissertation), it is necessary to have an idea of some of its main stylistic features, as they may apply to *Double Concerto*.⁹⁴ David Harnish emphasizes the concept of “stratified polyphony,” in which the various melodic lines emerge from the “same melodic flow” of the ensemble, in which “Certain musical parts and instruments are more important to the music than others, but all are necessary.”⁹⁵ The central or “nuclear” melody is known as the *pokok* or ‘trunk’ that emerges from a cyclic metric structure. The various instrument groups of the ensemble relate to the *pokok* differently, with, as Harnish notes, some instruments performing an outright statement of the melody as other instruments variously echo, punctuate, expand or elaborate on its constituent motives.

One or more instrument groups—often the higher-pitched instruments—performing interlocking figurations or decorations of the *pokok* melody generate multiple sonic layers.⁹⁶ Important for our consideration of *Double Concerto* is the fact, as Harnish points out, that “no concept of an independent vocal melodic line” exists in Balinese gamelan.⁹⁷ Similarly, Chin’s concerto is notably bereft of the sort of grand, sweeping melodic themes that characterize much of the piano concerto literature.

⁹³ Ibid.

⁹⁴ An excellent point of departure for the reader interested in the gamelan traditions of Java and Bali is Vol. IV of the *Garland Encyclopedia of World Music*, “Southeast Asia” (New York: Garland, 1998–2002).

⁹⁵ David Harnish, “Bali,” *Garland Encyclopedia*, 733.

⁹⁶ Ibid., 734.

⁹⁷ Ibid.

Important to Balinese gamelan music is its reliance on cyclical metric structures, with the gongs or other distinctive instrument groups used to punctuate or set off the beginning and end of cycles and melodic units. The “vertical” aesthetic of gamelan music, in contrast to the customary “horizontal” western predilection wherein the greatest attention is given to the linear unfolding of a principal melodic line, refocuses the listener’s attention on timbre, and has the effect of disrupting the perception of the regular, linear passage of time, allowing the listener to “inhabit the sound” in the present moment, as it were, focusing less on what may happen next.

Chapter Three

Descriptive Analysis

Double Concerto is a compact, intense work. Much happens in the course of the twenty or so minutes of its duration. Moreover, it is a very different example of its genre. A truly exhaustive analysis lies beyond the scope of the present dissertation. What I will attempt in the following is an analytic description of its salient components, features, style, and procedures, focusing on certain crucial and interesting elements as they arise, and as they determine and constitute the work. Insofar as it is possible, I will draw attention to those elements that define the signature *modus operandi* of Chin the composer.

Ultimately, to understand the work and apprehend it on its own terms, the reader must listen *closely*. To aid that close listening, my discussion and examples are cross-referenced by track timings to the recording of *Double Concerto* by Ensemble intercontemporain (2011).⁹⁸ The following analysis pays close attention to details of instrumentation and orchestration, and the manner in which Chin manipulates these to create her timbres. As timbre is an important—perhaps the definitive—constituent of the concerto, it is necessary to develop a vocabulary with which to discuss it, as elusive and subjective as that task may be.

The discussion will track the ways in which Chin realizes one of her stated intentions for the piece, the creation of the “illusion of a super-instrument” defined by a single homogeneous body of sound, and how the components of the work undergo procedures of continuous organic metamorphosis, with small “seeds” or fragments generating new textures and growing into larger forms. I will remark upon the many radical departures of this work from the prior conventions of

⁹⁸ Unsuk Chin, *Double Concerto*. Recording by Ensemble intercontemporain (0013062KAI, Kairos Music Production, 2011).

the double concerto genre, and the ways in which *Double Concerto* draws inspiration from the timbres and conventions of Balinese gamelan music.

Part 1 (mm. 1–55; 00:00–01:20)

Double Concerto opens quietly yet dramatically. The effect is akin to that of attending a play in which the curtain rises upon a scene already in progress. A very striking feature of this concerto is the fact that the work opens with the two soloists already in furious activity, executing a very fast quintuplet ostinato in a triple meter (3/4, marked “flowing and energetic”) accompanied only by a cymbalist playing a pianissimo roll. To my knowledge, no other extant double concerto opens in such a fashion. It is more customary for the ensemble or orchestra to provide material of an introductory nature in anticipation of the grand entrance of the soloists, “setting the stage,” so to speak. Moreover, the timbres of the prepared piano and the vibraphones and cowbells played by the two soloists blend so thoroughly that it is difficult to parse the exact origin of the sounds. Chin’s “super-instrument” is already in action, with the soloists already integrated and interlocked in a close relationship. If one did not know beforehand that she was listening to a double concerto, there is nothing about the opening of this piece that would reveal that fact.

3 Becken auf dem Steinder
ppp
* transmits möglichst in 3/4-Takt
HF
AB C D E F G#
* Vib. mit relativ harten Schlägeln mit wenig Hörgefühl um leichte metallische Klänge zu erzielen
für besondere Klangwirkung auf gläsern wie dem Klavierklang respektvoll sein.
Solo Klav.
pp
5/4

Double Concerto by Unsuk Chin

© Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.

Reprinted by permission of Boosey & Hawkes, Inc.

Example 1. Chin, *Double Concerto*, mm. 1–6, opening ostinato

Chin's intention to meld the timbres of the percussion and piano is made explicit in her instruction that the percussion soloist "play vibraphone with relative hard mallets and with little motor in order to achieve a slightly metallic sound. The entire percussion sound must be *merged completely with the piano sound* [my emphasis]."⁹⁹ The piano is not clearly recognizable as such, as the muted metallic sonority of the prepared piano pitches blends almost seamlessly with the metallic timbres of the percussion instruments. However, as the pitch of E4 is the only pitch involved in the quintuplet that is not prepared, it stands out clearly, assuming a function of relative tonicity from the outset. This function is reinforced by a strike on the cowbell that occurs every time the E4 is played on the piano. As a further emphasis, Chin marks the cowbell strike *tenuto*. The B \flat 4 sounded by the cowbell also helps establish the primacy of the tritone in the melodic and harmonic language of the piece. The prevalence of tritones—still a restless, dissonant interval—serves to create an aura of mystery and ambiguity. The vibraphone, along with the cowbells, consistently repeats C4 and B \flat 4, emphasizing the minor seventh, another frequent sonority in the work.

The rapid ostinato immediately inspires a sense of forward motion and momentum. Combined with the percussive, metallic timbres, Chin conjures an impression of gamelan music right from the outset. Indeed, it may be the strongest impression of traditional gamelan we receive from the piece. The ostinato, as described above, is a quintessential component of traditional gamelan music. *Double Concerto* begins immediately with an ostinato, as do her other concertos influenced by gamelan music, the Piano Concerto and the Violin Concerto. In all of these works the ostinato is frequently present, whether in a foreground or background context.¹⁰⁰ However, as Rhie points out, there is a difference between traditional gamelan practice and the

⁹⁹ Chin, Vibraphon mit relative harten Schlegeln mit wenig Motor gespielt um leicht metallische Klänge zu erzielen. Der gesamte Schlagzeugklang muss gänzlich mit dem Klavierklang verschmolzen sein.

¹⁰⁰ Rhie, 23

ostinato that drives *Double Concerto*: “while the persistent ostinatos [in gamelan music] most immediately create a static, drone-like quality, ostinatos in Chin’s music also create a rhythmic interest that leads to forward momentum.”¹⁰¹ She further likens the timbres here to that of the dynamic *angklung* ensemble of Balinese gamelan.

Unlike gamelan music, which, broadly speaking is based on a system of characteristic “gapped” scales known as *pelog* and *slendro*, *Double Concerto* involves all twelve chromatic pitches from the beginning in the melodic and harmonic domains simultaneously, via the deployment of two whole-tone collections: [C, D, E, F#, G#, A#] (henceforth labeled here as WT1) and [C# D# F G A B] (henceforth labeled as WT2). The composer explains:

As far as the harmony goes, what also concerns me in this composition is to look for a new kind of ‘tonality’ that has nothing to do with functional tonality. Complex processes produced by relatively simple means, such as the twelve tones of the tempered octave, are divided into alternately emerging two groups. These whole tone scales, together with the microtones and noise elements, [yield] a wide range of possibilities, [and] the shift of the musical processes dictates the form along an axis of density and sparseness. From this starting point, I have tried to write free, colorful and lively music, the course [of which] is sometimes completely unpredictable.¹⁰²

As Paul Griffith, Martin Wilkenning, and Hanno Ehrler have suggested, the noise-like elements in Chin’s music help define the sonic characteristics, blurring the conceptual distinction between “noise” and “music”. Her concern about mixing timbre and sound color is related to her experience with electronic and spectral music.

¹⁰¹ Ibid.

¹⁰² “Was die Harmonik anbelangt, so geht es mir auch in dieser Komposition darum, nach einer neuen Art von ‘Tonalität’ zu suchen, die mit der funktionalen Tonalität nichts mehr zu tun hat. Komplex Prozesse entstehen durch relative einfache Mittel, so etwa, indem die zwölf Töne der temperierten Oktave in zwei abwechselnd auftauchende Gruppen geteilt werden. Diese Ganztonskalen ergeben zusammen mit Mikrotönen und Geräuschelementen eine große Spanne an Möglichkeiten, wobei die Verschiebung der musikalischen Prozesse auf der Achse Dicht-Undichte formbildend wirkt. Von diesem Ausgangspunkt aus habe ich versucht, eine freie, farbenreiche und lebendige Musik zu schreiben, deren Verlauf manchmal gänzlich unvorhersehbar ist.” Chin, “Double Concerto,” in Drees, 97.

As mentioned above, E4 emerges from the outset as a strong pitch center, a tonic locus around which the entire collection of pitches is arrayed. The E tonicity is emphasized clearly by the absence of piano preparation on that pitch. Thus, while the surrounding pitches display various metallic, muted, and buzzy timbres, the E rings through clearly with clarity and sustain. The E centrality also emerges by virtue of repetition, whereas the other pitches are stated less frequently. The vibraphone is restricted at the outset to C4 and B \flat 4, two pitches belonging to WT1, as does the unprepared pitch E4 emphasized by the piano. Almost every bar of the piano ostinato presents all twelve tones, mixed between the hands.

The first statement of the ostinato structure takes 8 bars (mm. 1–8), with a meter change from 3/4 to 2/4 at the penultimate bar. It concludes with a dramatic, rapid glissando performed by both soloists, serving here as punctuation. This device, described by Rhie as an “interruptive gesture,” is worth looking at in some detail, as it will become an important structural and transitional component used by Chin to link sections together and to generate new material.¹⁰³ Each soloist must cross hands to complete the gesture. See m. 8 in Ex.2, below:

The image shows a musical score for two instruments: solo Schlegel-Herden-glocken (Vib.) and solo Klav. (Klav.). The score is divided into three measures. The first measure is in 3/4 time, and the second and third measures are in 2/4 time. The music features a complex rhythmic pattern with a meter change from 3/4 to 2/4 at the end of measure 8. The glissando gesture is marked with a large '3' and a circled '10'.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 2. Chin, *Double Concerto*, mm. 7–9, crossing glissando gesture

¹⁰³ Rhie, 78. She explains, “this short block of crisscrossing gesture proves to bear significant consequences later in the piece as the composer develops the interruptive gesture into its own block [of material], either by itself or as a stratum.”

The gesture begins in the piano as C \flat 4 and B \flat 4, and concludes with C4 and B \flat 4 stated as a minor seventh, reinforcing the importance of these pitches and the interval. The vibraphone likewise begins with C and B \flat as a minor seventh, and ends on the minor seventh of D \flat 4 (C \sharp) and B4. The crossing glissando gesture crescendos as it proceeds over the duration of one measure in 3/16 meter. The pitches performed by the piano hold over as a sustained cluster to the downbeat of the following bar (m. 9), serving as link dovetailing this gesture with the ostinato.

The ostinato resumes in m. 9 without a pause at a pianissimo dynamic, joined again by the cymbal, lending to it a shimmering metallic edge. The sudden hushed dynamic increases the drama of the transition. The second statement of the ostinato is extended by an additional bar appended to the 2/4 section that precedes the concluding crossing glissando gesture. Although the meter changes frequently in Part One, momentum is maintained by the constant quintuplet figuration. The crossing glissando is prolonged over mm. 17–19 by use of the sustain pedals on both piano and vibraphone.

The woodwinds—flute, alto flute, oboe, and English horn—make their first entrance at m. 17, playing long, sustained notes *pianissimo*, beginning in the middle of the crossing gesture of the vibes and piano. Thus obscured, they gradually become audible as the prolonged glissando fades away, creating a seamless transition. As a section, they present a chord composed of pitches from WT1—C4, E4, F \sharp 4, B \flat 4—which constitute a set of interlocking tritones drawn from WT1 (0268).¹⁰⁴ While mm. 17–19 constitute a section of relative pause and stasis, the

¹⁰⁴ The sets in brackets refer to Forteian sets. They appear throughout this chapter as means of tracking important melodic and harmonic activity, and the consistency of material. The present document by no means intends or undertakes a comprehensive set theory analysis. In a work defined by the use of both whole tone scales, one would expect to encounter a great deal of intervallic and pitch consistency, as both whole tone scales reduce to the identical prime form set of (02468T); indeed, one cannot avoid it. However, the use of set theory allows one to track Chin's deployment of particularly dominant and repetitive subsets throughout the work, such as (0268), encountered most frequently as the pitches C, E, B \flat and F \sharp .

underlying momentum continues in an understated fashion as the cymbalist desists from rolling, and executes the sixteenth-note quintuplet rhythm first heard in the vibraphone.

The ostinato of the soloists resumes in m. 20 with two bars of new material added preceding the resumption of the ostinato as we have heard it previously. The sustained chord in the winds breaks off after a crescendo, and the flute and alto initiate a series of contrapuntal, leaping melodic motives drawn from WT1, joined in m. 26 by the English horn and clarinet. The intervals of the leaps—a mixture of ascending and descending figures—are primarily tritones and major thirds, with fewer minor seconds, minor sixths, and minor sevenths, all occur within the range of an octave. The distinctive timbre of the English horn allows it to stand out from the other winds (especially in the recording made by the Ensemble Intercontemporain), but considered collectively, the little melodic fragments sound directionless, and somewhat “ghostly,” if I may be permitted here to add a subjective impression to the discussion. The appearance of the woodwinds expands both the registral spectra of the work, as the wind sound contrasts greatly with the percussive sound of the soloist’s ostinato. The winds pick up on and echo the quintuplet figuration of the ostinato, albeit in an altered fashion:

The image shows a musical score for four wind instruments: Flute (Fl.), Alto Saxophone in G (Alt. in G), English Horn (E-H), and Clarinet in B (Klar. in B). The score is for measures 24 through 28. A circled number '25' is placed above the first staff at the beginning of measure 25. The music features complex rhythmic patterns, including quintuplets and sixteenth-note figures, with various articulations and dynamics markings such as 'cres.' and 'sc.'.

Double Concerto by Unsuk Chin
© Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 3. Chin, *Double Concerto*, mm. 24–28, winds

As Part One proceeds, the solo percussionist begins to gradually include more pitches in her ostinato, previously constrained to C and B \flat . The set of cowbells is tuned to the pitches of WT1, allowing them to present expanded whole-tone melodic fragments with a clear sound. The harp makes its first entrance in m. 38 with an ascending linear, arpeggiated unfolding of WT1, staggered in intervals of tritones and major thirds, culminating with a high E played *ff*, reinforcing the E tonicity (Ex. 4). The minor seventh interval is also emphasized from m. 37, as the leaping quintuplet figures of the winds transform into a sustained chord comprised of F#4 E5 C4 A#4 (0268), a set containing two pairs of vertical minor seventh intervals drawn from WT1. Reinforcing this interval is the first appearance of the horns in m. 37 with a sustained statement of C4-B \flat 4:

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 4. Chin, *Double Concerto*, mm. 35–40, winds, brass, harp, ensemble percussion

Chin allows the texture and density of Part One to build with the gradual introduction of more instruments and the resultant timbres as they combine with the instruments already present, moving along a spectrum of density from thin to thick. Although the texture becomes more complex with the participation of additional instruments, it is not always easy to perceive the distinct sound of each instrument due to the skillful means by which Chin blends the sonorities of the collective ensemble. To achieve this effect, Chin employs diverse devices. As mentioned previously, she requests the woodwinds to play with an “extreme amount of air noise,” not only to generate “noise” as a musical element for its own virtue, but to partially obscure the characteristic sounds of the instruments as well.

She employs dynamics—typically, a pianissimo entrance followed by a gradual crescendo—to mask the entrances of instruments, such that we don’t notice their presence immediately until some other sound mass begins to yield and open up a window by which we may perceive the new color. For example, the horns make their first entrance *ppp* in m.37 playing C4 and B♭4, gradually making a crescendo to *forte* in m.42, where the soloists and winds enter *ff* (Ex.4). Their quiet entrance is obscured by the loud crossing glissando gesture of the soloists in m.37, and the dramatic harp entrance that immediately follows it. Just as soon as we begin to perceive the presence of the horns, they climax with a forte blast together with the soloists playing a retrograde inversion—the mirror image—before vanishing, creating a brief coloristic effect.

Doori Yoo explains this technique, designated by Griffiths as “instrumental matching”, as an “important source of the scintillating color in her music” and a means by which she matches “the specific quality of an instrument to the quality of a combination of different instruments.”¹⁰⁵

¹⁰⁵ Doori Yoo, “Two Etudes by Unsuk Chin: No. 1, *In C*, and No. 6, *Grains*, for Piano” (DMA diss., Florida State University, 2013), 18.

We see a similar treatment of the final horn entrance in Part One in mm. 49–54.

Part One concludes with another statement of the ostinato material, with the addition of metal blocks producing tones of indeterminate pitch, adding an additional layer of metallic sheen, or “noise”, and the winds continuing with their polyphonic melodic motives. Part One serves as a prelude or introduction of sorts, in terms of establishing the primary sound-colors of the work, and introducing certain elements or “seeds” that Chin will develop further. It also establishes the “time outside of time” aesthetic of gamelan music, in which the vertical orientation of the music and the lack of definitive horizontal melodic themes keeps the listener suspended in a sort of temporal ambiguity defined by the ebbing and flowing of binary pairs of opposites, such as the alternation between movement and stasis. Part One ends definitively with sharp *sforzandi* on several instruments playing pitches central to the work thus far—E, G#, and B♭—that simultaneously serve as punctuation to indicate the end of Part One, and to serve as a means of elision to Part Two. (Ex. 6, below)

Part 2 (mm. 56–205; 01:21–04:40)

Beginning with the sustained pitches of E4 and G#6, Part Two undertakes a diverse exploration of the ostinato, and develops significant materials of the first section, as well as introducing new motifs. Significantly longer than Part One, Part Two can be subdivided into five smaller parts or subsections, alternating three more spacious, open and relatively static materials with two new, altered statements of the ostinato. This formal pattern also maps relative density, as the non-ostinato parts feature reduced rhythmic and melodic activity, thinner textures, and even episodes of near silence.¹⁰⁶ We can map this pattern onto the binary of relative motion and stasis that informs the work.

Subsection 1 (mm. 56–70)

As mentioned above, the punctuation gesture serves a marker of formal division, and also as a means of elision. Versions of the interruptive crossing glissando gesture function not only to announce the beginning and endings of the ostinato phrases, but also to disrupt the relative tranquility of the spacious, open sections. At the beginning of the second part, Chin calls for an extended flute technique that largely obscures the pitch of B \flat 4 it is requested to play. She writes in m.55, “das Mundloch mit dem Mund vollständig bedecken und kräftig einblasen,” instructing the player to cover the entire mouthpiece with the mouth and to blow with great force directly into the instrument, creating a loud, airy, whistling effect without a pronounced tone, another example of how “noise” becomes an integral part of the soundscape she is creating. As if she does not trust the ability of verbal description and conventional music notation to convey the

¹⁰⁶ In order to streamline my dissection of the piece, and to reduce confusion for the reader, I will refer to the large constituent sections of *Double Concerto* as “Part One, Part Two”, et cetera. When it is necessary to designate smaller components of the major parts, they are referred to as “subsections”.

exact effect she wants, she adds a graphic depiction of the ADSR (attack-decay-sustain-release) envelope of the sound that she desires above the staff.

The image shows a musical score for three instruments: Flute (Fl.), Alto Horn in G (Alt. in G), and Euphonium/Horn (E.H.). The flute part has a graphic ADSR envelope above the staff, showing a sharp attack, a decay phase, a sustained section, and a release phase. The alto horn part has a dynamic marking of 'p' and a slur. The euphonium/horn part has a dynamic marking of 'f' and a slur. The flute part has a dynamic marking of 'p' and a slur.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 5. Chin, *Double Concerto*, mm. 53–56, winds

Such specificity of detail is perhaps related to her experience with electronic music, wherein such operations can be programmed exactly. The flute sound is heard above the unprepared, pedaled E4 and G#6 of the piano (allowing these pitches to speak clearly), the sharp attack of which partially occlude the entrance of the first violin on a sustained G#6, the first time we have heard a bowed string instrument thus far.

As the piano tones decay, the violin crescendos into a glissando figure, initiating the first entrance of the string section. From the standpoint of orchestration, it is interesting to note how she combines arpeggiated ascents and descents through WT1 on the various strings, as well as an octave glissando and sustained tremolo E in the second violin in mm. 59–61, creating a complex, varied timbre and tone color. The string figures decrescendo into two full bars of complete silence, a pregnant stillness soon ripped apart by a repeat of the opening punctuation gesture, with the pitches of E4, G#6, and Bb4 (026) performed sforzando.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 6. Chin, *Double Concerto*, mm. 53–62, solo percussion, piano, strings

Subsection 2 (mm. 71–118)

After the spacious texture of mm. 56–67, a reappearance of the crossing glissando gesture in the piano and vibraphone precedes the resumption of the ostinato in m. 71. The two soloists are joined by the strings, which elaborate upon and extend the gesture. Violins, violas, and cellos execute rapid figures drawn mostly from WT1 as presented by the crossing gesture. The double bass, making its first appearance in m. 68, presents an extension of the B \flat 4 to C4 descent in the right hand of the piano by making a tremolo glissando ascent from C4 to B \flat 4. Such elaboration is an example of the ways in which Chin uses the ensemble to develop materials first presented by the soloists. It is an organic development in the sense that the string figure can be interpreted as an outgrowth of the crossing glissando. The principal motifs and materials introduced in the previous section, such as the ostinato, punctuated music, crossing glissando gesture, contrapuntal

leaping wind quintuplets, ascending harp arpeggios, and sustained chords constitute the essence of this section, as well. However, these motifs are modified, expanded, and grow into more complex textures.

Six repetitions of the ostinato phrase appear in mm. 71–118. All of these repetitions feature a crescendo toward the end of the phrase, creating a feeling of forward momentum or motion towards a climax, as in Part One (excepting the very first ostinato of Part One, which remains at a pianissimo dynamic throughout). However, the feeling of momentum is displaced by frequent interruptive gestures, including the original crossing glissando and several new gestures, such as the one initiated by the strings and concluded by the soloists in mm. 73–78. Instead of the by now familiar crossing glissando, the piano takes up the ascending thirty-second note figures of the strings, and the percussion soloist reinforces the centrality of the pitches E4, G#6, and A#3 (026) with sforzandos. Likewise, the first violin begins on E4 and ends on G#5, and the first viola descends from Bb3, reinforcing these pitches.

The image displays a musical score for measures 72 through 78 of the Double Concerto by Unsuk Chin. The score is arranged in four systems. The top system includes 'solo Schlag.' (solo percussion) with '6 Henden-glocken' (6 handbells) and 'Vib.' (vibraphone). The second system is for 'solo Klav.' (solo piano). The third system contains two staves for 'Vi.' (violin) and 'Vi.' (viola). The bottom system is for 'Bra.' (bassoon). The score features complex rhythmic patterns, including quintuplets and sixteenth-note runs. Dynamic markings such as 'cresc.' and 'sfz' are present. A large circled number '75' is placed above the percussion staff in the fourth measure. A large circled number '96' is placed above the piano staff in the eighth measure. The key signature has one sharp (F#) and the time signature is 4/4.

Double Concerto by Unsuk Chin

© Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.

Reprinted by permission of Boosey & Hawkes, Inc.

Example 7. Chin, *Double Concerto*, mm. 72–78, piano, solo percussions, strings

Other versions of the interruptive gesture include the three-bar gesture in mm. 85–87, in which the strings participate (reacting to and emphasizing the punctuated piano pitches by starting on the same pitches), and the one-bar ascending piano gesture coupled with a downward glissando on the vibraphone in m. 107, as seen in Ex. 8. The interruptive gesture expands to six measures in mm. 122–128 in seven “layers” of strings, as the high strings execute various arpeggiated ascents and descents, and the low strings perform a descending glissando, creating an overall decrescendo effect (Ex. 10). If the punctuated pitches of the soloists are understood here as “attacks”, then the string gestures can be interpreted as “reactions” (The attack/reaction or “cause-and-effect” compositional process is fundamental to *Double Concerto*, and will be explicated in more detail as the analysis proceeds). Here, the gesture does not interrupt the *ostinato per se*; rather, it interrupts the relative stillness created by the cessation of activity by the entire ensemble. Whatever shape the gesture takes, it invariably appears as thirty-second notes within a 3/16 meter.

The image displays two musical score excerpts. The left excerpt, labeled 'm.85', shows a 'Solo Klav.' part with a treble clef and a 3/16 time signature. Below it are three staves for strings, labeled 'VI. 1', '2', and '1'. The right excerpt, labeled 'm.107', shows a 'Solo Sclg. 6 Herden-glocken' part with a treble clef and a 3/16 time signature. Below it is a 'Vib.' part with a treble clef and a 3/16 time signature. At the bottom of the right excerpt is a 'Solo Klav.' part with a bass clef and a 3/16 time signature. The score includes dynamic markings like 'p=104' and 'ca 100'.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 8. Chin, *Double Concerto*, mm. 85-87 and m. 107, versions of the interruptive gestures

Looking at the structure of the ostinato itself, we see that while the ostinato of the first part presents all twelve pitches in the middle register, the ostinato phrases in this second part—which occur six times from mm. 71–118—consist only of pitches drawn from WT1. From the first ostinato phrase in mm.71–76, Chin expands the registral spectrum of the ostinato by emphasizing higher and lower notes with sforzando accents on E4, G#5, and A#3 in succession (mm. 73–75, see Ex. 7), much like the piano’s punctuated pitches of the previous subsection 1. These pitches—forming the set (026)—were previously presented clearly as a set of sequential, emphasized single pitches by the piano in mm. 64–66, indicating their structural significance. These accented sforzando notes occur more frequently as the ostinato phrases repeat, gradually emphasizing all the pitches of WT1. It is not just the solo ostinato that is drawn from WT1; the entire second part—in all the instruments—is largely constituted of WT1 pitches, exceptions being the crossing/glissando gestures by the piano and strings, and material occurring at the end of subsection 4 that combines pitches from both collections (m. 161 onwards).

Each time they occur, the sforzando-accented notes by the piano invite or provoke diverse reactions from the other instruments, resulting in a more complicated texture and sound. Such cause-and-effect reactions are a clear example of what the composer means when she remarks, “the solo parts send the ensemble impulses to develop the ‘germ’ of the material, but these impulses can also stimulate each of the 19 musicians to tell his own ‘story’”.¹⁰⁷ The strings, in particular, react to the impulses or provocations of the soloists, as the string passages frequently begin on the same pitches as the piano’s punctuations (see Ex. 7, above). In the same way, as the ostinato phrases repeat and feature more accents, not only the strings but also the

¹⁰⁷ Chin, “Double Concerto,” in Drees, 97. In the absence of a program or any elaboration by the composer, just what the “stories” could be is left to the individual listener to decide.

other instruments are instigated by these punctuated pitches to establish multiple timbral layers, a characteristic feature of *Double Concerto* as a whole.

As subsection 2 proceeds, the activity of the solo percussionist becomes busier and more complex. Similar to the registral expansion of the piano, the vibraphone part includes more pitches in its high register, creating distinct layers. The cowbell part moves more actively between the pitches of WT1 from the beginning of the first ostinato in subsection 2 (see Ex. 7), in contrast to its insistence on B \flat in the first half of Part One.

When the leaping wind figures of the first section return beginning in m. 100, they are no longer quintuplets, and the melodic leaps—predominantly ascending minor sevenths—become wider, frequently spanning octaves, thus expanding the registral spectrum. The leaping figures are written with crescendos that emphasize the terminal pitch of each figure. The expansion of the register in the winds can be seen as a reflection or offshoot of the registral expansion in the solo piano part, mentioned above. At m. 105 the horns enter with descending leaping figures of a minor seventh, likewise on a crescendo, complementing and balancing the ascending wind figures.

From the beginning of the last ostinato statement (mm.108–115) of the second subsection, the solo percussionist presents seven consecutive repetitions of WT1 on the cowbells, even as (s)he maintains a constant sixteenth-note ostinato on the vibraphone. Happening in tandem with the leaping wind and brass figures, this heightens the sense of urgency and momentum of the ostinato texture. The ascending leaping harp figures based on WT1 that we saw in Part One reappear every two bars beginning in m. 108 in an expanded version, now with intervals of minor seventh (Ex. 9 below).

Handwritten musical score for 'Double Concerto' by Unsuk Chin, measures 106-111. The score includes parts for Hr. in F, Trp., Pos., Tuba, G. Spiel, Hf., solo Sclg. 6 Horden Glocken, Vib., solo Klav., VI., Bra., V.C., and K.B. The score is dense with musical notation, including dynamics like 'f', 'mf', 'p', 'cresc.', 'decresc.', and 'sul part.', and performance instructions like 'm. 107', 'ca. 100-108', and circled measure numbers 104, 107, and 110.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 9. Chin, *Double Concerto*, mm. 106-111

Although materials from Part One recur in Part Two, the latter features a greater overall variety of timbral effects and colors, and a denser, layered texture. One of the most noticeable changes in timbre is due to the scalar passages played by the strings, which, as we have seen, frequently begin on the same pitches as the piano's punctuated pitches. The string instruments perform dovetailed, intersecting melodic ascents and descents, layered glissandi and tremolos, thickening the overall sonority. Chin expands the range of the vibraphone and cowbells, and the ensemble percussionist begins to manipulate a wide array of instruments, including antique cymbals, small tambourine, timbales, metal blocks, glockenspiel, and hand cymbals, each producing its own clear sound and adding distinct and interesting colors to this complicated, dense texture. It is important to note, however, that the tone colors of these instruments do not assume an identity of their own; much like the different facets of a crystal or gem, they become another aspect of the "super-instrument" Chin is creating.

Subsection 3 (mm. 119–146)

As in the opening of Part Two (m. 56), the beginning of subsection 3 in m. 119 sees the piano emphasizing the pitches of E₄ and G₆ by sforzandos and prolongation. The flute sounds a single B₄ (with its sound contour prescribed by another graphic notational symbol), completing the (026) set. Although subsections 1 and 3 share a similar opening gesture, the third subsection, as it contains additional, more varied material, is much longer than the first. As they did in subsection 1, the arpeggiated ascents, descents and glissandos of the strings beginning in m.122 rupture the relative stillness of this moment. The interruptive gesture begins triple forte and decrescendos rapidly into two bars of complete silence, restoring the quiet, spacious texture that distinguishes these subsections from those in which the ostinato is operative. As they do not

allow the listener to become settled or comfortable in the temporary periods of serenity that Chin allows, such interruptive episodes become part of the overall dramaturgy of the piece. In this instance, the arpeggiated string gestures are extended to seven bars, and as well as presenting all the pitches of WT1, as before (mm. 59–62), include the pitch B from WT2 (Ex. 10 below).

Fl.

Alt. Fl.

E-Fl.

Klar. in B

K. Fg.

H. 1 in F

H. 2

Trp.

Pos.

Tuba

Snare-Drum

Hf.

solo Sax. Becken Pk. (Schl.)

Solo Klav.

VI. 1

VI. 2

Bra. 1

Bra. 2

V.C. 1

V.C. 2

k.B.

ca. 100 (120) 3 1-108 (125) (130)

mf, decresc., and., ff, p, gliss., acc., stacc., cresc., decresc., and., ff, p, gliss., not to load, nicht laden, RPP

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 10. Chin, *Double Concerto*, mm. 119–130

Immediately following the string episode, the solo piano presents the punctuated pitches of E4, G#6, B♭4, and C2 successively, with C2 becoming a new addition to the set of previously emphasized pitches, expanding the set from (026) to (0248). And while the pitch of E is still present in the piano, the pitches of C and B♭—and the minor seventh interval or dyad they form—become structurally important in this new subsection. The low pitch of C2 is emphasized by its appearance in the bass and the dark timbre of the contrabassoon, making its first appearance in m. 134. Chin introduces another new timbre with the tubular bells played by the solo percussionist emphasizing the pitch of B♭4. A sustained crescendo—or, to use Rhie’s terminology, a “suspended echo”—by the entire brass section highlights the C–B♭ interval that strongly colors this subsection. The piano likewise reinforces this dyad (Ex.11).

Fl.

Ob.

E.H.

Klar. in B

K.fg.

Hr. 1 in F

Hr. 2 in F

Trp.

Pos.

Tuba

Schlg.

Hf.

solo Schlg.
Röhren-
glocken

Tub. Bell

laissez vibrer

Timpani

solo Klav.

1 VI.

2 VI.

1 Bra.

2 Bra.

1 V.C.

2 V.C.

K.B.

ppp

cresc.

sfz

ppp

cresc.

ppp

cresc.

ppp

cresc.

ppp

ca. 100

ca. 96

* harter
markanter Klang
sacca

* Tempra:

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 11. Chin, *Double Concerto*, mm. 131–140

Subsection 4 (mm. 147–172)

The fourth part of Part Two—spanning mm.147–172—is characterized by a radical change of sound and texture, and the reappearance of the ostinato after the long period of relative stasis in mm. 117–145. The violins and violas take over the presentation of the quintuplet-based ostinato from the piano and vibraphone and cowbells of the solo percussionist. Chin here expands the ostinato with a repetitive sixteenth-note chordal staccato ostinato on the piano, and the solo percussion utilizes the marimba for the first time, presenting repeated glissandos drawn from the interrupted crossing/glissando gesture. Striking new sound colors emerge in this subsection, including the woody, somewhat brittle sound of the two-octave marimba glissandos, the cello glissandos, executed *col legno battuto*, the rolled chordal arpeggios on the harp presenting WT1, and tuned bottles added as ensemble percussion. The brass ensemble—with the exception of the tuba—is muted, creating a thin, nasal, sharp sound, especially the trumpet (Ex.12, below).

The image shows a page of a musical score for a double concerto. The score is written for a large ensemble including woodwinds, brass, strings, and harp. The measures shown are 148 through 153. The notation is dense, with many slurs, ties, and dynamic markings. Key markings include 'con sord. (metall)' for mutes, 'cresc.' for crescendo, and 'pizz.' for pizzicato. Performance instructions like 'schlagen' (hit) and 'glissando' are present. The score is arranged in a standard orchestral layout with multiple staves per instrument.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 12. Chin, *Double Concerto*, mm. 148–153

Subsection 4 presents the ostinato just three times—interrupted by three different versions of the crossing/glissando gestures—as compared to the six repeated ostinato phrases in mm. 71–118 of subsection 2. With each subsequent presentation of the ostinato in this subsection, the texture thickens, and we perceive a heightened sense of momentum, due to the increasing dynamics, the clear pitches of the marimba in and the punctuating blasts of the brass in the final ostinato statement. As in the previous subsection, the interval of the minor seventh is explored in various ways—the piano’s tetrachords contain harmonic sevenths, the solo marimba’s irregular quintuplet ostinato consists entirely of sevenths in mm. 154–160, and the violin’s ostinato, now in triplets instead of quintuplets, includes frequent melodic leaps of a seventh (Ex.13, below).

The texture shifts as well in this passage (mm. 154–160), as now the brass introduces short, punctuated pitches, the winds continue with leaping quintuplet figures, the ensemble percussionist supports the rhythm of the wind figures on tuned bottles, and the harp shifts from its glissando texture to melodic leaps in sixteenth notes. The entire ensemble performs simultaneously for the first time in the work, with each instrument group of instruments supplying a unique texture of its own, resulting in a complex, multi-layered sound (Ex. 13).

1 Fl. 1
2 Fl. 2
Ob.
Klar. in B \flat
K. Fg.
Hr. in F
Trp.
Pos.
Tuba
Mallets
Hr.
solo Schlag.
Marimba
solo Klav.
1 Vl.
2 Vl.
1 Bra.
2 Bra.
1 K.C.
2 K.C.
K.B.

Double Concerto by Unsuk Chin

© Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.

Reprinted by permission of Boosey & Hawkes, Inc.

Example 13. Chin, *Double Concerto*, mm. 154–159

The second interrupted gesture of subsection 4 (mm. 161–162) consists of an ascending and descending thirty-second note run presented successively rather than concurrently, coupled with a long two-bar glissando by the marimba. The third quintuplet ostinato passage that follows—now blending WT1 and WT2—is given over to the marimba and supported by massive piano chords, producing a regular rhythmic pulse and busy texture through which the woody tones of the marimba emerge clearly. All of the instruments now change their previous patterns, seemingly responding to the marimba ostinato, generating a thicker texture and a sense of heightened excitement. These changes include the piano replacing its sixteenth-note tetrachords with rolled cluster chords features, as the harp repeats rolled clusters, alternately rolled up and down. The upper strings repeat continuous ascending scales rendered *col legno battuto*, as the lower strings perform descending glissandos. The brass section provides a new sonic color with staggered, rhythmically-offset presentations of eight short, punctuated pitches per measure, creating a sense of forward movement into the consequent fortissimo section (Ex.14).

160
 Fl. 1
 Fl. 2
 Ob.
 Klar. in B
 K. in F
 Hr. in F
 Trp.
 Pos.
 Tuba
 Pfläschen-spiele
 Hf.
 solo Schlag. Marimba
 solo Klar.
 VI. 1
 VI. 2
 Bra. 1
 Bra. 2
 V.C. 1
 V.C. 2
 K-B
 165

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 14. Chin, *Double Concerto*, mm. 160–165

Subsection 5 (mm. 173–204)

Having traversed a long crescendo, the third ostinato phrase (mm. 163–168) culminates in a series of *fortissimo* chords by the piano in m. 169, initiating an interruptive gesture consisting of layered, scalar passages by the strings and rapid descending cluster chords by the piano with pedal in a 3/16 meter:

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 15. Chin, *Double Concerto*, mm. 166–172, piano and solo percussion

This prolonged interruption mutates into slow string glissandos with pedaled piano cluster chords, starting the last static subsection in m.173. In contrast to the previous two static subsections of Part Two (subsections 1 and 3), that each included two measures of complete silence, subsection 5 is characterized by a continuous sonority in which static and active parts are dovetailed seamlessly, without a break in sound. For instance, in mm. 173–175, the sound of the piano sustains as the strings undertake a series of simultaneous ascending and descending glissandos. This “continuous glissando” effect creates the perception of perpetual movement, and will be used to great effect in subsequent parts of the work, most notably in Part Seven (Ex.16, below).

The piano's successive clusters, interwoven with the vibraphone, along with the stepwise ascending and descending passage in four layers of brass instruments in mm. 176–186 (Ex. 16, above), subsequently rupture the sustained timbre. Similar ruptures can be seen in mm. 186–190 and mm. 194–199 (Examples 17a and 17b).

Musical score for Example 17a, showing solo Schlegel Vibraphone (Vib.) and solo Klavier (Klav.) parts. The score is divided into measures 185, 186, 187, 188, 189, and 190. Large bracketed clusters are present for both instruments. The piano part features a melodic line with various dynamics and articulations.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 17a. Chin, *Double Concerto*, mm. 183–191, piano and solo percussion

Musical score for Example 17b, showing solo Schlegel Xylorimba (Xyl.), solo Klarinet (Klar.), Violin I (VI.), Violin II (VI.), Brass I (Bra.), Brass II (Bra.), Viola/Celli (V.C.), and Kontrabaß (k.B.) parts. The score is divided into measures 191, 192, 193, 194, 195, 196, 197, 198, 199, and 200. Large bracketed clusters are present for the Xylorimba and Klarinet. The score includes complex rhythmic patterns and dynamic markings.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 17b. Chin, *Double Concerto*, mm. 192–200, piano, solo percussion, strings

The thin texture of this section, from which the winds are absent, becomes gradually thinner, as the brass, solo percussion, and piano disappear one by one, until only the string glissandos and three cymbals remain to eventually diminish into silence in mm. 201–204 (Ex. 18).

The image shows two staves of musical notation. The top staff is labeled '3 Becken' (3 Cymbals) and contains a melodic line with dynamic markings 'p', 'decresc.', and 'ppp'. The bottom staff is labeled 'm.201' and contains multiple staves for strings: Violins I and II, Brass (Bra.), and Violoncello/Double Bass (V.C.). The string parts feature glissandos and dynamic markings 'p', 'decresc.', and 'ppp'. Handwritten annotations in German are present above the string staves, including 'Bereicher glissandi: fließend u. bruchlos ausführen. Kein Ton darf stehenbleiben', 'Saitenwechsel so nach Bedarf aber unmerklich', 'Vor die Richtung muß stimmen sonst nicht richtig', 'Saitenwechsel unmerklich', 'Der höchste Ton auf der G Saite', and 'Der höchste Klappglocken auf der G Saite'.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 18. Chin, *Double Concerto*, mm. 201–204, cymbals and strings

This last subsection of Part Two, combining WT1 and WT2, also serves as a transition to Part Three. All twelve pitches are employed in the piano cluster chords, vibraphone’s leaping melody, the scalar passages of the strings, and sustained brass chords. The passage of punctuated piano pitches, beginning on C#7 in m. 194 and proceeding to B3, F4, and D#4 in mm. 194–197, effects a transition to WT2 (see Ex.17b, above). This marks the first time thus far we have encountered punctuated piano gestures using WT2 pitches. In this context, these pitches participate in the transition to the appearance of WT2 in Part Three described above.

Part 3 (mm. 205–310; 04:41–08:40)

Part Three follows a growth process similar to that of Section Two, in that it begins with short, sharp, punctuated pitches, and grows by degrees into a complex texture, culminating in a thin glissando string texture. However, as it moves at a much slower tempo, and because the beginning lacks the driving ostinato of the previous parts, Part Three exhibits a very different character than does Part Two. While it is not absent a sense of kinetic energy—indeed, a very nervous, suspenseful feeling pervades, and an irregular quintuplet ostinato does emerge towards the end of Part Three—this part can be described as one of the more static portions of the work, allowing the listener—and perhaps the players—an opportunity to regroup from the furious propulsion of the previous sections.

The significant materials of Part Three, including crossing gestures and sharp, punctuated pitches, are developed through frequent attack/reaction or cause-and-effect processes across instrument groups, allowing the timbres of individual instruments to emerge and speak more clearly than we have seen previously. Part Three can be subdivided into two subsections identified by a marked change of textures. The first subsection, spanning mm. 205–261, focuses more on cause-and-effect relations and features a relatively thin, clear sonority, whereas the second subsection, spanning mm. 262–310, features multi-layered textures and introduces new sound colors.

Subsection 1 (mm. 205–261)

As the transitional ending of the previous part suggests, pitches from WT2 are now beginning to rise to the forefront. Until this point in the work, the piano part in particular has

been largely dominated by WT1, with the exception of pitches involved in the crossing glissando gestures. The C#, D#, F, and B that were strongly emphasized in the transition are now joined by A in the punctuated piano pitches that open Part Three, which also carry over F# from WT1, and the E which has thus far acquired the clearest sense of tonicity in the work. We notice as well the very wide intervallic displacement of these opening pitches. These pitches—A5, F#4, C5, E7, D2—create multiple static layers of piano, into which Chin will later inject more active components, juxtaposing both active and static textures (Ex.19).

The image shows a page of a musical score for 'Double Concerto' by Unsuk Chin, specifically measures 201 to 210. The score is written for a large ensemble including woodwinds (Klarinetten, Hornen, Trompeten, Positiv, Tuba), percussion (3 Becken, Hängende Becken, solo Schlagwerk/Röhrenglocken), and piano (solo Klavier). The piano part has large handwritten numbers '205' and '210' written vertically. The percussion part has a section labeled 'Concerto Marimba'. The score includes various musical notations such as dynamics (p, f, decresc.), articulation (acc.), and performance instructions like 'ped.'. At the bottom, there are handwritten notes in German: '# Bereich glissandi: Hülse n. bruchlos ausführen. Kein Ton darf stehenbleiben.' and 'Der höchste Ton auf der Seite ped.'.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 19. Chin, *Double Concerto*, mm. 201–210, cymbals, piano, solo percussion, brass, contrabassoon

The sharply enunciated and emphasized pitches of the piano quickly induce the brass instruments to respond in kind, with repeated short pitches—C5, F#4, B♭5, E4, and D2 in mm. 208–210 (Ex.19). The pitches used in the opening six measures of the section are drawn from both WT1 and WT2. The last pitch of the opening six bars—D2—is prolonged and emphasized by the contrabassoon, tuba, and double bass, which from m. 211 begin to repeat a crescendo-and-decrescendo hairpin gesture as a reaction to that pitch. The double bass effect relies upon a harmonic glissando moving between D and F#, executed *sul ponticello* and utilizing the highest possible natural harmonics attainable on the D string, lending a glassy, ethereal timbre to the gesture, as the contrabassoon oscillates between D2 and C2, its own crescendos and decrescendos in sync with the bass. The combined timbres of the two bass instruments produce an ominous low growling marked by a swelling and receding amplitude effect, reminding one of similar oscillating effects encountered in electronic music (see Ex. 20, below).

From m. 214 to m. 222 the piano again announces a long series of accented, punctuated pitches, beginning with A5 and proceeding through G7, B♭5, C4, D2, F#6, G#7, E4, B♭4, D6, G#4, and B♭2, eliciting a variety of reactions from the other instruments. A transparent, open sonority is facilitated here by prominent use of leaping intervals spanning several octaves—sevenths and tenths—and extreme high pitches. Also, the tritone interval is emphasized through repetitions of E and B♭, and D and G#. The last three pitches of the row announced by the piano—D2, G#7, B♭4, arrayed in three layers—are sustained for three bars (mm. 220–222), again emphasizing the intervals of the tritone and minor seventh (Examples 20 and 21, below).

Each accented note of the piano is echoed by other instruments, bearing witness to Chin's comments on the ensemble functioning as a kind of "shadow" of the solo parts. For example, A5, the first pitch sounded by the piano in m. 214, provokes its repetition in harmonics by the first

violin, a reaction variously taken up by the other strings performing harmonics and tremolos. The first viola responds to the piano's next pitch, G7, with tremolo glissandos on G in m. 215. Likewise, the B \flat sounded by the first flute in m. 216 is a reaction to the piano's statement of that pitch. In the same measure, the first viola and the second cello begin descending scales and glissandos from the pitch C, in response to the piano (Examples 20 and 21). In particular, the pitch D, previously prolonged and emphasized by the hairpin gesture of the contrabassoon and double bass in mm. 209–216, can be seen as a reaction to the D2 appearing in the bottom line of the piano in m 209 (Ex. 19). In a similar manner, the pitch D2 in the bottom layer of the piano in m. 217 seems to stimulate more instruments to react. The marimba clearly articulates a D dominant-seventh chord in arpeggiated quintuplets, producing a clear sonority and reestablishing the rhythmic pulse, to which the tam-tam adds color. The harmony is supported by harmonics in the strings, and by a repetition of the double-hairpin dynamic gestures on D by the contrabassoon and double bass (Ex. 21).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 20. Chin, *Double Concerto*, mm. 211–216

Handwritten musical score for Double Concerto by Unsuk Chin, mm. 217-223. The score includes staves for Flute (Fl.), Oboe (Ob.), Clarinet in B (Klar. in B), Bassoon (K. B.), Horn in F (Hr. in F), Trumpet (Trp.), Trombone (Pos.), Tuba, 3 Becken (3 Bc.), 3 Tom-Toms (3 Tom-T.), Javanese Gong (JAVAN. Gong), Marimba, solo Clarinet (solo Klav.), Violin (VI.), Viola (V. C.), and Contrabass (k. B.). The score features complex rhythmic patterns, dynamic markings such as "molto legato" and "cresc.", and performance instructions like "Becken, Tom-Tom u. javan. Gong bis Takt 266 sehr weich und nur anscheinend spielen. Ihre Klänge lassen." and "*Hr. steht sulla scale". A circled number "220" is visible in the Marimba staff.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 21. Chin, *Double Concerto*, mm. 217–223

Continuing the action/reaction process, the G#7 of the piano in m. 218 incites rapid descending scalar passages by the first violin, and an accented high G#6 by the harp, adding new facets to the crystals of sound colors—so to speak—that Chin is developing. Other prominent reactions visible in this section, in mm. 220–223, include the oboe trills which start on D6 and proceed to G#6, articulating a tritone; the tuba’s sustained B♭2 in crescendo and decrescendo—which can be seen as a sort of prolonged reaction—and the contrabassoon and clarinet’s long ascending scales starting on B♭2 (Ex. 21, above). To catalogue all such reactions by the ensemble to the material presented by the soloists would quickly become tedious, but it should be abundantly clear from this passage how this particular mechanism operates, and how pervasive it is.

Chin combines, stacks, and layers sounds, so that the entrance of one instrument is frequently masked by another—for example, in mm. 219–220, the B♭4 of the E/B♭ tritone sounded by the piano is carried over by the horn, which begins pianissimo and becomes audible as the piano’s sforzando articulation of the pitch recedes. Such timbral “morphing” or “evolution” of pitches—to employ organic metaphors—is characteristic of the composer’s method. At the same time, her frequent use of harmonics, glissando techniques, and swelling and receding dynamics throughout Part Three contribute to sonic textures evocative of electronic music.

After the presentation of another accented four pitches—B6, G3, F4, C#3 (0268)—by the piano in mm. 227–228, the piano and the solo percussion on *cencerros* introduce new quintuplet chordal figures in tandem in m. 229, providing rhythmic impetus in the absence of the ostinato and adding active layers to the static sonorities or layers. This juxtaposition of relatively static and active layers in the piano part strongly resembles her approach in the Piano Etude No.1 *in C*, another work inspired by Balinese gamelan music (see Chapter Two). With regard to the latter

piece, H. Yoo interprets such stratification as a clear index of gamelan procedure, wherein “one [instrument] plays the main melodic materials, the second embellishes it, and the third provides purely rhythmic figures. The distinctiveness of each voice in Etude No. 1, *in C*, resembles this division”.¹⁰⁸

In her Etude No.1, Chin employs syncopated chordal figures and irregular chordal quintuplets as active layers in a high register (Ex. 22b). As Chang points out, “the active layers have no audible meter or regular pulse, leaving the listener to turn to the long values of the static layers for sonic orientation. Here [in the first piano etude] this technique calls to mind the different families of the orchestra, where the active layers might be woodwinds and high strings, and the slow moving static layers given to low strings and high brass”.¹⁰⁹ With a large ensemble at her disposal, Chin expands upon this procedure in *Double Concerto*, by distributing single pitches from the piano’s static layers to different instruments, allowing those pitches to sustain and produce different timbres.

The image shows a musical score for three instruments: solo Schy Cencerros, Marimba, and solo Klav. The score covers measures 224 to 230. The Marimba part features a complex rhythmic pattern with a circled measure number 224. The solo Klav part has a circled measure number 230. Both parts include dynamic markings such as 'decreso' and 'mf'. The Schy Cencerros part is mostly silent, with some notes appearing in the later measures.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 22a. Chin, *Double Concerto*, mm. 224–230, marimba, piano, cencerros

¹⁰⁸ H. Yoo, 91.

¹⁰⁹ Chang, 38–39.

in C

-Auftragskomposition
der Biennale Neue Musik Hannover-

UnsuK Chin (1999)
Revision (2003)

The image displays a handwritten musical score for piano, titled "in C" by UnsuK Chin. It is divided into two systems. The first system covers measures 1 to 5, and the second system covers measures 43 to 44. The score is written for piano (I) in 3/4 time, with a tempo marking of "♩ = ca. 80-88". The key signature is C major. The notation includes complex textures with multiple voices, often featuring quintuplets. Performance instructions include dynamics such as *sfz*, *mp*, *8va*, *8bass*, and *mid. ped.*. Pedal markings include *ped.*, *8 Bass*, and *mid. ped.*. In the second system, there are markings for *sempre mezzo stacc.* and *sempre legato*. The score is marked with "I" at the beginning of the first system and "43" at the start of the second system.

Klavieretude No 1 by UnsuK Chin

© Copyright 1999 by Boosey & Hawkes Music Publishers Ltd.

Reprinted by permission of Boosey & Hawkes, Inc.

Example 22b. Chin, Piano Etude No.1 in C, mm. 1–5 and mm. 43–44

The moving quintuplets in the active layers are emphasized by the solo percussions, including the cencerros and marimba, as seen in mm. 229–230, 232–234, etc. This particular technique of orchestration strengthens the impression of gamelan music. Chin took a similar approach in her first piano etude, in which, as D. Yoo observes, “the scintillating effect created

by the use of fast-playing, high-pitched percussion instruments in gamelan music is also adopted in this etude in the upper register, where multiple dissonant intervals are played rapidly".¹¹⁰

In addition to its evocations of gamelan elements, the episode above also reminds us somewhat of the gestural vocabulary of the more customary double concerto, in which the pair of soloists typically engage in frequent, simultaneous statements of similar or unison material. In mm. 229–230, the ascending scalar motion of the cencerros begins with a statement of a WT2 scale from C#5 to D#6, shifting to a WT1 scale from E6 to A#6 (Ex. 22a, above). The pitches presented by the cencerros and piano thus represent a combination of WT1 and WT2. Due to the extreme high register explored by the right hand of the piano, and its staccato articulation, the quintuplet figures acquire a delicate, transparent timbre. The distinctive metallic clanging of the cencerros is heard clearly in this passage, reinforcing the rhythmic motion and adding a timbral counterbalance to the piano's delicate texture.

The new quintuplet figure by piano and solo percussion beginning in m. 229 carries over the quintuplet pulse of the ostinato, reminding us of its deep presence in the *Gestalt* of the piece, but any momentum it acquires here is quickly arrested by a quarter rest in m. 230, and a brief episode of sharply punctuated pitches and interruptive thirty-second notes by the piano. When the new quintuplet figure recurs in m. 233, the percussion soloist combines a series of tritones on marimba with the previous ascending gesture on the cencerros, reinforcing the active material explored by the piano (Ex. 23, below).

¹¹⁰ D. Yoo, 13.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 23. Chin, *Double Concerto*, mm. 231–237

The soloists work with three main gestures—short, sharp, punctuated pitches, the interruptive thirty-second note passage, and the new quintuplet figure—throughout the first subsection. The punctuated pitches stimulate diverse reactions from the ensemble. In mm. 231–234, in response to the B \flat 4 of the piano, the violins and violas enter sequentially in a contrapuntal fashion with 32nd-note passages followed by glissando gestures. As the upper strings create a thick texture with their rapid flurries of notes, the lower strings prolong the low C1 of the piano (Ex. 23). Chin continues a sort of imitative polyphony in the strings in the next passage from mm 235–244, with staggered entrances of instruments emphasizing the pitch A4 and offset, layered glissandos, as the winds react to the C# and B strongly announced by the piano in m. 240 with ascending sixteenth-note gestures that begin on former and end on the latter.

The so-called “Bartók pizzicato” Chin prescribes for the double bass on A beginning in m. 237 creates a sharp, woody, percussive slapping effect¹¹¹ as a response to the piano’s A0, the lowest pitch available on the keyboard. She combines this timbre with a sharp, piercing sonority on the brass instruments that enter, like the strings, with staggered, imitative entries of repeated short pitches and a descending run of thirty-second notes on the trumpet, soon mirrored in inversion by the contrabassoon and instigating the clarinet to undertake a similar ascending motive. Considered collectively, these instruments participate in the interruptive gesture of the piano in m. 237 (Ex. 23, above).

The clarinet’s ascending passage is repeated several times and then is echoed by the oboe, trumpet and the flutes, as a sort of organic outgrowth. This passage, in which C# and B are important structural pitches that begin and end many of the ascending runs, serves to facilitate to a smooth transition to the piano’s next exposition of punctuated pitches in m. 240, starting on

¹¹¹ This expressive device, which differs from a normal, plucked pizzicato in that the player pulls the string away from the fingerboard and allows it to rebound sharply, was first developed by Bela Bartók, possibly in imitation of the robust sounds he heard in Eastern European folk music.

C#4 proceeding to B6. After the piano announces the pitches C#4 and B6 by presenting an expanded minor seventh interval, the cencerros enter with a statement of the complete WT2 scale. Before that scale can establish itself, however, the piano interrupts the WT2 texture created by the pitched cowbells, piano and marimba with an interruptive crossing glissando gesture built from a mixture of WT1 and WT2. In m. 242, the harmonic C–B♭ minor seventh enunciated by the flute and clarinet asserts itself prominently over the expansion and development of the piano’s crossing glissando gesture by the strings in mm. 241–243. This technique, by which Chin constantly reminds of certain key intervals such as a minor seventh and tritone, is a clear example of the ways in which—in the absence of functional harmony or serial procedures—Chin is able to create and maintain sonorities that unify the piece and serve as harmonic signposts or indexes (Ex. 24, below).

1 Fl. 2
 Ob.
 Klar. in B
 K. in G
 1 Hr. in F 2
 Trp.
 Pos.
 Tuba
 3 Becken
 3 Tom-T
 Javan. Gong
 Hef.
 solo Schlg.
 Concavos
 Marimba
 solo Klar.
 *Streicher glissand.
 steht mit Aufschlag
 Die Holzbläser flageolett
 auf der A-Saite
 1 Vl. 2
 1 Bra. 2
 1 V.C. 2
 k.B.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 24. Chin, *Double Concerto*, mm. 238–244

Following a sharp gesture of punctuated pitches, the piano's ascending quintuplet figure returns in m. 246, followed in turn by another interruptive thirty-second note figure (Ex. 25). From this point to the end of the first subsection in m. 261, the piano's material consists entirely of the interweaving of punctuated pitches and quintuplet gestures moving in rhythmic fits and starts, with varying degrees of space between them. By such activity, Chin is able to "restart the rhythmic engine," as it were, and regain momentum leading to the resumption of the quintuplet ostinato in the second subsection of Part Three, that begins in m. 262.



Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 25. Chin, *Double Concerto*, mm. 245–250, piano

In another example of the action/reaction dynamic that characterizes the work, the brass, reacting to pitches declared by the piano in mm. 253–254, enunciate in staggered entries the D F# A C E sonority/verticality (02469) that has been crucial to this section, reprising the opening of Part Three. The woodwinds in mm. 254–256 feature for the first time a kind of twittering call-and-response pattern comprised of repeated short pitches drawn from the set named above. This texture introduces the granular sonority that will come to dominate Part Four (Ex. 26, below).

The image shows a page of a musical score for winds and brass instruments. The top section contains staves for Flute 1 and 2, Oboe, Clarinet in B-flat, and Bassoon. The bottom section contains staves for Horns in F and E-flat, Trumpet, Trombone, and Tuba. The score is marked with measure numbers and performance instructions. A specific measure, 254, is highlighted. The notation includes various musical symbols such as notes, rests, and dynamic markings.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 26. Chin, *Double Concerto*, mm. 251–256, winds and brass

Subsection 2 (mm. 262–310)

With the return of the by-now familiar multi-layered texture and the quintuplet ostinato performed in tandem by the soloists, the second subsection of Part Three presents a very different character from the spaciousness and comparatively listless rhythms of the first. The second subsection opens with a statement of sharply punctuated pitches A6, D2, F#3, E4 (0247) announced in succession, resembling the opening of the first subsection. Unlike the opening of the first subsection, the pitch C is not accented here, but it is still operative, appearing as the opening pitch of the interruptive thirty-second note gesture in m. 263 following the pitch E4. The C6 in this context completes the presentation of (02469) by the piano.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 27. Chin, *Double Concerto*, mm. 257–263, piano

The winds support this sonority with a flutter-tongued chord of WT1 pitches [E6, A#5, C6, F#5] (0268) that crescendos from *p* to *ff* beginning in m. 264. The trumpet clearly emphasizes B \flat 5 (A#) in the same measure over the unprepared E4 sounded by the piano, reinforcing the pervasive E/B \flat tritone that, by virtue of its repetition and stress, seems to have acquired a central, unifying function in the intervallic language of the piece. Right after this moment, from m. 265 to m. 270, the entire ensemble engages in a multi-layered texture in which each group of instruments presents its own gesture at staggered, offset intervals (Ex. 28, below).

* Hörner und Bassoon rein Luftgehörlich ohne Ton
 Das gesamte Ensemble haben keine Begleitung
 * Trp. Luftgehörlich mit Tonstütze. Es klinge wie eine 9. öfter als notierte

265

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 28. Chin, *Double Concerto*, mm. 264–269

Other than the pitch A—strongly emphasized by the opening of the piano gesture in m. 262—the bulk of the material in this passage is drawn from WT1, as are the pitches punctuated and emphasized as sforzandos by the soloists.

Due to its layered texture, this passage restores the amalgamated, composite timbre of Chin's "hyper-instrument" after the sparse texture of the preceding subsection, in which individual instrumental colors were clearly audible. From m. 264 on, we hear a new color in the brass resulting from the sound of air blown through the horns and trombone, obscuring the pitch. Chin's direction reads: "Horns and trombones pure air noise without tone. The notated pitches have no meaning." The trumpet, likewise, is instructed to increase the air-noise component of its sound, while still allowing pitches to be heard. This new air-noise texture in the brass serves to obscure the clarity of much of the other instrumental activity, with the exception of pitches emphasized by sforzandos in the solo percussion and piano parts. The distinctive background air-noise sound allows the piano's interruptive rising gesture in mm. 270–271 to stand out clearly.

From m. 271, the piano, along with the marimba and cencerros played by the percussion soloist, resumes the chordal quintuplet figure overlapped with sharply punctuated pitches. After the discontinuous quintuplet figures of the first subsection of Part Three, this quintuplet figure by two soloists now functions as an ostinato reminiscent of the ostinato of the first two sections. This manifestation of the ostinato, however, has a thicker texture and a different rhythm than the first, resulting from the fact that both hands of the piano are now playing the same, syncopated figure, whereas previously the syncopations of each hand's rhythm created a composite straight quintuplet rhythm matching that of the solo percussionist. Rhie notes the pervasive use of closely

related versions of this rhythm in several of Chin's pieces, and describes it consequently as her "signature motive".¹¹²

¹¹² *Cantatrix Sopranica* also makes extensive use of this rhythmic figure. Rhie, 64–66.

1 Fl. 1
 2 Fl. 2
 Ob.
 Klar. in B
 K. Fg.
 Hr. 1 in F
 2
 Trp.
 Pos.
 Tuba
 3 Becken
 * Beder, Tam-Tam & Javans. Gong:
 nach mir voll sehr zurückhaltend
 über dem rich hörbar spielen.
 zwei klingen lassen.
 3 Tam-T.
 Javans-Gong
 Harp.
 solo Saxf.
 Saxos
 Marimb.
 Solo Klav.
 * Klavier ab Takte 271 immer lebhafter werden
 wie es bringen leicht sein spielen.
 Pedalwechsel beliebig aber so das die röhre
 mit stkr. möglichste lange klingen.
 Vl. 1
 2
 Bra. 1
 2
 V.C. 1
 2
 k.B.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.

Reprinted by permission of Boosey & Hawkes, Inc.

Example 29. Chin, *Double Concerto*, mm. 270–275

As in the first two parts of the piece, the momentum of this new version of the ostinato is twice briefly arrested by the piano's interruptive gestures in m. 277 and m. 283, but otherwise runs unimpeded for 32 measures, creating a sense of rhythmic urgency. Unlike the quintuplet figure of the first subsection of Part Three, which featured frequent stepwise ascents, this version of the ostinato—until m.287—tends to be relatively constrained in its melodic motion, contributing to a layered, shimmering sonority that recalls the characteristic sonorities of gamelan said by the composer to have partly inspired *Double Concerto*.

When the ostinato begins a series of ascending gestures into higher octaves in top and middle layers in m. 288, it creates a more transparent texture and sonority. The winds and strings support the ascending passage of the piano with upward leaping figures of their own. While the repetition of the piano ostinato is an active component in the upper layers of the passage in mm. 288–303, the static aspect is present in the lower layers in the sustained static sonority of the tuba and double bass responding to the sharply punctuated pitches of the piano. As a reaction to the piano's sharply punctuated pitches in mm. 290–292, the trumpet and tuba emphasize the tritone of E and B \flat , through the clouds of air-noise generated by the horn and trombone. This section is saturated with various iterations of the central E/B \flat tritone, dispersed throughout the texture. Its appearance as the absolute lowest and highest pitches in the tuba and the first flute—as well as its pervasiveness throughout the work—confirms its centrality and function as the dominant intervallic sonority (Ex. 30, below).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 30. Chin, *Double Concerto*, mm. 288–293

The trumpet is especially audible throughout the thicket of sound here, as it plays, loud, clear and sustained pitches with crescendo dynamic effects (mm. 290–300). It, too, forcefully asserts the E/B \flat tritone (see mm. 290–292 in Ex 30, above). Chin exploits the ability of the trumpet to cut easily through the blended, layered textures, a choice of instrumentation to which she will turn at key moments, as in the second climax of *Double Concerto* in mm. 521–524, wherein she gives over the solo melody to the trumpet.

As Part Three moves into its conclusion, the complex texture begins to thin out by degrees, creating a feeling of comparative repose, as first the winds cease (m. 297), followed by the harp, the brass, the solo percussionist, and finally, the piano, leaving only the strings with an interlocking series of glissando harmonic ascents. The continuous scalar motion of the strings in a very high register and with a delicate sound allows a smooth transition to the following “granular” section, which features similarly delicate, clear sonorities. For the first time in this piece, the piano enjoys a soloistic episode of sorts in which it stands out, clearly producing a most delicate sound with scalar motion in the right hand and single pitches in the left articulating the [D6 A6 F#6 E7 B \flat 6 C6 G6 D7] collection (013468T), a mixed set comprised of five pitches from WT1 and two pitches from WT2. The melodic line contains both ascending and descending minor sevenths, a key interval of the work, as well as the central E/B \flat tritone. The almost complete absence of such solo episodes in *Double Concerto* is striking, setting it at odds with the conventional grammar of the double concerto genre (Examples 31 and 32, below).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 31. Chin, *Double Concerto*, mm. 300–305

(310) $\text{♩} = \text{ca. } 128-132$

Perc.
 Fl.
 Ob.
 Klar. in E \flat
 Fag.
 Hr. 1 in F
 Trp.
 Pos.
 Tuba
 Schlag.
 Hf.
 solo Schlag.
 Xyl.
 solo Klav.
 1. Vl.
 2. Vl.
 1. Bra.
 2. Bra.
 1. V.C.
 2. V.C.

35
168

f
 decresc.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 32. Chin, *Double Concerto*, mm. 306–311

Following the kineticism and constant propulsion of the first two parts of the piece, the overall feeling of Part Three, with its thinner textures and pauses in the operation of the ostinato, is one of relative repose. With the exception of the beginning six bars—which use a $3/16$ meter for the presentation of the sharp, punctuated pitches, as in previous sections—Part Three features consistent tempo and a $3/4$ meter throughout, contrasting the frequent rhythm and meter changes of the preceding two parts. It is worth noting that in Part Three, the various versions of thirty-second note interruptive gestures, and the presentation of sharp, punctuated pitches function not merely to disrupt the continuous ostinato figures, but operate as main components.

Part 4 (mm. 311–396; 08:40–11:15)

Part Four features new textures and timbres created by the application of concepts derived from the techniques of granular synthesis. The basic characteristics of this electroacoustic music technique are described in the introduction (see Chapter One, pp. 16–18) with regard to Chin’s piano etudes and electronic compositions. Paraphrasing Curtis Roads (1988), D. Yoo describes granular synthesis as the creation of “complex sounds by adding together many thousands of very short overlapping sound bursts called grains”.¹¹³ In electroacoustic music, this is accomplished by the manipulation of waveforms. Chin draws on her background in electronic music and her deep knowledge of granular operations to replicate this effect with acoustic instruments. In her Piano Etude No.6 *Grains*, Chin employs granular procedures by using repeated staccato sixteenth notes of a single pitch or ‘grain’. Similarly, Part Four of *Double Concerto* features layers of repeated, staccato thirty-second note grains.

The granular procedures are in evidence right from the beginning of Part Four (Ex. 32, above), as the xylophone played by the solo percussionist enters—or disrupts—the open space and thinner sonorities created by the strings’ continuous harmonic glissando in the transitional passage of the previous section with repetitions of the pitch A5 as thirty-second notes over a decrescendo, at a fairly rapid tempo of ♩ = ca. 128–132. The harp, with a similar figuration on A6, overlaps the xylophone pattern and diminishes to a pianissimo dynamic in m. 312 (Ex. 33, below).

¹¹³ D. Yoo, 50

Handwritten notes in German and English:

- Alle Instrumente so forte wie möglich, nur die Harfe in *mf* deutlich hörbar spielen.*
- Solo Sax: Alle Instrumente so stark und klar wie möglich.*
- Solo Klav.: Alle Instrumente so stark und klar wie möglich.*

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 33. Chin, *Double Concerto*, mm. 312–317, harp, xylophone, piano, violin

After the briefest of pauses in m. 312, the piano, xylophone, violins, and harp continue the presentation of two single pitches A and E in a layered texture consisting predominantly of rapid, repeated thirty-second notes. The focus on the interval of the perfect fifth has been foreshadowed by the linear presentation of a succession of fifths by the piano at the end of Part Three, terminating on a particularly audible D, the pitch from which the linking passage by the flute departs from in m. 310, thus providing a context for the iterations of A that pervade Part Four. The emphasis on the fifth is especially evident at the beginning of Part Four. Mm. 311–323 consist solely of this interval, expressed as A6 and E7, two pitches that acquire significance in *Double Concerto* by virtue of sheer repetition. The importance of these pitches is also expressed by their appearance as sharply punctuated pitches at the beginnings of Parts One, Two, and

Three. Although the textures in which these pitches are situated differ from part to part, their centrality is obvious.

Typical of the ways in which Chin's organic procedures unfold, the texture and sound becomes thicker and more complex as the part proceeds, due to the inclusion of more pitches and instruments. The granular textures of Part Four are separated by pauses and interruptive gestures, as the repeated phrases and components of the previous parts have been. As in those earlier parts, the texture and sonorities of Part Four thicken progressively as it proceeds, only to be discontinued abruptly by punctuated pitches and an elongated version of the crossing glissando gesture. Chin shifts to a 5/8 meter each time granular material appears, the first use of this meter in the piece so far. Part Four also employs 3/4 meter for the now-familiar string harmonic gestures, and 3/16 meter when interruptive gestures appear.

In the first passage of Part Four (mm. 311–319), the repetitions of the pitches A and E are presented in two-bar phrases consisting of the overlapping activity of the xylophone, piano, harp, and violins. In an acoustic evocation of granular synthesis techniques, the instruments enter sequentially with statements of A and E arrayed in various regular subdivisions of repeated thirty-second-, sixteenth-, and eighth-notes. As Rhie has noted, “each granular phrase relaxes in density at the end of each two-bar phrase” due to the differing metric pace of these figures and the diminuendo dynamic effect common to the granular phrases.¹¹⁴ A very obvious cessation of all activity occurs in m. 319. When the granular activity resumes in m. 320, it consequentially dissolves into a field of, as Rhie describes them, “shimmering string harmonics” on the pitches A and E.¹¹⁵

¹¹⁴ Rhie, 101.

¹¹⁵ Ibid.

As Chin has restricted herself here to very minimal resources in terms of pitch, interest comes from the interaction and arrangement of the varying timbres of those pitches as they are expressed on the different instruments that perform them. Thus, instead of making definitive melodic statements in the conventional manner, Chin stresses the nuances of sound colors in a way that acquires structural significance, a technique with some relationship to the processes of *Klangfarbenmelodietechnik*.

The pitch content of the granular sections expands gradually to encompass more pitches beyond A and E. When the granular activity resumes following the silence of m. 319, the violas introduce the new pitches F#, D, and G# (026) in mm. 324–325. The harp executes a tremolo on C7 in mm. 327–328, clearly emphasizing that pitch, followed by the piano's familiar gesture of sharply punctuated pitches C7, F#7, E7 (026) in 3/16 meter. All the pitches in use are drawn from WT1 (plus A), with the tritone of F# and C emerging clearly (Ex. 34, below).

From m. 329 the granular texture reappears in the strings, harp, piano and xylophone, and continues unabated for ten bars until m. 338, without breaking up into short two-bar phrases or being interrupted by rests as in the previous presentations. Additional instruments join the texture gradually, increasing the timbral spectrum. In this passage, the intervals of the seventh and the tritone (F# and E, F# and C) are again emphasized. Further stressing the tritone interval is the reiterated dyad of D and G# in accented gestures of piano and xylophone appearing throughout this passage.

Picc.
 Fl.
 Ob.
 Klar. Es
 Fag.
 Hr. 1 in F
 Trp.
 Pos.
 Tuba
 Schg.
 Hf.
 solo Schg.
 Xyl.
 solo Klar.
 VI.
 Bra.

J-ca. 80 (325) J-ca. 168-176 J-ca. 126-132 (330)
 J-ca. 80 (325) J-ca. 168-176 J-ca. 126-132 (330)
 Claves
 3 5 6 8
 *Klar. Pedal unmittelbar nach dem Anschlag lange klingen lassen.
 *Bratsche: G# 5. Bogen
 *Vcllo/Vcllo nicht für den Griff.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 34. Chin, *Double Concerto*, mm. 324–330

The harp merges the repeated single pitches into a tremolo at the end of the phrase in mm. 337–339, stressing the interval of a seventh between F#6 and E7 and the tritone between D6 and G#6. Likewise, the piccolo and clarinet present short, staccato single pitches in intervals of a leaping seventh or tritone, and the cellos present leaping melodic fragments consisting of the seventh of F# and E, and the perfect fifth of D and A (Ex. 35, below).

Beginning in m. 339, as the soloists desist from the insistent granular activity, the piccolo, flute, and clarinet present understated fragments of WT1 in rising and falling dynamics over a mist of string harmonics, providing a relief and contrast to the somewhat brittle, percussive and woody timbres of the preceding granular material. Similar to the manner in which string harmonics followed the previous statement of the granular texture, the ten-bar granular passage in mm. 329–338 is again followed by string harmonics, coupled with quiet, repeated sustained pitches by the piccolo, flute, and clarinet over double-hairpin dynamics. All instruments are playing in extremely high registers, lending this section a wispy, ethereal tone (Ex. 35, below).

In this passage (mm. 339–347), the string harmonics morph into an expanded version of the crossing-glissando gesture, creating a longer block of contrasting material before the next appearance of the granular texture. The pitch material present in the string harmonics consists of WT1 plus the pitch A. The texture is saturated with tritones, heightening the suspenseful, urgent affect of Part Four. Bass and cellos present the sonority E/B \flat /C (026), comprised of a tritone and a minor seventh (mm. 341–347), as the second violin alternates D and G#, the first viola F# and C. The (026) sonority is also present in the winds (E/F#/C), as the first violin keeps the central pitch kernels of the granular texture, A and E, in play (as in mm. 339–346), and the cellos descend through WT1 (mm. 346–347). The piano's fortissimo punctuation gesture on the pitches

G#6, D6, E7, F#6 (0246) in mm. 343–345, is likewise drawn from WT1 and stresses the intervals of the tritone and the minor seventh. Here, as in previous parts, the pitch content and texture expand gradually, growing via an organic procedure of progressive enlargement of material, textural density, and activity.

Picc.
 Fl.
 Ob.
 Klar. in Es
 Fag.
 Hr. 1 in F
 Trp.
 Pos.
 Tuba
 Claves
 Hf.
 solo Saxf.
 Xyl.
 solo Klar.
 VI. 1
 VI. 2
 Bra. 1
 Bra. 2
 V.C. 1
 V.C. 2
 K.B.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 35. Chin, *Double Concerto*, mm. 337–342

Part Four can be divided into two large subsections characterized by differences in textural density and increased dynamics, with the first subsection spanning mm. 311–347, and the second mm. 348–396. The beginning of the second subsection is marked by a return of the granular texture in mm. 348–356, now in the context of a busy, layered sonority as the entire woodwind section with the exception of bassoon participates in the repetition of the granular pitches, along with the piano, xylophone, harp, and strings. Sharply accented notes in all the instruments—emphasized chiefly by means of sforzandos—are frequent in this granular passage. In contrast to the tightly restricted pitch content of the first granular passage (mm. 311–323), which insisted upon A and E, this granular texture now encompasses more varied pitch content. The second subsection is markedly louder than the first, with the piano and xylophone executing a definitive crescendo to a fortissimo dynamic beginning in mm. 353, greatly intensifying the sound-mass (Ex. 36, below).

New sound colors emerge throughout Part Four. The ensemble percussionist adds the temple blocks—two blocks of an unspecified “very high” pitch—for the first time in m. 348, presenting rolled tremolos in crescendo and diminuendo. While the use of temple blocks in western art music by Euro-American composers frequently connotes a non-specific aura of “Asianicity”, often in an orientalist manner, here they seem to be deployed largely to contribute to the overall brittle, somewhat woody timbre of Part Four. Their short decay is ideally suited to reinforcing the granular texture. While the strings in the first subsection only employ harmonics, in the second subsection, the cellos present sharply accented single pitches at a forte dynamic, and the upper strings also include the pitch punctuations between harmonic figurations.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 36. Chin, *Double Concerto*, mm. 349–354

The piano's frequent accentuations of pitches encompass all the pitches of WT1, with one presentation of the tritone G6 and C#6 from WT2 in m. 353. A leaping interruptive gesture executed by the two soloists in mm. 355–356 emphasizing melodic intervals of a tritone and a seventh in a 3/16 meter, mirrored by the woodwinds, briefly disrupts—or, alternatively, signals a shift in—the granular texture. The gathered energy of the passage does not dissipate as much as it shifts form. The thirty-second note repetitive figures of the strings collapse in—or accelerate to—a sustained, rapid string tremolo beginning in m. 355, with the composer specifying that the tremolo be executed “extremely fast and intensely”. The winds augment the tremolo in mm. 357–359 with pairs of tritones. Taken as a collection, the strings and winds present a definitive statement of WT1 plus A in this dramatic crescendo episode (Ex. 37, below).

The granular activity that begins in m. 359 differs from the preceding granular textures in that it consists of nearly constant string tremolos, with the woodwinds taking up the rapid thirty-second note figurations in tandem with the soloists on piano and xylophone, creating a more vigorous, noisy sonority (Ex. 37, below). This brief episode is again interrupted by a sustained, loud wind and brass chord in mm. 362–368 consisting entirely of pitches drawn from WT1, thickening the texture.

(355) *ca. 80* *Deca. 126-132*

Picc.
Fl.
Ob.
Klar. in Es
Fag.
Hr. 1
in F
Trp.
Pos.
Tuba
2 Tümpel-
blöcke
Hr.
Solo Sclly
Xyl.
Solo Klav.
1. Vl.
2. Vl.
1. Bra.
2. Bra.
1. V.C.
2. V.C.
k.B.

*Scingspiel
Glockenspiel*

ca. 80 *360*

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 37. Chin, *Double Concerto*, mm. 355–360

However, in the next bar in m. 369, sharply punctuated pitches by the solo instruments, piano and vibraphone (replacing the xylophone used in the granular section) reappear, this time supported by the winds, brass, and strings, which prolong the pitches involved in a sustained echo effect. We have encountered this sort of interruptive process and texture frequently enough in the work thus far in various guises to assign to it the formal function of separating various blocks of texture, sound colors, and rhythmic patterns. Here, the punctuated interruptive gesture provides Chin with the opportunity to reintroduce WT2 after the domination by WT1 throughout the preceding granular episodes. The first two punctuated pitches, B \flat 4 and G#6, in m. 369, are members of WT1, but all the successive punctuated pitches by the soloists, and their sustained echoes throughout the ensemble are all derived from WT2 with the exception of the B \flat sustained by the first horn and the second violin (Ex. 38, below).

Chin's reliance upon the tritone and seventh intervals continues here, emphasized by the vibraphone's accented pitches B3, F4, E \flat 5, C#4, and G4 (02468), allowing WT2 to assert itself strongly. The brief gesture by the strings in mm. 375–378—linked to the preceding interruptive gesture by the prolongation of the tremolo in the low strings—attempts to restart the propulsive rhythmic energy of the ostinato sections. It carries over the WT2 pitches and B \flat from the punctuation music just previous, using only B, C#, F, G, and B \flat (02368) (Ex. 38). No sooner is this sonority established, however, than it is undermined by the piano's familiar cluster descent gesture in m. 379, discontinuing the WT2 and B \flat texture and replacing it with a layered sound consisting of a mixture of WT1 and WT2 (Ex. 39).

Picc.
 Fl.
 Ob.
 Klar. in Es
 Fag.
 Hr. 1
 Hr. 2
 Trp.
 Pos.
 Tuba
 Stein-spiel
 Glocken-spiel
 Hr.
 solo Schlag
 Vib.
 solo Klav.
 Vl. 1
 Vl. 2
 Bra. 1
 Bra. 2
 V.C.
 K.B.

**Vib. nach wie vor Xylophon-schlägel benutzen.*
oben Motor
Klingen lassen
meta in Kontrafagot
meta in Sop. Trp.
ca. 116
ca. 80
ca. 116
375
370

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 38. Chin, *Double Concerto*, mm. 369–378

The last granular music of Part Four is also the longest instance of granular texture, running from m. 382 to m. 391. The pitch E that initiates this episode is strongly articulated by several instruments, and is overlapped with B \flat , once more reasserting the centrality of this particular tritone. This phrase, featuring a similar texture to the previous granular phrases of the second subsection, uses the same pitches drawn from WT1 and A encountered in those episodes, (except for C \sharp and E \flat in the viola's tremolo harmonics), but is characterized by a thicker and busier sonority due to the changed texture of several instruments and the appearance of new instruments, such as the soprano trumpet, glockenspiel, and lithophone.

The most noticeable modifications to the granular texture include the thirty-second note runs by the violins—now navigating a more complex series of pitches—and the soprano trumpet's sharply punctuated single pitches, both in a high register. The soprano trumpet's stabbing high sonority is particularly obvious, cutting through the mixed, busy texture of all other instruments, speaking to Chin's mastery of the sonic palette (see mm. 382–385 in Ex. 39). The long crescendos toward the end of this passage contribute to a rising intensity culminating in a strongly punctuated fortissimo G \sharp 6 in the high registers of the piano and xylophone in m. 392. This outburst is answered immediately by the contrasting low sonorities of the tuba and trombone in sforzando blasts on the sustained, successive pitches of B \flat 1 and A \flat 2, again stressing the interval of the seventh. The sonority of the low brass, and the strong articulation of the minor seventh interval foreshadow the new texture and timbre that characterizes Part Five, partly functioning here as a transition to that section. The A \flat 2 played by the horn in m. 392 and sustained by the trombone initiates an ascending glissando from A \flat 2 to D \flat 5 by the horn (featuring a virtuosic glissando thirteen-tuplet), in turn answered by a rapid descending cluster

gesture on the piano. This expanded version of the crossing glissando gesture brings Part Four to a close (Ex. 40).

Picc.
 Fl.
 Ob.
 Klar. in E♭
 K-Fag.
 Hr. 1 in F
 sop. Trp.
 Pos.
 Tuba
 Stein-spiel
 Glöckchen-spiel
 Hf.
 solo Schlag.
 Xyl.
 solo Klar.
 VI. 1
 VI. 2
 Bra. 1
 Bra. 2
 V.C. 1
 V.C. 2
 K.B.

*Seem-Verdrossensspiel!
 Dynamik der Sulstien-
 partien anpassen um
 die gleiche Intensität
 sechs Klänge lassen
 sechs Klänge lassen

m 379
 m 126-132
 380
 385

sul pont.
 sul pont.
 Bra. 1+2 unisono sul pont. sul A
 V.C. 1+2 unisono sul pont. sul A sul D
 K.B. sul pont. sul D

sempre
 Der See fließt von
 auf der O-Säule
 * Der See fließt von
 auf der O-Säule
 * Dieses auch als
 ein "Doppel-Fluss"
 mit "flügel" gelehrt
 werden

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 39. Chin, *Double Concerto*, mm. 379–385

Part 5 (mm. 397–430; 11:16–12:29)

A new, exciting rhythmic ostinato performed in the low register of the piano and by the timpani of the solo percussionist, interspersed with granular textures, dominates Part Five. The percussive, low timbre of the new ostinato—enhanced by the preparation of the piano—contrasts significantly with the brittle, granular textures in a high register that characterize Part Four. Due to its dynamic, aggressive energy and almost violent textures, this short part, just 33 bars long and lasting about a minute, constitutes one of the most intense sections of *Double Concerto* thus far.

Handwritten musical score for Part 5 of *Double Concerto*, mm. 397–430. The score includes staves for K. Org., Hr., Trp., Pos., Tuba, Gran-Cassa, Hf., Solo Schlg., 3 Tom-T., 3 Timp., and Solo Klav. The Solo Klav. part features a *marcato* section with a circled "100". The Solo Schlg. part includes the instruction "Holzschlegel" and "mf secco". The Gran-Cassa part includes the instruction "Holzschlegel mit Lederüberzogen (Maracas)". The Solo Klav. part includes the instruction "marcato" and "piano".

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 41. Chin, *Double Concerto*, mm. 397–401, new ostinato

Part Five consists of three passages (mm. 397–404, 405–410, 411–422) in which the percussive ostinato texture is displaced by a six-bar middle phrase, creating a miniature ternary (ABA') form, to which a dramatic collapsing closing gesture on the piano, followed by near silence, is appended (mm. 423–430). Due to the varied pitch material and the addition of several new instruments—tenor drum, three tom-toms, bass drum—the texture in the third subsection becomes more complicated and thicker, again displaying an organic growth process similar to that of previous parts. The 5/8 meter of Part Four continues, but is combined with a 3/16 meter in the first and third subsections to create a new compound, asymmetrical meter. The piano and timpani ostinato employs fast, repeated sixteenth-notes overlaid with shifting accent patterns, generating a strongly dramatic rhythmic effect.

The opening subsection of Part Five utilizes the lower instruments of each instrument choir—contrabassoon, tuba, trombone, double bass—along with the piano, timpani, tenor and bass drums and toms, lending to this passage a dark, martial timbre. The tritone and seventh intervals announced by the low brass in the transitional, closing passage of Part Four are repeated throughout this subsection as sharply punctuated notes. The three pitches to which the timpani are tuned—C, F#, and E (026)—echo the tritone and seventh intervals played by the low brass. Likewise, the contrabassoon repeats rising or falling seventh intervals over crescendos; the right hand of the piano uses frequent sevenths and tritones; and the double bass also emphasizes the minor seventh. In terms of pitch content, this subsection is largely dominated by WT1. The rhythmic aspect is invigorated by the tuba's staccato articulation, the Bartók pizzicatos on the double bass, and the asymmetrical accents of the timpani, bass drum and the piano's left hand. The vigorous percussive sound is suddenly interrupted in m. 405–410, as the percussion soloist lays aside tympani and tenor drums and moves to xylophone to reinforce a new, sparser piano

pattern based on leaping septuplet and quintuplet figures featuring numerous minor sevenths and tritones. This middle passage, in a new 4/4 meter, consists of highly contrasting material, including a return to granular textures in the strings and xylophone, and a series of continuous rising leaping figures over crescendos in the winds, xylophone, strings, and piano. These elements are interwoven intricately, creating complex, layered, active textures with an overall ascending thrust. Unlike the insistent, regular metrical motion of the previous subsection's ostinato, this phrase sounds metrically ambiguous, despite the 4/4 meter it employs, as all the instrument groups execute staggered figures arranged as triplets, quintuplets, sextuplets, and septuplets, few of which coincide exactly (Ex. 42).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 42. Chin, *Double Concerto*, mm. 406–410

Along with the granular fragments consisting of repeated short pitches played by the strings and xylophone, all the instruments, except for the horns, use a staccato articulation, lending to this passage a brittle, sharp texture, akin to breaking glass or cracking ice. Single pitches are emphasized by sforzandos and accents, as are the lowest and highest notes of the piano's leaping passages, the accented chords of the harp, and staccatissimo pitches by the piccolo and the E \flat clarinet. These gestures and devices—the single, accented pitches, granular fragments, and the interwoven triplets, quintuplets, sextuplets, and septuplets, all contribute to the urgent, almost frantic character of this passage. Due to the absence of the lower ensemble instruments—contrabassoon, tuba, trombone, and bass drum—the prevailing texture of this passage is that of middle- and high-register sonorities. The high-pitched granular fragments of the piano and strings here recall the high sonority of Part Four (see Ex. 42, above).

After this brief, contrasting episode, the percussive textures and the compound meter of the first subsection return in m. 411. The participation of more instruments here creates a busier, more percussive and intricately layered sonority than that of the opening subsection. The rhythmic relationship between the two hands of the piano in the 5/8 portions of the compound meter (5/8 + 3/16) is offset by a sixteenth-note syncopation in the right hand, creating a composite sixteenth-note rhythm that matches that of the timpani. Chin now demands that the piano ostinato be executed staccatissimo and marcatissimo at a double-forte dynamic, adding to the aggressive and perhaps even brutal affect of this subsection, a perception enhanced by the frequent Bartók pizzicatos in the strings (Ex. 43).

definitively articulated in the dramatic gesture in m. 422 that ends Part Five, in the E \flat -D \flat seventh that begins and ends the double-forte thirteen-tuplet ascent of the brass, followed immediately by a sustained double-forte tritone in the winds on the pitches B5 and F6. The seventh between the C#5 of the trumpet and the sustained tremolo on B5 by the vibraphone (mm. 422–424) again confirms the centrality of this interval as the work enters a transitional passage linking Parts Five and Six (Ex. 44, below). The components of this passage—an ascending thirteen-tuplet in m. 422 (Ex. 44) followed by descending clusters on the piano in mm. 425–428 (Ex. 45)—strongly resemble the one that spanned Parts Four and Five (mm. 392–396), but the passage is expanded here by the inclusion of three measures of a sustained wind chord (026) in between the ascending and descending components, an example of Chin’s organic growth procedures (See mm. 422–430 in Examples 44 and 45).

Handwritten musical score for Example 44, measures 420-424. The score includes parts for Piccolo, Flute, Oboe, Clarinet in E-flat, Bassoon, Horn in F, Trumpet, Trombone, Tuba, Grand Cassa, and Snare Drum. Solo parts for Snare Drum, 3 Tom-Toms, and Piano are also present. The score features various musical notations such as dynamics (cresc., decresc.), articulation (acc.), and performance instructions like 'H. 722' and 'Vib.'. Large handwritten numbers '3', '4', and '6' are visible in the lower staves.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 44. Chin, *Double Concerto*, mm. 420–424, winds, brass, ensemble and solo percussion, piano

Handwritten musical score for Example 45, measures 425-432. The score includes parts for Solo Snare Drum, Vibraphone, and Solo Piano. The score features various musical notations such as dynamics (cresc., decresc.), articulation (acc.), and performance instructions like 'Laca 104', 'Laca 72', and 'Vib.'. Large handwritten numbers '3', '4', and '6' are visible in the lower staves.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 45. Chin, *Double Concerto*, mm. 425–432, solo percussion and piano

Part 6 (mm. 431–531; 12:30–16:11)

Part Six, cast in three subsections, consists largely of material heard previously, including granular textures and the presentation of sharply punctuated pitches. In contrast to the vigorous, loud martial music that concluded Part Five, the first subsection of Part Six (mm. 431–472)—linked to the previous part by a sustained roll on the cymbal—opens with a relatively static texture composed of thin, sparse sonorities and sustained tones. The piano initiates the granular activity; the winds respond quickly in kind. A contrasting sonic binary dialogue emerges between the granular textures and the long, sustained tones of the left hand of the piano, and the vibraphone, instructed by Chin to “let ring” (Examples 45 and 46).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 46. Chin, *Double Concerto*, mm. 433–441

As before, due to the relative absence of discrete melodic movement, the granular fragments and punctuated single pitches allow the timbre of each instrument to be heard clearly. It is as if Chin is presenting these delicate tone colors here (and indeed, throughout *Double Concerto*) for the listener to experience and enjoy purely for the sake of timbre—that is, we enjoy the sound *as sound*, without subjecting it to the expectations of centuries of western music practice in which more emphasis—and, hence, *value*—is placed upon the clear presentation and development of melodies, themes, and harmonies, and timbre is often relegated to a subsidiary, background function.¹¹⁶ If this is true, we can see a clear link in Chin’s approach to the gamelan traditions, and their focus on the vertical, timbral aspects of music.

Subsection 1 (mm. 431–472)

The first subsection of Part Six is comprised of four/five short phrases, in a new meter of 2/4, followed by a complete rest for one bar, as in mm. 434, 438, 448, and 454. In addition to its presentation of repeated granular fragments, the piano also presents sharply punctuated pitches in multiple registers, from the very low to the very high, creating a layered texture that requires three staves to notate. A single low pitch, sustained by pedal, prevails throughout each phrase. A precedent for the juxtaposition of active and static registral layers in the piano is found in Part Three. The granular utterances of the vibraphone of the solo percussionist add yet another layer (Ex. 47, below).

¹¹⁶ One example of this tendency is found in the many “reductions” of orchestral scores for piano, as if the essence of the work existed only in its notated melodic, harmonic, and rhythmic aspects. Granted, many of these editions are created and used for the purposes of study—for which they can be valuable—but they also reflect the secondary role of timbre in western art music. It is difficult, by contrast, to imagine a reduction of *Double Concerto* for piano—or any other instrument—that could convey much of its essential character.

The image shows a page of handwritten musical notation for measures 442-449 of 'Double Concerto' by Unsuk Chin. The score is arranged in a standard orchestral format with multiple staves. The instruments listed on the left are: Picc., Fl., Ob., Klar. in Es, Fag., Hr. in F, Trp., Pos., Tuba, Stein-spiel, Glocken-spiel, Hf., solo Vib., and solo Klav. The notation includes complex rhythmic patterns, dynamic markings (e.g., *mf*, *f*, *pp*), and performance instructions such as 'NO MOTOR' and 'with motor' for the vibraphone. A circled measure number '445' is visible in the center of the page. The bottom of the page contains the title and copyright information.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 47. Double Concerto, mm. 442–449, winds, brass, ensemble percussion, harp, solo percussion, piano

Chin organizes her pitch materials in Part Six by clearly delineating and alternating elements of WT1 and WT2. Other than at the end of the third subsection, in mm. 515–531, pitches from the two collections are not heard simultaneously. The WT2 texture that prevailed at the end of Part Five is carried over to the first subsection of Part Six, beginning with the piano’s

sharply punctuated statement of a low C# (as seen in m. 431 in Ex. 45, above). Single pitches drawn from WT2 dominate the first two short phrases spanning mm. 431–438. However, the third phrase slips quietly into WT1 with a glassy, *sul ponticello* harmonic chord from the string section in mm. 439–440, once again reasserting the central E/B♭ tritone. The string chord initiates WT1 responses from the other instruments (see Ex. 46).

The shift to WT1 is especially obvious in the granular fragments of the wind section, insisting on B♭ for seven bars in mm. 440–446. A sort of “call-and-response” texture ensues as the granular utterances react to one another. The series of short pitches presented by the piano in mm. 442–446, culminating in a triple-forte ascending outburst in m. 447, is all drawn from WT1 (Ex. 47, above). The fourth phrase (mm. 449–454) continues to deploy WT1, whereas the fifth phrase (mm. 455–462) changes shifts suddenly to WT2 via a series of accented pitches by the piano and vibraphone. The first three bars of this passage employ only the piano and vibraphone, clearly presenting the entire collection of WT1 pitches. The solo instruments emphasize the tritone G#/D and minor seventh intervals of F#/E and C/B♭ (0268) by juxtaposing them vertically in mm. 455–456.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 48. Chin, *Double Concerto*, mm. 455–458 solo percussion and piano

Chin's alternation of whole-tone sets continues, with a shift to WT2 initiated by the solo instruments and woodwinds introducing the pitches D#5, C#4, and B4 (013) in m. 458 (Ex. 48, above). The granular utterances of the woodwinds in mm. 459–462 consist of all the pitches of WT2. In this instance, although the music is continuous, the shift from WT1 to WT2 is sudden (Ex. 49, below). Beginning in m. 455, Chin asks the pianist to use the sustain pedal, allowing the pitches of WT1 to blend. In m. 458, just before the onset of pitches from WT2, Chin specifies a quick release of the pedal, to clear the WT1 sonority (Ex. 48). The only holdout from WT1 as the new sonority takes over is the G# in the RH of the piano, which continues until m. 459. The shift between sonorities is also confirmed by the movement from C to C# in the LH of the piano, and its subsequent reiteration as the lowest pitch of the passage (Examples 48 and 49).

The transitional passage (mm. 463–472) in 3/16 meter, following the layered sonority of WT2 pitches produced by the winds' granular music and punctuated pitches by the soloists, is also dominated by WT2, especially the cluster sonority consisting entirely of WT 2 heard in the winds, strings, and piano in mm. 463, and punctuated by the sforzando brass chord in m. 467 (02468). Of particular interest here is the way in which Chin "grows" a new granular texture in the piano, by adding a single pitch to each 32-note fragment until it becomes a massive cluster sonority played by all ten fingers simultaneously. The cluster gesture is frequently accompanied by a crescendo, thus acquiring loudness and mass simultaneously (Ex. 49).

This organic growth procedure is seen throughout Chin’s work, and is apparent in her Piano Etude No.6, “Grains”. D. Yoo describes this technique of aggregate cluster-building as akin to the way in which one begins making a snowman, as “the clusters pile up together like a snowball collecting more snow as it rolls down a hill, eventually using all ten fingers, with some fingers playing two keys at once.”¹¹⁷ Such a procedure, suggests Yoo, is an imitation or evocation of the procedures of granular synthesis, in order to “create a complex sound, with the overlapping of thousands of grains, each at a different frequency”.¹¹⁸



Klavieretude No 6 by Unsuk Chin
 © Copyright by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 50. Chin, Piano Etude No. 6, “Grains,” mm. 87–90, aggregate cluster formation

Subsection 2 (mm. 473–507)

The sustained sul ponticello string tremolos on the pitch A at the end of transitional passage are carried over to the beginning of the second subsection (mm. 473–507), which opens with the pitch A announced strongly by the strings and horns. The first 16 bars (mm. 473–489) of the second subsection employ only three instrumental groups—the soloists, brass choir, and strings, each group consistently presenting without pause. The piano and vibraphone alternate their granular fragments in a dialogic texture, one of the only instances thus far where we encounter the two soloists responding to each other in ways typical of the double concerto genre.

¹¹⁷ D. Yoo, 63.

¹¹⁸ Ibid.

For much of the work, as we have seen, the two instruments seem to be interlocked as components of Chin's "hyper-instrument".

As does the transition that immediately precedes it, the second subsection consists entirely of WT2 pitches, in what becomes a notable prolongation of a single pitch-collection in the work thus far. For the first sixteen bars of the subsection (mm. 473–488), the superimposition of the soloists, brass and strings creates a texture in which movement is subtle and gradual, as the three groups seem to mostly exchange single WT2 pitches back-and-forth. Chin deploys dynamics carefully to create a shimmering aura of non-directional activity here. The granular gestures of the soloists and the string tremolos are shaped with diminuendos at each appearance of new pitches, and the brass textures begin with weak accents on single pitches, subsequently sustained at a softer dynamics (Examples 51 and 52, below).

Crescendos are notably lacking in this section. Such use of dynamics, as well as phrases that lack a clear sense of movement and direction, build a sustained, layered texture in which a sense of development is not apparent. The static yet suspenseful texture consisting of three instrumental groups, and enhanced by the frequent use of tritones and minor sevenths, dominates until m. 488 (See mm. 473–480 in Examples 51 and 52).

Handwritten musical score for Double Concerto by Unsuk Chin, measures 468-475. The score includes parts for Horns (Hr. in F₂), Trumpets (Trp.), Trombones (Pos.), Tuba, Percussion (Schlg.), Harp (Hf.), Solo Percussion (solo Schlg. 6 Herdenglocken), Vibraphone (Vib.), Solo Piano (solo Klav.), Violins (Vl.), and Violas (V.C.). A large handwritten '3/6' and '4/8' are written over the middle of the score. Various performance instructions and dynamics are present throughout the staves.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 51. Chin, *Double Concerto*, mm. 468–475, brass, solo percussion, piano, strings

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.

Reprinted by permission of Boosey & Hawkes, Inc.

Example 52. Chin, *Double Concerto*, mm. 476–480, brass, solo percussion, piano, strings

The soloist’s granular layers are supported by the sustained layers of the brass choir, and by the agitated string tremolos doubled at the unison (Ex. 52). We observe responsive relationships and interactions between the soloists and the brass choir, the latter suggesting pitches taken up subsequently by the former as “grains”. The strings imitate or mirror the

descending clusters and ascending gestures of the soloists, as in mm. 480, 483, 485, 486, 488, in another instance of how the instruments of the ensemble pick up on, develop, or, in the composer's terms, "shadow" the ideas or germs presented by the soloists (Examples 52 and 53).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 53. Chin, *Double Concerto*, mm. 481–485, solo percussion, piano, strings

A change in this texture is initiated by the ascending scalar gesture by the winds in mm. 489–490, a gesture that echoes and expands upon the previous rising gestures of the soloists. The pitch D# is singled out for emphasis here, both as a sustained pitch component of the wind gesture and as a sforzando punctuated pitch by the piano, in a premonition of its significance in the material that follows. The layered texture now expands to include the winds and sharply punctuated pitches by the piano in its high and low registers. The piano's gesture in mm. 489–490 briefly juxtaposes static and active layers, and emphasizes F and C# as its terminal pitches, as well as the D# alluded to above (Ex. 54).

Handwritten musical score for measures 486-490 of 'Double Concerto' by Unsuk Chin. The score is divided into two systems. The first system includes Flutes (Fl.), Oboe (Ob.), Clarinet in B (Klar. in B), Bassoon (Fag.), Horns in F (Hr. in F), Trumpets (Trp.), Percussion (Pos.), and Tuba. The second system includes Vibraphone (Vib.), Solo Piano (Solo Klav.), Violins (Vl.), Brass (Bra.), Violas (V.C.), and Double Basses (K.B.). The score is heavily annotated with performance markings such as 'arco legato', 'mf', 'f', 'p', 'sol. part.', 'ord.', and 'f-sub2'. A measure number 'm.489' is clearly visible in both systems.

Double Concerto by Unsuk Chin
 © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 54. Chin, *Double Concerto*, mm. 486–490, winds, brass, solo percussion, piano, strings

The coupled wind and piano gesture induces a progressive thickening of sonority and layered texture, as other instruments, including tuba, double bass, harp, four metal blocks, tambourine, and two timbales, now join the fray, appear, and build to what appears to be the first climax of the concerto in m. 505. Granular textures return, but in a more complex form, as they now feature added pitches and leaping intervals, in contrast to the previous insistence on the reiteration of single pitches. This is especially obvious in the piano, wherein granular textures combine with the expanding cluster gesture, and in the solo percussion, whose granular gestures now encompass many added pitches, and now, added instruments, as the cowbells become part of the granular gesture previously executed on the vibraphone. Compared to the opening sixteen bars of this subsection, marked by a suspenseful stasis, the passage spanning mm. 489–505 is significantly more active, and a sense of purposeful movement returns (See examples 54, 55, and 56).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 55. Chin, *Double Concerto*, mm. 499–502

Handwritten musical score for 'Double Concerto' by Unsuk Chin, measures 503-506. The score includes staves for various instruments: Flutes (Fl.), Oboe (Ob.), Clarinet in B (Klar. in B), Bassoon (Fag.), Horns in F (Hr. in F), Trumpet (Trp.), Trombone (Pos.), Tuba, 4 Metal Blocks (4 Metallblöcke), 2 Timbales (2 Timbales), Harp (Hf.), solo strings (solo Str.), solo piano (solo Klav.), Violins (Vl.), Viola (Vla.), Violoncello (V.C.), and Double Bass (K.B.). The score is densely written with notes, rests, and dynamic markings such as 'mf', 'f', 'cresc.', and 'sul tasto'. A circled measure number '503' is visible in the middle of the page.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 56. Chin, *Double Concerto*, mm. 503–506

Similar to the modifications to the granular gestures of the piano and percussion described above, the granular gestures of the winds do not always repeat the same pitches, frequently changing directions, and also present ascending and descending scalar movement. The brass texture is familiar, resembling textures seen previously in the brass and the winds, but now includes increased leaping motions, along with sustained pitches. The trumpet's pitches emerge strongly from this matrix, groping towards what sounds like a discrete melodic statement or solo line, one of few encountered in this work so far. The WT2 melody presents the important set of (0268):



Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

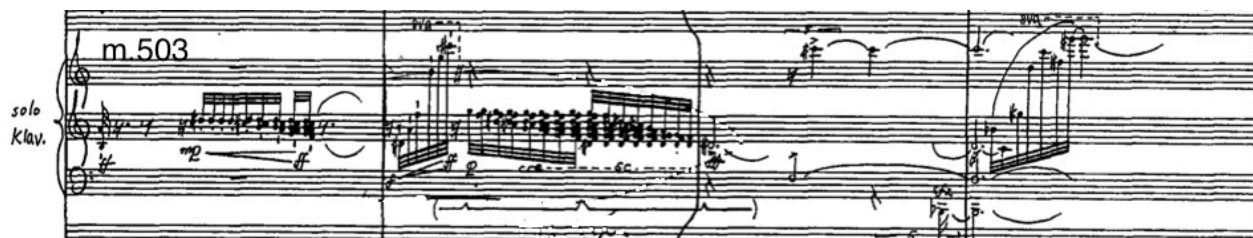
Example 57. Chin, *Double Concerto*, mm. 503–505, trumpet

The solo instruments resume their dialogic interchanges, now featuring many leaps and repeated clusters, along with repeated single pitches. The sustained tremolos of the strings continue, with the addition of ascending/descending scalar gestures and glissandos. Contrasting the prevalent diminuendo dynamics of the previous passage, all the instruments now feature repeated crescendos and diminuendos, increasing the sense of motion and activity as the concerto moves towards its first climax in mm. 504–505 (Ex. 56, above). The continuous crescendos and diminuendos on single pitches by the tuba and double bass, beginning with the pitch F in m. 489, expand the lower register, with the swelling and receding again resembling the continuously modulated textures characteristic of electroacoustic music (See Ex. 54, above).

The first flute includes frequent ascending gestures, now inextricably woven into its granular activity, contributing to the sensation of movement towards a climactic moment. The terminal pitches of these gestures act to expand the upper limits of the registral spectrum. This development, coupled with the low pitches of the tuba and contrabass, creates the widest

tessitura encountered thus far. In a work largely defined by timbre and sound mass, this expansion of tessitura becomes an important component of the criteria by which we may reckon the attainment of a “climax”, an operation problematized by the relative absence of distinct melodic statements and grand gestures by the soloists. If Chin’s intention with the work was indeed to create a “hyper-instrument” defined by sonic mass and fusion, then perhaps we should seek the climax (or climaxes) of the work in those moments when all the components of this machine are operative, the sonorities are at their most massive, and the rate of movement is at its peak.

Contributing to the thickening, expansion, and acceleration of this process is way in which the piano progressively expands its register, presenting more higher and lower pitches, and thickening its texture by the inclusion of more clusters as the passage proceeds. This expansion culminates in the gesture by the piano in mm. 504–505, in which we encounter the longest and thickest granular utterance by the piano thus far, which begins with a single pitch and grows into a nine-note cluster culminating with a triple-forte declaration of D#.



Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 58. Chin, *Double Concerto*, mm. 503–506, piano

After stressing D#4 in m.505, the piano announces a series of successive punctuated pitches in multiple layers, juxtaposing D#4 and F3 in the middle, C#6 in the top and B♭1 in the bottom layers (0148)—with the exception of B♭1, the same pitches (015) that began this episode in m. 489. Along with their presence in the piano’s static layers, the brass emphasize these same

itches with a pulsing crescendo and diminuendo effect, creating a brief moment of repose, as if the music was pausing to “catch its breath” (see mm. 505–506 in Ex. 56, above).¹¹⁹

Although the F is held over in the trombone in mm. 505–506, and by the bassoon in mm. 506–506, B \flat emerges strongly at the bottom of the texture in the piano, contrabass, and tuba, signaling a shift back to a WT1 texture, confirmed by the ascending gesture in m. 506, consisting entirely of WT1 pitches functioning as an active layer within an otherwise static texture that offers a brief repose (Ex. 56).

Subsection 3 (mm. 508–531)

A stepwise, two-bar descending gesture by the brass (mm. 508–509)—consisting of only WT1 pitches—initiates further granular activity centered on F# in m. 510. The last subsection (mm. 508–531) of Part Six is characterized by busy, layered textures in which central constituent elements reappear in a metamorphosed form. Instead of sustaining unadorned single pitches, the brasses now present sustained tremolos. The piano combines material used in the previous subsections, juxtaposing punctuated pitches in tripartite layers and busy granular textures expanded by leaping chords and clusters. The percussion soloist’s cowbell part becomes much more active than it was in the second subsection, with the vibraphone and cowbells repeating 32nd-note granular phrases followed by a brief rest, overlapping the piano’s active, busy granular repetition in a dialogic manner. The increased activity of the two soloists recalls the frenetic character of the ostinatos heard previously. The strings present a staccato version of the crossing/glissando gesture, now fused with the granular gesture to create a sort of hybrid texture, as well as reprising the tremolos heard in the previous subsections of Part Six (Examples 59, 60).

¹¹⁹ An apt, anonymous comment appearing in the copy of the score I obtained for study. The idea of “repose” is mentioned by Rhie.

1
Fl.
2
Ob.
Klar.
in B
Trp.
1
Hr.
in F
2
Trp.
Pos.
Tuba
4 Metall-
blöcke
2 Timbals
Hf.
solo Schlag-
6 Handen-
glocken
Vib.
solo Klav.
1
Vl.
2
Bra.
1
V.C.
2
k.B.

cuirrés
cuirrés
secco
Wachstums
Harp: seccas klingen lassen.
CH04 ff
3 96-100 3 16
ca. 60-66 (ca. 120-132)
Klavier: Adal in nach Bedarf. Töne in die Hände legen und mittlere Lage klingen lassen.
sul G sul part.
sul G
acc.
sul D

510

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 59. Chin, *Double Concerto*, mm. 507–511

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 60. Chin, *Double Concerto*, mm. 512–515

Certain sonorities and gestures stand out from the busy, dense texture and blended sonorities of this final subsection. For example, the piano's punctuated pitches in multiple layers create contrasting sonorities in its high, middle, and low registers supported and enhanced by the instruments of the ensemble. The piano's punctuated high register pitches in its upper layer blend with the pitches sustained by the first flute (G#6 in mm. 514–515, C#7 in m. 522—Examples 60 and 62), while its low register pitches in the bottom layer are supported by the bass instruments, such as the bassoon, tuba and double bass (C2 in tuba and double bass in m. 510, C2 in m. 515 in bassoon, tuba, second cello, and bass, A2 in m. 521, etc.—Examples 59, 60, 62). The first flute performs crescendos at the top of its range, as in mm. 516 and 520, and the harpist executes a glissando on the fingernail in mm. 516–517, also on a crescendo. Such gestures cut through the dense texture clearly, as do the metallic percussions used here (Ex. 61).

The image shows two systems of musical notation. The top system is for Flute 1 (Fl. 1) and Flute 2 (Fl. 2), with the measure number 'm.516' written above the first staff. The bottom system includes parts for Stein-spiel, Gluck-spiel, and Harp (HP), also starting at 'm.516'. The harp part has a 'do#G4' marking. The notation is dense with many notes, some with dynamic markings like 'p' and 'f', and some with articulation marks like 'acc' and 'stacc'.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 61. Chin, *Double Concerto*, mm. 516–519, flutes, ensemble percussion, harp

As seen in previous subsections, the sound of the trumpet here is emphasized by its presentation of short single pitches or phrases in a brass texture largely dominated by tremolos. In mm. 521–524, the trumpet again presents what sounds like a solo melody (this one more conjunct and continuous than the one discussed above)—one of very few such outright melodic statements we encounter in this piece, recalling the soloistic phrase by the piano at the end of Part Three (mm. 301–307).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 62. Chin, *Double Concerto*, mm. 520–523

Owing to its timbre, register, and dynamic level, the trumpet melody cuts easily through the dense, layered texture (Ex. 62, above).

Imitative cause-and-effect—or “attack and reaction”, as Rhie describes them—exchanges between the soloists and instrumental groups are abundant in the final subsection of Part Six. For example, in mm. 513–514, the piano’s sharply punctuated pitch G# in the top layer inspires a reaction from the first violin in the form of its granular repetition of G#, executed *col legno battuto*, a response that in turn is echoed by the first flute’s sustained G# (Ex. 60, above). In mm. 516–518, the vibraphone’s repeated D# and piano’s punctuated pitch F in the top provoke reactions from other instruments, including the repeated fingernail glissandos from F and D# on the harp (mm. 516–517), the glissando from F by the violins and viola (Ex. 61, above). The rate of these reactive cause-and-effect episodes increases towards the end of the last subsection.

In terms of pitch content, the opening WT1 texture continues for eight bars until m. 515, but the next three bars (mm. 516–519,) are mostly dominated by WT2 after the vibraphone announces a *sforzando* D# in m. 516. However, from m. 520 on, WT1 reasserts itself, even as WT2 continues, creating a mixed, chromatic sonority resulting from the simultaneous activity of both scales, a sonority that prevails until the end of the subsection. The trumpet distinctive solo melody described above also consists principally of pitches drawn from WT2—C#, D#, G, A, and B (02468)—but the important E/B \flat tritone from WT1 appears here as a melodic leap, one of a number of prominent tritone and minor seventh intervals in this melody. The pitch A1 in the bottom layer sounded by the tuba, harp, piano, and the double bass supports the melody, sustaining until the appearance of the E/B \flat tritone in m. 523, creating a minor seventh with the G that initiates the trumpet solo (Ex. 62, above).

With regard to its pitch content, this trumpet solo exhibits similarities to the melody presented by the left hand of the piano at the end of Part Three. Like the trumpet melody, the piano melody (mm. 301–307) uses seven pitches drawn from both WT1 and WT2. The origin of the constituent pitches in the two melodies is reversed—the piano melody consists of five pitches from WT1, and two from WT2, while the trumpet melody consists of five pitches from WT2 and two from WT1. Both melodies feature the E/B \flat tritone and feature minor-seventh melodic intervals.

The image displays three staves of musical notation. The top staff is for the trumpet (Trp.), showing a melodic line with various dynamics (p, mf, f) and articulation marks. The middle staff is for the piano solo (solo Klav.), featuring a complex texture with many notes and dynamic markings like 'cresc.' and 'desc.'. The bottom staff is another piano solo part (solo Klav.), showing a more sparse melodic line with dynamic markings like 'mf'.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 63. Chin, *Double Concerto*, two solo melodies reduced

The E/B \flat tritone sounded by the trumpet progresses chromatically to B-natural in m. 524 (see the trumpet melody in Ex. 63), an event that is followed by an acceleration in the rate of cause-and-effect reactions amongst the various instrument groups that prevails until the end of Part Six, taking the form of descending gestures by all the instrumental groups and piano's descending clusters. In mm. 524–525, the vibraphone joins in the descending gesture initiated by the strings, reacting to the piano's series of punctuated pitches. The punctuated pitches also elicit reactions from the first flute, lithophone, horn, harp, and oboe.

Following its last punctuated pitch G7 in its top layer (m. 525), the top and bottom layers of the piano feature a granular repetition expanded by a cluster descent in what clearly is an organic growth process. The piano repeats the single pitch G7 in the right hand and G#2 in the left, gradually adding each note of the WT2 to the RH gesture and each note of WT1 to the left, creating 6-note aggregates of WT2 and WT1 in each hand culminating in a massive twelve-pitch cluster in m. 526. Following the presentation of this simultaneity, the piano executes successive rolled cluster gestures in the middle layer, alternating WT1 pitches in the left hand followed by WT2 in the right hand. Chin changes the piano texture notably by sandwiching the cluster sonority in the middle layer, between the granular/cluster hybrid gestures appearing in the top and bottom layers, instead of using punctuated, sustained single pitches in the top and bottom layers and an actively moving granular texture in the middle layer, as she has done previously.

The image displays two systems of handwritten musical notation. The first system, labeled with a circled '525' at the top, shows the solo vibraphone (Vib.) and solo piano (Klav.) parts for measures 524-526. The vibraphone part includes a 'cresc.' marking and a 'p' dynamic. The piano part features a 'solo Klav.' marking and a 'p' dynamic. The second system, labeled with a circled '530' at the top, shows the vibraphone (Vib.) and solo piano (Klav.) parts for measures 527-531. The vibraphone part includes a 'p' dynamic and a 'cresc.' marking. The piano part includes a 'solo Klav.' marking and a 'p' dynamic. The score is written on multiple staves with various musical notations, including notes, rests, dynamics, and performance instructions.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 64. Chin, *Double Concerto*, mm. 524–531, solo percussion and piano

The descending clusters of the piano generate diverse reactions from other instruments, including the brass in four layers, and by the strings in six layers, both of which respond with WT2 pitches. The piano continues with its “growing cluster” gestures, supported by the vibraphone and the winds, provoking cause-and-effect relations that endure until the last bar of this subsection in m. 531, culminating in the densest, largest, and loudest sonorities generated by the piano of the work. The penultimate piano gesture begins (m. 529) and ends (m. 530) with granular utterances framing a growing and receding cluster structure, terminating in the pitches C and B. After the “second climax” is reached in mm. 530–531, there is nothing left but the eventual dissipation of the accumulated energy and sonic mass that characterizes the concluding part. A final interruptive outburst from the piano begins on B and descends to the C in m. 532 that opens Part Seven (Ex. 65, below).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 65. Chin, *Double Concerto*, mm. 528–531

Part 7 (mm. 532–612; 16:12–20:35)

Serving as the conclusion of *Double Concerto*, Part Seven consists of three subsections: transition (mm. 532–540), recapitulation (mm. 541–576), and coda (mm. 577–612).

Transition (mm. 532–540)

Following the descending piano passage of the piano that concludes Part Six—terminating on C in m. 532—the entire ensemble with the exception of the brass explores a new, “pointillistic” texture consisting of pitches sounded in isolation at irregular intervals, creating a new timbre that Rhie describes aptly as constituting a “a distant relation to the granular music, but in a form of distilled memory,”¹²⁰ an effect enhanced by the *col legno battuto* articulation of the strings. This nine-bar transitional passage clearly contrasts the previous part. The thick cluster sonorities comprising the intense climaxes of Part Six, combining WT1 and WT2, break up here into pointillistic single pitches drawn only from WT1 at a quieter dynamic. This dissolution of energy presages the character of the entire conclusion, which is essentially that of dissipation (Ex. 66, below).

¹²⁰ Rhie, 105.

(N) \downarrow ca. 80 (\downarrow ca. 40)

1 Fl.
2 Fl.

Ob.

Klar. in B
Fag.

1 Hr. in F₂

Trp.

Pos.

Tuba

2 Tempelblöcke

Hr. $D^{\#} G^{\#}$ *secco*

Xyl. *Xyl: mit hart. u. locker. Schlägel*

solo Klav. \downarrow ca. 80 (\downarrow ca. 40)

1 Vl. *col legno* *arco*

2 Vl. *col legno* *arco*

1 Bra. *col legno*

2 Bra. *col legno*

1 V.C. *col legno*

2 V.C. *col legno*

1 K.B. *pizz.*

2 K.B. *pizz.*

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 66. Chin, *Double Concerto*, mm. 532–534

Recapitulation (mm. 541–576)

The dynamic level of the pointillistic transition diminishes toward the end of the passage, as the winds disappear gradually, the piano employs *una corda*, and the strings execute a *decrescendo* from *forte* to *pianississimo*. During this gradual dissipation, the first flute announces a sustained, single B \flat 4 pitch with a *sforzando* in m. 539, signaling the beginning of the recapitulation in m. 541. The second flute and clarinet join the first flute's sustained B \flat 4, creating a sustained tritone interval of F4 and B3, as the piano suddenly begins a version of the opening ostinato pattern in 3/4 meter, strongly recalling the beginning of the concerto. As Chin typically varies recurring material upon its return, the beginning of the recapitulation (mm. 541–546) is comprised only of the piano ostinato pattern, supported by the sustained wind chords, creating a more diffuse, transparent texture and relaxed energy than that of the combined piano/percussion ostinato of Part One (Examples 67 and 68).

Handwritten musical score for Double Concerto by Unsuk Chin, measures 539-543. The score includes parts for Flute 1 & 2, Oboe, Clarinet in B, Bassoon, Horns in F, Trumpet, Trombone, Tuba, Percussion (2 Tom-tom blocks, Maracas, Xylophone), Solo Clarinet, Violins 1 & 2, Brass (Trumpets, Trombones, Baritone, Basses), and Cymbals. The score features dynamic markings like *p*, *pp*, and *cresc.*, and performance instructions such as "Luftgeräusch mit Tonanteil" and "sempre una corda". A large handwritten "3" is present on the right side of the page.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 67. Chin, *Double Concerto*, mm. 539–543 (© Boosey & Hawkes, 2002)

The “distilled memory” effect of which Rhie speaks is enhanced by the use of the *sempre una corda* effect on the piano, and a tempo somewhat slower than that of the introduction. In the first six bars of the recap, the piano presents WT2 pitches in the right hand and WT1 pitches in the left, the same technique of pitch separation deployed in the expanding cluster gesture of the second climax in Part Six. Along with the tritone interval sustained by the winds, the piano ostinato features frequent melodic tritone leaps in both hands, beginning with rising tritone intervals (F4, B4) in the right hand and (B♭3, E4) in the left, as in m. 541 (Ex. 67, above).

As in Part One, the six-bar piano ostinato is interrupted here by an ascending five-note gesture in 3/16 meter in m. 547, which differs from the crossing gesture of Part One in that it lacks a corresponding descending aspect. F#1 begins the interruptive gesture definitively from the low register with a *sforzando*, and sustains via the pedal for several bars, reopening the bottom layer of the piano ostinato. The trombone sustains F#2 as the ostinato begins, forming a tritone with the C4 sounded by the trumpet. As a member of the set of interlocking tritones (0268) that has appeared profusely throughout the work, the pitch F# plays an important role in the work’s conclusion. Indeed, it is the concluding pitch of *Double Concerto*. We note that the melodic leaps constituting the new interruptive gesture consist only of WT1 pitches, positioned to create three successive melodic tritones. These are supported by a C and F# tritone sustained by the trumpet and trombone, foreshadowing an incipient change of pitch content from a combined WT1/WT2 texture in both hands of the piano to exclusively WT1. Due to the *una corda* pedal effect, the unprepared E pitch that emerged clearly in the opening piano ostinato, where it acquired a quasi-tonic function—or, at least, occupied a position of tonic centrality—here is somewhat subdued and distant in the texture (Ex. 68, above).

When the piano ostinato resumes in m. 548, the solo percussionist—conspicuously absent from the beginning of the recapitulation—finally reappears, using only the cencerros to play a sort of sparse counterpoint to the piano’s quintuplet ostinato instead of the busy, interlocked part executed on the vibraphone and cowbells during the opening ostinato. Both solo parts employ only WT1 pitches, hearkening back to the composite WT1 ostinato of Part Two. The septuplet ostinato of the solo percussionist features melodic leaps in a slower rhythm, similar to the winds’ gesture (Ex. 68).

The sustained harmonics on C and B \flat in the low strings beginning in m. 548 add to the overall richness of the timbre (Ex. 68, above). Heard with the sustained pitch F \sharp of the trombone, the composite sustained sonority emphasizes harmonic minor-seventh and tritone intervals drawn from WT1. Similar to the mechanics of Part One, ostinato phrases here are discontinued by interruptive gestures five times, and other instruments gradually join to create a progressively richer, more complex texture, as they have frequently done throughout the concerto. The opening up of the bottom layer in the low register of the piano during the third ostinato phrase (mm. 555–559) creates a distinctive, shimmering layered piano texture comprised of three pitches drawn from WT1 [F \sharp , B \flat , G \sharp] (024). The soft and distant sonority thus arising, supported by Javanese gongs played by the ensemble percussionist, contributes to the sensation of diffused or distilled memory (Ex. 69, below).

1 Fl. 1
2 Fl. 2
Ob.
Klar. in B
K. f.

1 Hr. in F
2
Trp.
Pos.
Tuba

Javans Gong
Hf.

555
Solo Schlag.
Concernas

Solo Klav.

1 VI.
2
1 Bra.
2
1 V.C.
2
K.B.

arco sul ponticello
arco sul ponticello
sub mp
sub mp
sub mp
cresc.
poco a poco
poco a poco
cresc.
cresc.
cresc.
cresc.

Rhythmus weiter in 7/4

Javans Gong: sehr weich und nur andeutend spielen. Dies klingen lassen.

van Corda
BRASS

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 69. Chin, *Double Concerto*, mm. 555–559

Beginning in m. 562, the upper strings enter in succession, initiating a continuous tremolo harmonic glissando effect that Chin indicates be executed very lightly and without precise pitch definition (*andeutend*), using a very rapid tremolo. The F# in the bottom layer that the piano has been emphasizing proceeds to F in m. 563, shifting the WT1 sonority into the blended sound of WT1 and WT2. The overall timbre here resembles a shimmering sound cloud whose constituent components are in constant motion and blending one with the other (Ex. 70, below). The dynamic level of the collective ensemble increases to a peak in m. 568, and declines gradually until m. 572 (Examples 71 and 72). The piano executes a version of the original crossing glissando interruptive gesture in m. 568. Unlike the opening ostinato, however, the solo percussionist does not participate in the gesture (Ex. 71). When solo percussion resumes in the following bar, it performs a new, highly chromatic ascending septuplet gesture on the cencerros over the piano ostinato (mm. 569–572). The solo percussionist is tasked with executing the ascent in pitch over a decrescendo, as do the upper strings, whose rising and falling tremolo glissando texture shifts definitively to an ascent, supporting the solo percussionist. The winds here also present a new color, with a flutter-tongued chord on the important pitches C, E, F#, and B \flat (0268), the two sets of interlocking tritones Chin has deployed so frequently in the work. The low strings reinforce these pitches in their drone texture in the bottom layer (Ex. 72, below).

Having reached the apogee of its ascent, disappearing into an almost inaudible high register, the solo percussion breaks off, leaving the piano to carry on with the ostinato alone for another three bars over a crescendo (see mm. 573–575 in Examples 72 and 73). The brass section and the upper strings, as well, have ceased, leaving this somewhat ghostly, understated last utterance of the ostinato supported only by the drone of the low strings and a new running passage comprised of various groupings of sixteenth-notes, quintuplets, sextuplets, and

septuplets. The pitch content gravitates from the combined WT1/WT2 mixture to a pure WT1 (Examples 72 and 73).

Following an interruptive gesture in m. 576 that combines the crossing glissando and cluster descent gesture, the busy forward motion of the piano and strings in crescendo finally collapses into a sforzando utterance of the single pitch F#4 in m. 577 by the piano, second flute, oboe, first violin and solo percussionist, whose conspicuous absence is ended with a dramatic, loud strike on the tubular bells. This gesture testifies once more to the centrality of F# to the concluding movement, as does its constant reiteration throughout the recapitulation in the bottom layer of the piano ostinato (Ex. 73).

560

Fl. 1
Fl. 2
Ob.
Klar. in B
K.B.

Hr. in F 1
Hr. in F 2
Trp.
Pos.
Tuba

Javan. Gong
Hr.

Solo Flüg. Cembalos

solo Klav.

Vi. 1
Vi. 2

Bra. 1
Bra. 2

V.C. 1
V.C. 2
K.B.

Handwritten annotations in German:
 - "cresc. anbläsen. Auch mit vor mir viel Luft anblasen"
 - "Hr. Trp. Pos: Ab dem Takte 561 spielt mit dem eingesetzten Horn anblasen."
 - "Rhythmus weiter in F#d"
 - "tre Corda BBass"
 - "sul G"
 - "arco sul D"
 - "sul G arco"
 - "R.V. & Bra. Feinspielchen schnell sehr klein und nur andeutend spielen"
 - "tre Corda BBass"
 - "sul G"
 - "sul G arco"
 - "sul G arco"

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 70. Chin, *Double Concerto*, mm. 560–564

1 Fl. 1
2 Fl. 1
Ob.
Klar. in B
K. B.

1 Hr. in F2
2 Hr. in F2
Trp.
Pos.
Tuba

Javans. Gong
Hf.

(565)
Solo Sax.
Cencerros

Solo Klar.
Bassoon (Cura Curula)

1 Vl.
2 Vl.
1 Bra.
2 Bra.
1 V.C.
2 V.C.
K.B.

Flutters.
Flutters.
Flutters.
Flutters.

*Hr. Trp. without pitch
Bassoon
Trombone
decresc.
decresc.
decresc.
decresc.

Tam-Tam

una corda

cresc.
decresc.
cresc.
decresc.
cresc.
decresc.
cresc.
decresc.
cresc.
decresc.
cresc.
decresc.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 71. Chin, *Double Concerto*, mm. 565–569

570 *immer mehr Geräuschhaft.* *Nur Geräusch* *mehr Tonanteil.*

Fl. 1 *de- cre- sc.* *pp* *cre- sc.* *pp*

Fl. 2 *de- cre- sc.* *pp* *cre- sc.* *pp*

Ob. *de- cre- sc.* *pp* *cre- sc.* *pp*

Klar. in B *de- cre- sc.* *pp* *cre- sc.* *pp*

K.Fg. *de- cre- sc.* *pp* *cre- sc.* *pp*

Hr. in F *(decresc.)* *pp*

Trp. *(decresc.)* *pp*

Pos. *(decresc.)* *pp*

Tuba *(decresc.)* *pp*

5 Ten-T. *Metallbesen (H.)* *pp* *Metallbesen (G.)* *pp*

Hf. *(decresc.)* *pp*

570 *Röhrglocken T.W. bello*

sol. Schlag. *de- cre- sc.* *pp* *cre- sc.* *pp*

Cencerros *(p)* *de- cre- sc.* *pp* *cre- sc.* *pp*

solo Klav. *de- cre- sc.* *pp* *cre- sc.* *pp* *una corda*

Vi. 1 *crec.* *mp* *decrec.* *pp*

Vi. 2 *crec.* *mp* *decrec.* *pp*

Bra. 1 *crec.* *mp* *decrec.* *pp*

Bra. 2 *crec.* *mp* *decrec.* *pp*

V.C. 1 *de- cre- sc.* *pp* *cre- sc.* *pp* *cre- sc.* *pp*

V.C. 2 *de- cre- sc.* *pp* *cre- sc.* *pp* *cre- sc.* *pp*

K.B. *de- cre- sc.* *pp* *cre- sc.* *pp* *cre- sc.* *pp*

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 72. Chin, *Double Concerto*, mm. 570–574

Fl. 1
 Fl. 2
 Ob.
 Klar. in B
 K. B.
 Hr. in F₂
 Trp.
 Pos.
 Tuba
 3 Ten-T.
 Hf.
 solo Schlg. Röhren-glocken
 solo Klar.
 V. I.
 Bra.
 V. C.
 K. B.

Nur von oben herab
abse Herab
mira in Aleff. in G
gliss
tamed - mite sound
nachbildung sofort stoppen
Seelenspiel
scena klingen lassen
ca 84-88
hard hammer - kumpen atter
mitte
mitte hart, Hammer nach dem Anschlag sofort dämpfen
Vib.
mitte weich, Schlegel mitte weicher, Nachschlag mit Finger dämpfen
una corda
bre corda
** Streicher: glissandi: Die nächsten Zwickelstufenhöhen dürfen ungenau sein, wenn bewegten. Die letzte Taste nicht lange halten sondern sofort loslassen.*
Die nächste halbe Note vorher erst anschauen & markieren. Don't hold it
ard.
sub E
sul tasto
sul G
sul tasto

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 73. Chin, *Double Concerto*, mm. 575-579

Coda (mm. 577–612)

The sharply punctuated pitch F#4 in m. 577 announces the beginning of the coda, the first section of which is in a 6/4 meter (Ex. 73, above). At this point, the accumulated energy and sound mass of the piece begins to ebb away definitively in a sort of deflation that could be likened to air seeping out of a balloon, or, to employ an metaphor in keeping with the many organic processes Chin has utilized throughout the work, it sounds as if the life force of the organism is diminishing. This is nowhere more apparent than in the continuous descending glissando of the entire wind and string sections, an effect achieved by having one instrument perform a descent over a diminuendo, with another string glissando beginning a descent as the previous one reaches the terminal pitch of its descent.

The image shows a musical score for strings, measures 586-591. The score is written for Violins (VI.), Brass (Bra.), Viola (V.C.), and K. B. (K. B.). The music features continuous descending glissandos in the Violins, Brass, and K. B. parts, and a descending glissando in the Viola part. The score is marked with dynamics such as *ord.*, *mp*, and *pp*, and includes performance instructions like *gliss.* and *ord. capo*. The measures are numbered 586, 587, 588, 589, 590, and 591.

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 74. Chin, *Double Concerto*, mm. 586–591, strings

After the dramatic bell strike that began the coda, the solo percussionist takes up the vibraphone with instructions to dampen the sound with the finger. All twelve chromatic pitches are presented one by one by the solo instruments, harp and ensemble percussionist. The sustained sound of these pitches is enhanced by the use of lithophone, Javanese gong, and glockenspiel. The starting pitch of the instruments beginning a descending glissando can often be seen to have

a relationship to a single pitch sounded just prior, in another application of the “attack/reaction” compositional device that Chin has frequently employed in the work. In this scenario, the articulation of the single pitch can be understood as the initial attack, and the sustained glissando pitches as the reaction.

Notably, Chin carefully organizes the pitch material here by presenting all the pitches of each whole-tone collection in alternation. The alternation is as follows: WT1 (mm. 577–580); WT2 (mm. 580–583); WT1 (mm. 583–587); WT2 (mm. 587–590); WT1 (mm. 590–592); WT2 (mm. 593–595), and WT1 (mm. 596–599). Also, as she has done so consistently throughout the work, the melodic leaps here consist of frequent tritone and minor seventh intervals. For example, at the opening of the coda in m. 577 (Ex. 73, above), the WT1 pitches [F#, E, B♭, C, D, G#] (02468) are presented successively by the piano, beginning with an upward leap of a minor seventh (F# and E), proceeding to a tritone (E and B♭), leaping down a minor seventh to C (B♭ and C), again leaping down by a minor seventh to D (C and D), and ending finally with the tritone interval (D and G#). During this sequential presentation, the piano also gradually expands its registral expanse by moving into lower and higher registers, creating stark timbral contrast and spaciousness between the pitches occupying the high, middle, and low strata. We note as well the very clear presentation of the central set (0268) in its original form—E, B♭, C, F#—by the piano in both the horizontal and vertical dimensions in mm. 577–579, a clear gesture of recapitulation and confirmation of this collection’s structural importance.

Fl.
Allegro in G
Ob.
Klar. in B
K. fg.
Hr. in B
Trp.
Pos.
Tuba
Stein-spiel
Glocken-spiel
Hf.
solo Schlg. harp. scherz. Sublegel
Vib.
solo Klav.
VI. 1
VI. 2
Bra. 1
Bra. 2
V.C. 1
V.C. 2
K.B.

Allegro
muca in Gc Fl
muca in Fg
Javans Gong
Tan-Tan
Sul G

595

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
Reprinted by permission of Boosey & Hawkes, Inc.

Example 75. Chin, *Double Concerto*, mm. 592–597

The sensation of deflation and dissipation created by the continuously descending glissandos and the irregular rhythm of the presentation of single pitches creates the impression that the concerto will expire imminently and quietly. However, from m. 590, the dying or deflating sonority/texture slowly and gradually seems to regain energy, due to the acceleration of the glissandos in the winds and strings, a growing dynamic level, and the reappearance of the brass section. In mm. 594–595, the trumpet emerges with an emphatic, solitary declaration of the pitch A5, a sharply punctuated sonority that stands out clearly (See Ex. 75, above).

The final presentation of all twelve pitches in mm. 593–599 (WT2 in mm. 593–595 and WT1 in mm. 596–599) features tritone intervals between successive pitches: WT2 (F, B), (C#, G), (A, D#) and WT1 (G#, D), (F#, C), (E, B♭). The final statement of the central E/B♭ tritone is emphasized both by its position at the end of the presentation, and by the loud dynamic.

This last pronouncement of B♭ inspires the wind section to a frenetic explosion of activity (mm. 599–604) based upon the crossing glissando gesture in the new meter of 3/4, creating a starkly different texture than that of the previous glissando texture, which has ceased abruptly. The strings perform their own version of the crossing glissando gesture that mirrors that of the winds. The flutter-tonguing and the tremolo glissandos by the strings create a sense of extreme agitation, as does the crescendo by all members of the ensemble, culminating in a massive tutti quadruple-forte blast on the second beat of m. 600. The piano executes three rapid cluster chords, creating a thick combined WT1/WT2 sonority recalling the clusters of Part Six (Ex. 76, below).

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 76. Chin, *Double Concerto*, mm. 598–601, winds

Following the outburst of m. 600, the winds alone carry on with a descending *decrecendo* gesture terminating in quite, flutter-tongued tremolos terminating on the pitch F#, the pitch that began the coda, and will be the final pitch of the work. Before the wind tremolos have subsided, the piano and vibraphone reinforce that pitch with a quick reprise of the granular textures and the growing cluster gesture. The piano’s sharply punctuated cluster, in tandem with a strongly articulated, triple-forte B by the vibraphone’s B in m. 606, provokes a final series of glassy, *sul ponticello* string glissandos in six layers, starting from each three successive pitches of WT1 [B \flat , G#, F#] and WT2 [D#, C#, B]. As a definitive parting gesture, the soloists thrice rupture the smooth sonority of the layered strings (mm. 606–609), redolent of electroacoustic music, with harshly punctuated successive clusters combining WT1 and WT2, truly violent-sounding gestures in which the timbres of the two soloists are thoroughly enmeshed and indistinguishable, the last gasp, so to speak, of Chin’s “hyper-instrument”. The strings are left to continue the final *decrecendo*, glissando ascent, with each string instrument dropping out in succession from the bottom up, leaving *Double Concerto* to expire on the last quiet, high F# by the first violin (Examples 77 and 78).

Handwritten annotations in the score include: "ca. 84-88" above the Vibraphone staff, "Machung jedes Jahre Coppen" above the piano staff, "Sehr hart. Schlegel" above the strings, and "Virtuoso; Alasaga Baga kristel unwarblol" above the strings. Performance markings include "cresc.", "sul pont.", "pizz.", and "1/2 ped.".

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 77. Chin, *Double Concerto*, mm. 602–607, solo percussion, piano, strings

Handwritten annotations in the score include: "ca. 84-88" above the Vibraphone staff, "Machung jedes Jahre Coppen" above the piano staff, "Sehr hart. Schlegel" above the strings, and "Virtuoso; Alasaga Baga kristel unwarblol" above the strings. Performance markings include "decr.", "sul pont.", "pizz.", and "1/2 ped.".

Double Concerto by Unsuk Chin © Copyright 2003 by Boosey & Hawkes Music Publishers Ltd.
 Reprinted by permission of Boosey & Hawkes, Inc.

Example 78. Chin, *Double Concerto*, mm. 608–612, solo percussion, piano, strings

Conclusion

Double Concerto is a unique, strangely compelling work whose effect—and affect—arises largely from the manipulation of timbre and texture. With its array of sounds produced by careful orchestration and extended techniques, the work also blurs traditional distinctions drawn between “music” and “noise”. As such, the work largely resists conventional modes of analysis, and consequently necessitates unconventional standards of critical evaluation. If we accept Chin’s assertion that her intention with the work was to create a “super-” or “hyper-instrument” (in interviews she uses the two terms interchangeably) in which the sounds of individual instruments meld into a unified organic sound-mass, then we are perhaps obliged to evaluate the work on the relative success of that endeavor. In concluding this dissertation, I will briefly review the large-scale processes and procedures that define and shape the work, and remark upon its adherence to—and its departure from—previous examples of the genre.

It is fair to say that *Double Concerto* is a work largely defined by texture and sound color. By “texture” I refer here to the relative *density* of the sound—thick or thin—and the particular sound created by the choice of instruments and their interactions more so than the traditional textures—monophonic, polyphonic, homophonic, etc. Her use of relative high or low register—*tessitura*—also helps define the character of the constituent parts and allows one to blend or contrast with another. As we have seen, each of the seven major parts of *Double Concerto* features different texture(s) of varying densities—indeed, the parts are largely identified by their texture (as above), generating a remarkable variety of sonic character. Despite the homogeneity of much of its material, Chin’s ability to shape, morph, and evolve this recurring material into

fresh new guises throughout the piece lends the one-movement concerto a strong degree of coherence and unity, and creates interest by balancing the familiar and the strange.

Throughout the work, Chin has consistently proceeded in an organic fashion, eliciting, as I wrote in the introduction, “large and complex forms, shapes, and timbres from the tiniest particles or grains,” spinning out elaborate constructions from a restricted palette of materials. *Double Concerto* employs recurring materials and textures throughout, albeit in different guises or versions, such as the many versions of the original interruptive “crossing glissando” gesture, with the later parts taking up and working with materials presented in the earlier parts. To effect smooth transitions and connections between the parts, Chin prepares the ground in her transitional passages carefully by foreshadowing the character of the part to come. For example, before she introduces the granular textures that define Part Four—each beginning with a single pitch—the texture of the transitional passage (mm. 300–310) that precedes it becomes thinner. The sonorities preceding the loud, percussive, martial Part Five become gradually louder and lower with successive clusters by the piano that descend into the lower register explored by this part. *Double Concerto* is characterized by intervallic consistency, with the pervasive use of tritones—especially the E/B♭ tritone—and minor sevenths. In terms of pitch content, sets belonging to or derived from the prime form set (02468T) generated by each of the two whole-tone collections are pervasive. While these two collections, obviously, are not identical in terms of pitch, they do share the same intervallic structure, another level at which the piece acquires consistency. The particular colors generated by each whole tone collection create both similarity and difference in the sections where they operate. While those accustomed to more conventional harmonic and melodic systems might be bemused by the language of the work, the sophisticated

post-tonal listener would have little difficulty recognizing the operations of the two collections as they appear in isolation, alternation, and combination.

While *Double Concerto* is cast in a continuous sectional form, as I have noted in Chapter Two, the seven major contrasting blocks or sections—described as “parts” in the descriptive analysis of Chapter Three—bear many similarities. By way of example, Parts Three and Six seem to be closely related in terms of their structure, especially with regard to the activity of the soloists. Both parts are about 100 bars in length, although Part Three is about 20 seconds longer in duration than Part Six in the recorded performance by the Ensemble Intercontemporain that I have referenced in my analysis. Both parts open with a relatively thin, sparse texture, in which the piano explores a series of punctuated pitches in multiple static layers throughout very wide intervallic range. The opening subsections of both parts utilize the attack/reaction or cause-and-effect compositional dynamic, in which the soloist’s punctuated single pitches stimulate diverse yet related reactions from the instruments of the ensemble. In terms of the binary of stasis/motion, we see that the rate of activity in both of these parts tends to increase as the part progresses (contrasting the more immediate kineticism of Parts One and Five, for example). Although the rate of activity increases progressively in both parts, the material is not necessarily identical. For instance, as the rate of activity by the piano increases in Part Three, it consistently repeats an irregular syncopated quintuplet ostinato; in Part Six, the increase in activity transpires in the growing granular texture.

The solo percussionist mirrors and supports all of the piano’s activities with similar shapes, textures, and rhythms and with reactive, imitative dialogues. Against the ostinato of Part Three or the repeated granular music of Part Six, other instrument groups superimpose their own repetitive gestures, resulting in multi-layered, thick textures. In particular, both parts feature clear

trumpet sonorities, emphasizing specific notes or intervals including the tritone and minor sevenths that emerge clearly from the complex texture. Another feature shared by Parts Three and Six is the presence of discrete soloistic passages toward the end of each part, in a work largely defined by its composite melding.

Although these two parts employ similar procedures, the timbre of each is totally different. The multi-layered texture in subsection 3 of Part Three is characterized by a shimmering sonority resulting from the delicate quintuplet ostinato by the piano in its high register, much use of string and wind harmonics, and brass's use of air noise without sound. By contrast, the third subsection of Part Six displays the thickest sonority of the work, using granular texture.

An important question raised by the work is that of genre and expectation. Just what sort of "double concerto" is this? Although the work belongs to a genre in which we have come to expect standout activity from the soloists, the most distinctive feature of Chin's *Double Concerto* is, by intention, its blended, composite sonorities of all the instruments. Any evaluation of a performance of *Double Concerto* must take into account how well the soloists *blend* into the textures and serve as components of the hyper-instrument, a sound mass within which it is often difficult—by intention—to discern the sources of what one is hearing. The ensemble does not function merely as a backdrop for the activity of the soloists, nor does it play the antagonist to the soloists' protagonist. Nor is this a work characterized by alternating exchanges of virtuosic passages by "dueling" soloists in the manner of a common-practice era double concerto.

In those sections of the work featuring sparse, thin textures, the sound of individual instruments is more discernible than it is in those sections comprised of thick, complex, multilayered textures. Attack/reaction gestures, consisting mostly of short, fragmented passages

in individual instrumental groups appear to be more frequent in the sections of thinner textures. The trumpet, in particular, seems to be chosen by Chin to stand out from the ensemble as a very discernible tone color functioning in the super instrument she is creating.

One may question the nature of the difference between the “cause-and-effect” or attack/reaction device Chin utilizes and more typical call-and-response or other imitative textures. The biggest difference seems to be that in the latter, there is a discernible time-lag between a call and its response, whereas in *Double Concerto* the effects or reactions almost invariably begin simultaneously with the cause or attack that provoked them. Quite typically, the reactions tend to sustain beyond the attack, functioning, as Chin has suggested, as a sort of “shadow” providing an opportunity for the sonority of the soloist’s single pitches to blend with those of the ensemble instruments.

To point out that *Double Concerto* departs from the traditional expectations attached to the genre by largely absorbing the soloists into the whole sound mass is not to imply that *Double Concerto* does not demand virtuosity; indeed, only the most accomplished soloists and contemporary ensembles are in a position to mount this work successfully. Given the complexity of the work, *all* of the parts—not just those of the pair of soloists—require the utmost in technique and concentration. There is not much in the way of conventional melodies, themes, or rhythms by which the players can orient themselves. One might argue that in this sense, at least, the virtuosity demanded by Chin’s work is of a higher order than that demanded by more conventional works. As my analysis has shown, there are very few instances in which one or both of the soloists are not constantly playing. There is precious little opportunity for the soloists to rest and catch their breath, as it were.

The solo percussionist, in particular, must not only deal with the complexity of the

rhythms, but the considerable physical demands of executing them on an impressive array of instruments. In his review of a 2010 performance in Adelaide, Steven Whittington, noted how percussionist Owen Gunnell was obliged to “dash from one instrument to another.”¹²¹ The need for extreme focus and concentration goes for the conductor, as well, who has the exceedingly difficult task of coordinating a highly polyrhythmic work marked by frequent change of meter.

Two virtuosic soloists are necessary to execute this piece, but *Double Concerto* is not—as I stated in the introduction—merely a vehicle of empty, showy virtuosity for its own sake. The virtuosity is required for the proper functioning of the “hyper-instrument” Chin has brought into being, a collective organism that, as the old saying goes, “is bigger than the sum of its parts.” In a recent interview preceding Chin’s 2014 appearance in New York, she described *Double Concerto* in this way:

The name is concerto but it is not [a] typical concerto. So there [are] two soloists, pianist and percussionist, but the ensemble all together, they... the ensemble is also a soloist. The soloists are part of hyper-instrument, and *Double Concerto* is my second try to write music under influence by gamelan music, and I wanted to create a hyper-gamelan ensemble with European instruments.

An important point here is, as Chin remarks, that “the ensemble is also a soloist”. In this regard, the work resembles the “concerto for orchestra” genre of which Paul Hindemith was the pioneer, and in which the Concerto for Orchestra (1943) by Bela Bartók is probably the best-known example.

Double Concerto is, as Chin says, a second attempt at a work being inspired by gamelan music, the other being Piano Etude No.1 *in C*. Her intention does not seem to have been to recreate a piece of faux-gamelan music, but to capture something of the essence and shimmering sound-world of that tradition, to create a “hyper-gamelan” ensemble comprised of western

¹²¹ Stephen Whittington, “Front Row Festival and Fringe Reviews,” *The Advertiser* (March 1, 2010), 50.

instruments. The piano, in particular, is largely transformed by virtue of its careful preparation into a gamelan-like percussion instrument. The preparation of the piano allows it to blend almost seamlessly with the percussive timbres that dominate the work.

The intricate ways in which Chin has constructed interwoven layers of timbres and rhythms does succeed in shifting the attention of the listener from the horizontal to the vertical aspects of music—a key feature of the aesthetics of gamelan—such that more emphasis is placed on the gradual, kaleidoscopic evolution of timbre and sound color as it develops over a hypnotic rhythmic pulse than the presentation of linear melodic themes and harmonic progressions. Unlike the gapped *pelog* and *slendro* scales of gamelan music that utilize a restricted number of pitches, usually five to seven, *Double Concerto* makes use of all twelve chromatic pitches, arranged, as we have seen, in the two whole-tone collections. The use of certain instruments to demarcate rhythmic cycles, a structural component of gamelan music, is also operative in *Double Concerto*. Kay Rhie’s dissertation explores the rhythmic mechanics of gamelan music and Chin’s selective adoption of those techniques in *Double Concerto* and other works at length, in much greater detail than is possible here.

Double Concerto has enjoyed several prominent performances by top-notch ensembles, as well as a top-notch recording, a happy state of affairs not enjoyed by some many pieces of contemporary music. *Double Concerto* was performed by the London Sinfonietta during a ‘Total Immersion’ day on April 9, 2011, an occasion upon which the BBC Symphony Orchestra celebrated Chin’s life and work in a day of concerts, films, and talks at the Barbican Centre in London. More recently, on March 13, 2014, the Miller Theatre at the Columbia University School of the Arts presented a number of Chin’s works, including *Double Concerto*, as part of the Composer Portraits series with Unsuk Chin, featuring the Ensemble Signal. The work has

been performed at a number of conservatories, including Oberlin, and also in Korea. The reviews of the work are generally favorable, if at times a bit bemused. In a review of the recording of *Double Concerto*, Allen Gimbel noted the “Asian tint” of the work, and concedes, “The piece is hypnotic and strangely absorbing in its abstract way. Some will find that appraisal too generous, but there is impressive craftsmanship on display here.”¹²² Andrew Clements lauds Chin’s originality, and like the present writer, notes the departure of *Double Concerto* from the conventions governing the genre, writing how the work “almost contradict[s] the basic confrontational dynamics of a concerto by having the soloists, percussion and prepared piano combine with the ensemble in an almost symbiotic relationship.”¹²³

Whether or not *Double Concerto*, as a difficult work of contemporary music, ultimately joins the ranks of canonical repertoire is open to question, and subject to the vagaries of fate and popular taste. Whatever one’s response to the piece may be, *Double Concerto* compels the listener to approach it on its own terms, and immerses that listener in a constantly shifting web of sound colors and rhythms. As well as resisting many conventional modes of analysis, as I have written, the work also largely resists the imposition of meaning and narrative. Perhaps not everyone will understand or enjoy all aspects of the piece, but it is just as true that the work has much to commend it, and amply rewards the close listening and attention each listener brings to it. It is intended to have a broad appeal. Regarding her approach to composition, Unsuk Chin avows,

I never write pieces for my composer-colleagues. I write pieces for many different types of listeners. There are the normal classical-music lovers. There are the professional new-music lovers. And there are the people who have never had anything to do with music. For me, a good piece of music is one in which people from all of these different groups maybe don’t understand everything but can at least get something out of it. It is very important to me that my music speaks to all

¹²² Allen Gimbel, “Review”, *American Record Guide* 68/4 (July/August 2005), 98.

¹²³ Andrew Clements, “Classical Reviews,” in the Film and Music Pages of *The Guardian* (March 25, 2011), 16.

of these people on a certain level.¹²⁴

As the present writer has attempted to show, Chin carefully controls all the musical components and succeeded in crafting a unified work characterized by very complex textures. She has applied all the resources that European instruments can muster in the creation of a work that evokes an aura of Asianness without allowing itself to be pinned down, and importantly, without trivializing or “orientalizing” its sources of inspiration. By introducing Chin’s life and major compositions, and presenting an analytical overview of this piece, the present dissertation has merely scratched the surface of this work, and the potential of this unusual and engaging composer. It is my modest hope that any insights that I have been able to provide might assist those interested in *Double Concerto* to better understand this piece and the woman who composed it.

¹²⁴ Martin Anderson, “Classical Music: Hear My \$200,000 Concerto,” *The Independent* (February 16, 2004), 14–15.

Bibliography

- Adato, Joseph and George Judy, eds. *The Percussionist's Dictionary: Translations of Descriptions and Photographs of Percussion Instruments from Around the World*. Melville, NY: Belwin-Mills, 1984.
- Babcock, David. "Korean Composers in Profile." *Tempo*, New Series, 192 (April, 1995): 15-21.
- Burk, Phil and Larry Polansky, Douglas Repetto, Mary Roberts, Dan Rockmore. "Music and Computers: A Theoretical and Historical Approach." Accessed December 2, 2013. <http://music.columbia.edu/cmc/musicandcomputers/>.
- Chang, Ji-Hye. "Contextual Analysis of Unsuk Chin's Piano Etudes." DMA diss., Indiana University, 2006.
- Chin, Unsuk. "Composer's Notes," accessed May 10, 2013. http://www.boosey.com/pages/cr/catalogue/cat_detail.asp?musicid=7177.
- Clements, Andrew. "Classical Reviews," in the Film and Music Pages of *The Guardian* (March 25, 2011): 16.
- Demmler, Martin. "Dream Architecture and Sound Sculptures." Liner notes to *Fantaisie mécanique; Xi; Akrostichon-Wortspiel; Double Concerto*. Ensemble Intercontemporain KAIROS 0013062KAI. CD. 2011.
- Drees, Stefan. *Im Spiegel der Zeit: Die Komponistin Unsuk Chin*. Mainz: Schott Music GmbH & Co. KG, 2011.
- "The Grawemeyer Awards. 2004—Unsuk Chin *Concerto for Violin and Orchestra*." Accessed December 7, 2012. <http://grawemeyer.org/music/previous-winners/2004-unsuk-chin.html>.
- Gimbel, Allen. "Review." *American Record Guide* 68/4 (July/August 2005): 98.
- Griffiths, Paul. "In Focus: An Introduction to the Music of Unsuk Chin." Accessed March 24, 2013. <http://www.boosey.com>.
- Harnish, David. "Bali." *Garland Encyclopedia of World Music*, Vol. 4, "Southeast Asia." Ed. Terry E. Miller. New York: Garland, 1998–2002: 729–761.
- Kartomi, Margaret J. and Maria Mendonça. "Gamelan." *Grove Music Online. Oxford Music Online*. Oxford University Press. Accessed June 4, 2013. <http://www.oxfordmusiconline.com>.

Kim, Soo Kyung. "A Study of Unsuk Chin's Piano Etudes." DMA diss., University of Georgia, 2012.

McPhee, Colin. "The Five-Tone Gamelan Music of Bali." *The Musical Quarterly* 35/ 2 (April, 1949): 250-281.

Park, Yong-Wan. "Chin Unsuk: At the Forefront of Contemporary Music." *Koreana*, 21/4 (Winter, 2007): 64-67.

Rhie, Kay Kyurim. "Quilting Time and Memory: the Music of Unsuk Chin." DMA diss., Cornell University, 2009.

Rickards, Guy. "CD Reviews." *Tempo* 60/236 (April, 2006): 92-93.

_____. "CD and DVD Reviews." *Tempo* 64 (July, 2010): 73-74.

Schrader, Barry and Marc Battier. "Electroacoustic music." *Grove Music Online. Oxford Music Online*. Oxford University Press. Accessed June 11, 2013. <http://www.oxfordmusiconline.com>.

Webb, James. "Unsuk Chin's Piano Concerto No. 1." *Tempo, New Series*, 202 (October, 1997): 51-52.

Whittall, Arnold. "Unsuk Chin in Focus: Meditation & Mechanics." *The Musical Times* 141/1870 (Spring 2000): 21-22, 24-32.

_____. "CD and DVD Reviews." *Tempo* 65, (October, 2011): 70-71

_____. "Chin, Unsuk," in *Grove Music Online. Oxford Music Online*. Oxford University Press. Accessed June 4, 2013. <http://www.oxfordmusiconline.com>.

Yoo, Doori. "Two Etudes by Unsuk Chin: No. 1, *In C*, and No. 6, *Grains*, for Piano." DMA diss., Florida State University, 2013.

Yoo, Hae Young. "Western Music in Modern Korea: A Study of Two Women Composers." DMA diss., Rice University, 2005.

Scores

Chin, Unsuk. *Double Concerto for Piano and Percussion*. London: Boosey & Hawkes, 2003.

_____. Piano Etude No. 1 (*in C*) from "12 Piano Etudes." London: Boosey & Hawkes, 1999.

_____. Piano Etude No. 6 (*Grains*) from "12 Piano Etudes." London: Boosey & Hawkes, 2006.

Recordings

Chin, Unsuik. *Fantaisie mécanique; Xi; Akrostichon-Wortspiel; Double Concerto*. Ensemble Intercontemporain with Samuel Favre, percussion; Dmitri Vassilakis, piano; Stefan Asbury, conductor. KAIROS 0013062KAI. CD. 2011.