

Hard Data

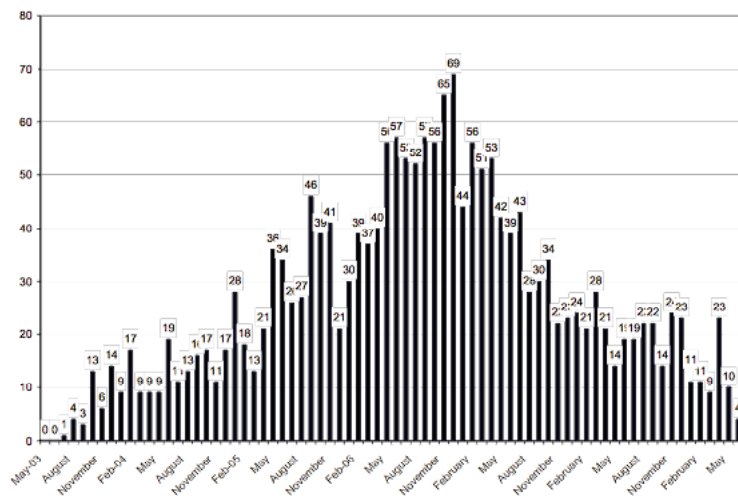
R. Luke DuBois

for amplified string quartet

(c)2009 R. Luke DuBois (ASCAP). all rights reserved.

Notation / Performance Instructions:

- Instruments are to be amplified with transducer (preferred) or close miking.
- Amplification should be adjusted so that *col legno* passages marked *pp* are clearly audible.
- Accidentals carry through the measure.
- Finger and bow tremolo should be in strict measured time.
- *sul pont / col legno* bowing should be done *senza vibrato*.
- *portamento* phrases should land "at pitch" on the beat.



Hard Data

for amplified string quartet and video in six movements
world première, june 24, 2009
ISSUE PROJECT ROOM, brooklyn, ny

- I - men
- II - children
- III - soldiers
- IV - refugees
- V - women
- VI - missing

Data taken from:

The Brookings Institute
The Iraq Coalition Casualty Count
Iraq Body Count
The U.S. Dept. of State Bureau of Near Eastern Affairs
The Joint Economic Committee of the U.S. Congress
Iraq Today
The New York Times

Six years have gone by since the United States invaded Iraq, in March of 2003. The decision to invade, and the rationale behind it, has emerged as a defining event in the relationship between the United States and the rest of the world, and will be read by history as a watershed moment in the geopolitics of the 21st century. To the people of Iraq, the invasion has brought alternating streams of trauma, displacement, fear, anger, confusion, and - in liminal spaces between and among the wreckage of their country - faint and growing shimmers of hope. To people here in the United States, the Iraq war has been, depending on your frame of reference, a necessary and just response to the provocations of the regime of Saddam Hussein, an unnecessary and wasteful “war of choice” that has bankrupted our moral authority in the world and damaged our future security and stability, or a tragic event that has claimed the life of a loved one, neighbor, classmate, friend, or acquaintance. For many Americans, all three are true, to some degree. But for many of us, the Iraq war is a vague and distant worry, delivered to us through mass media, and embodied most strongly by a stream of numbers.

These numbers are always there, following us, and they seem to be haunted. Living under a 24-hour news cycle, wired to the overwhelming commentary of citizen journalism within a culture obsessed with statistics, has made the Iraq war the first conflict in which, for most of us, we possess more data than knowledge. This is partly a shortcoming of the mediatized Iraq presented to us in video, sound, and images, which gives us a monolithically stark and necessarily limited view of a human conflict that, whether issued as soundbite or photo essay, we shy away from. But the real reason for our abstract understanding of this conflict is our willingness to seek solace in facts. Our volunteer military (in which only a fraction of our society participates) fights overseas against insurgent elements (in a country few of us have visited) in the hopes of stabilizing a country (with which we have little common cultural currency). This is not a fact, but a complex and devastating concept, and many of us find our mind’s eye strained; so instead of shock as we watch news reports, read an entire spectrum of press coverage, and consume anecdotal summaries, we learn the numbers of war. We anesthetize ourselves with hard data.

If confusing information with experience is a vice then our country is guilty. I have spent the last six months looking at the facts, figures, statistics, and documents of the Iraq war. I know three veterans of the Iraq conflict personally, none of whom are inclined to look charitably on the fact that we prefer to understand this war largely in information space and fret about it far more in terms of fiscal and moral damage than human cost. Americans like to know numbers. 50 states. 300 million people. I am guilty, too.

Ian MacKaye, of the band Fugazi, once wrote that *we need an instrument / to find out, how loss could weigh*. This couplet seemed prophetic to me in high school, as I elated to the militant anti-capitalism and dense, sad anger of its double message. What seemed so important to me about that lyric then has been forgotten, but the lyric now seems incredibly to the point. The Iraq War, delivered to most of us as a real-time stream of data, is all about loss. We have lost lives; we have lost fiscal certitude; we have lost our moral compass; and we have lost a vital element of our national integrity thanks to the partisanship of those who have scored political points over this war. In order for us to make sense of this loss, it has to resonate beyond facts and figures, because the hard data we look at is “hard” in that other way. Not reliable, but unbearable. We need that instrument. Badly.

Which brings me to this project. A work-in-progress if there ever was one.

The composer Iannis Xenakis had a unique gift for creating kinetic masses of sound out of statistical processes. More important here (and the reason why I mention him), his experiences as a partisan in the Second World War and his training as an architect under Le Corbusier gave him a unique competence to compose music that sounded like war. Aware of the acute difference between strategy and tactics, Xenakis created music that perfectly evoked the dialectic of a situation that, though well-planned and executed on a macro-scale (strategic), was incomprehensible and chaotic at the event level (tactical). Furthermore, Xenakis’ interdisciplinary acumen as an architect/composer led him to develop a theory of ‘meta-art’, based around the idea that any medium can serve to realize the same artistic expression.

Hard Data is a data-mining and sonification project based around data from the American military actions in Iraq. The aim of the piece is to create an open-source score which can be realized by any number of people in any medium. The version presented here tonight is an arrangement of some of this information into six movements for amplified string quartet with video projection. Conceptually, it riffs off of Xenakis’ understanding of formalized music, though musically it mixes in more than a little Stravinsky, Messiaen, and Crumb, three composers who wrote *in tempore belli*. Most importantly, however, this realization is grounded in an algorithmic realization of the source data through the filter of that country’s current national anthem, Mohammad Flaifel’s setting of Ibrahim Touqan’s 1934 poem *Mawtini*.

Hard Data was a 2009 commission of New American Radio and Performing Arts, Inc. for its Turbulence web site (turbulence.org). This was made possible with funding from the New York City Department of Cultural Affairs. I’d like to thank Helen Thorington and Jo-Ann Green for their faith in the project; the Mivos String Quartet for premiering the work; Toni Dove, Michael Joaquin Grey, Laura Blereau, and Susan Gladstone; Zach Layton and Nick Hallett for programming the piece as part of their Darmstadt “Institute”; the Issue Project Room and Suzanne Fiol, for giving me such a great space in which to perform.

Enjoy.

R. Luke DuBois New York City June, 2009

Hard Data: I

R. Luke DuBois

$\text{♩} = 100$

strong and mournful...

Violin I
Violin II
Viola
Violoncello

arco
ff arco
ff

Vln. I
Vln. II
Vla.
Vc.

14
pizz.
arco
pp pizz.
pp pizz.
arco
mf
pp
pp
mf
pp

Vln. I
Vln. II
Vla.
Vc.

26
ff
mf

35

Vln. I

Vln. II

Vla.

Vc.

mp

f

mp

f

mp

f

mp

f

45

Vln. I

Vln. II

Vla.

Vc.

pp

pp

51

Vln. I

Vln. II

Vla.

Vc.

pp

pp

Hard Data: II

♩=80 delicate and shimmering...

Violin I: *p* sul ponticello

Violin II: *p* sul ponticello

Viola: *p* sul ponticello

Violoncello: *p* sul ponticello

Measures 1-13. The first system shows the initial entries for Violin I, Violin II, Viola, and Violoncello. Violin I and Violoncello play a melodic line with a sharp sign, while Violin II and Viola play a lower melodic line. Dynamics range from *p* to *pp*. The instruction "sul ponticello" is present for all parts. Measure 13 ends with a fermata.

Vln. I: *pp*

Vln. II: *pp*

Vla.: *pp*

Vc.: *pp*

Measures 14-27. This system continues the texture from the previous system. Violin I and Violoncello play a series of sixteenth-note patterns. Violin II and Viola play sustained notes with a tremolo effect. Dynamics are consistently *pp*.

Vln. I: *mf*

Vln. II: *mf*

Vla.: *mf*

Vc.: *mp* / *mf*

Measures 28-31. This system shows a change in dynamics and texture. Violin I, Violin II, and Viola play sustained notes with a tremolo effect, marked *mf*. Violoncello plays a melodic line, marked *mp* in measures 28-30 and *mf* in measures 31-32. Measure 31 ends with a fermata.

42

Vln. I

Vln. II

Vla.

Vc.

f

mf

53

Vln. I

Vln. II

Vla.

Vc.

57

Vln. I

Vln. II

Vla.

Vc.

61

Vln. I
Vln. II
Vla.
Vc.

Detailed description: This system covers measures 61 to 65. Vln. I starts with a whole note chord at measure 61, followed by a melodic line with slurs and accents. Vln. II plays a continuous sixteenth-note pattern. Vla. has long, sustained notes with slurs. Vc. plays a continuous sixteenth-note pattern.

66

Vln. I
Vln. II
Vla.
Vc.

Detailed description: This system covers measures 66 to 70. Vln. I continues its melodic line with slurs and accents. Vln. II maintains the sixteenth-note pattern. Vla. has long, sustained notes with slurs. Vc. continues the sixteenth-note pattern.

70

Vln. I
Vln. II
Vla.
Vc.

ff

Detailed description: This system covers measures 70 to 74. Vln. I continues its melodic line with slurs and accents. Vln. II maintains the sixteenth-note pattern. Vla. has long, sustained notes with slurs. Vc. continues the sixteenth-note pattern. The dynamic marking *ff* is present at the beginning of the system and under the first measure of the cello part.

74

Vln. I

Vln. II

Vla.

Vc.

Musical score for measures 74-77. The score is for four instruments: Violin I, Violin II, Viola, and Cello. The key signature has one sharp (F#). The time signature is 4/4. Violin I plays sustained chords. Violin II plays a rhythmic eighth-note pattern. Viola has a long note with a slur. Cello plays a steady eighth-note accompaniment.

78

Vln. I

Vln. II

Vla.

Vc.

Musical score for measures 78-81. The score is for four instruments: Violin I, Violin II, Viola, and Cello. The key signature has one sharp (F#). The time signature is 4/4. Violin I plays sustained chords. Violin II plays a rhythmic eighth-note pattern. Viola plays a sixteenth-note accompaniment. Cello plays a steady eighth-note accompaniment.

82

Vln. I

Vln. II

Vla.

Vc.

Musical score for measures 82-85. The score is for four instruments: Violin I, Violin II, Viola, and Cello. The key signature has one sharp (F#). The time signature is 4/4. Violin I plays a rhythmic eighth-note pattern. Violin II plays a rhythmic eighth-note pattern. Viola plays a sixteenth-note accompaniment. Cello plays a steady eighth-note accompaniment.

86

Vln. I
Vln. II
Vla.
Vc.

Detailed description: This system covers measures 86 to 91. Vln. I plays a continuous sixteenth-note tremolo. Vln. II plays a steady eighth-note pattern. Vla. and Vc. play a simple harmonic accompaniment. At measure 91, all string parts have a 'V' (vibrato) marking above the notes.

92

Vln. I
Vln. II
Vla.
Vc.

sul pont.
pp
pp
pp
pp

Detailed description: This system covers measures 92 to 97. All string parts are marked 'sul pont.' and 'pp'. Vln. I and Vln. II play a tremolo. Vla. and Vc. play a rhythmic accompaniment. At measure 97, there are 'V' markings above the notes. A bracket labeled '5' is placed under the Vln. II staff in measure 97, indicating a five-measure phrase.

98

Vln. I
Vln. II
Vla.
Vc.

ppp
ppp
ppp
ppp

Detailed description: This system covers measures 98 to 103. Vln. I and Vln. II play a tremolo. Vla. and Vc. play a rhythmic accompaniment. At measure 103, there are 'V' markings above the notes. The dynamic marking 'ppp' is present at the end of each staff in measure 103.

♩=120

with false bravado...

Hard Data: III

R. Luke DuBois

This musical score is for the piece "Hard Data: III" by R. Luke DuBois, marked with a tempo of ♩=120 and the instruction "with false bravado...". The score is written for Violin I, Violin II, Viola, and Violoncello. It is divided into three systems of measures.

System 1 (Measures 1-7): The Violin I part features a rhythmic pattern of eighth notes with a dynamic of *pp* and a *pizz.* (pizzicato) instruction. The Violin II, Viola, and Violoncello parts play a similar eighth-note pattern, with dynamics ranging from *pp* to *f*. The Violoncello part includes a *pp* dynamic and an *arco* (arco) instruction.

System 2 (Measures 8-18): This system begins with a measure rest for Violin I. The Violin II, Viola, and Violoncello parts continue with their eighth-note patterns, incorporating triplets and dynamic markings such as *mf*, *f*, and *p*. The Violoncello part includes an *arco* instruction and a *p* dynamic.

System 3 (Measures 19-24): The Violin I part returns with a series of sixteenth-note runs, marked with a *p* dynamic. The Violin II, Viola, and Violoncello parts continue with their eighth-note patterns, featuring triplets and dynamic markings like *f* and *p*.

28

Vln. I
Vln. II
Vla.
Vc.

ppp
pp
p

This system contains measures 28 through 38. It features four staves: Violin I, Violin II, Viola, and Cello. Measures 28-31 show a melodic line in the Violin I part with a *ppp* dynamic. Measures 32-38 show a more active texture with various dynamics including *pp* and *p*. There are several triplets and slurs throughout the system.

39

Vln. I
Vln. II
Vla.
Vc.

f
ff arco
f
ff pizz.
arco
pizz.
p
mf

This system contains measures 39 through 47. It features four staves: Violin I, Violin II, Viola, and Cello. Measures 39-41 show a melodic line in the Violin I part with a *f* dynamic. Measures 42-47 show a more active texture with various dynamics including *ff arco*, *f*, *ff pizz.*, *arco*, *pizz.*, *p*, and *mf*. There are several triplets and slurs throughout the system.

48

Vln. I
Vln. II
Vla.
Vc.

mf
arco
pizz.
arco
pp
mf
pizz.
mf
arco
p
mf
pp
pizz.
pp

This system contains measures 48 through 57. It features four staves: Violin I, Violin II, Viola, and Cello. Measures 48-50 show a melodic line in the Violin I part with a *mf* dynamic. Measures 51-57 show a more active texture with various dynamics including *arco*, *pizz.*, *mf*, *pp*, *p*, and *pp*. There are several triplets and slurs throughout the system.

56

Vln. I

Vln. II

Vla.

Vc.

pizz.

arco

mf

61

Vln. I

Vln. II

Vla.

Vc.

f

pp

f

♩=100

Hard Data: IV

R. Luke DuBois

thin and haunting...

Violin I

Violin II

Viola

Violoncello

14

Vln. I

Vln. II

Vla.

Vc.

27

Vln. I

Vln. II

Vla.

Vc.

85

Vln. I
Vln. II
Vla.
Vc.

mf
p
f
p
f
f
p
f
p
f
p
f
p
f

Detailed description: This system of music covers measures 85 to 100. It features four staves: Violin I, Violin II, Viola, and Violoncello. The Violin I part begins with a series of sixteenth-note chords, some with accents. The Violin II part has a melodic line with slurs and dynamic markings. The Viola part provides harmonic support with chords and some melodic fragments. The Violoncello part has a steady bass line with dynamic changes. The key signature has one flat, and the time signature is 4/4.

101

Vln. I
Vln. II
Vla.
Vc.

p
f
pp
f
p
f
pp
f
p
f
pp
f
p
f

Detailed description: This system covers measures 101 to 112. The Violin I part has a melodic line with a crescendo leading to a forte dynamic. The Violin II part has a similar melodic line with a piano dynamic. The Viola part has a melodic line with a piano dynamic. The Violoncello part has a melodic line with a piano dynamic. The key signature has one flat, and the time signature is 4/4.

113

Vln. I
Vln. II
Vla.
Vc.

p
mf
pp
ppp
mf
ppp

Detailed description: This system covers measures 113 to 118. The Violin I part has a melodic line with a piano dynamic. The Violin II part has a melodic line with a piano dynamic. The Viola part has a melodic line with a mezzo-forte dynamic. The Violoncello part has a melodic line with a mezzo-forte dynamic. The key signature has one flat, and the time signature is 4/4.

Hard Data: V

R. Luke DuBois

choral...
sempre legato
arco

$\text{♩} = 60$

Violin I
mf

Violin II

Viola

Violoncello

sempre legato arco

pp *mf* *pp* *mf*

15

Vln. I

Vln. II

Vla.

Vc.

pp *mf* *pp* *mf* *pp* *mf* *pp* *mf*

32

Vln. I

Vln. II

Vla.

Vc.

mf *pp* *mf* *pp* *mf* *pp* *mf* *pp*

46

Vln. I

Vln. II

Vla.

Vc.

pp *mf* *pp* *mf* *pp* *mf* *pp*

mf *pp* *mf* *pp*

Detailed description: This is a page of a musical score for a string quartet, starting at measure 46. It features four staves: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The music is written in a key with one sharp (F#) and a common time signature. The Vln. I and Vln. II parts begin with a series of sixteenth notes, some beamed together, and include dynamic markings of *pp* and *mf*. The Vla. part consists of a melodic line with slurs and dynamic markings of *mf* and *pp*. The Vc. part provides a harmonic foundation with a mix of quarter and eighth notes, also marked with *mf* and *pp*. The score concludes with a double bar line at the end of the system.

♩=100

Hard Data: VI

R. Luke DuBois

angry...
arco

Violin I
ff
arco

Violin II
ff
arco

Viola
ff
arco

Violoncello
ff

20

Vln. I
ff

Vln. II
ff

Vla.
pp

Vc.
pp

37

Vln. I
ff

Vln. II
ff

Vla.
pp

Vc.
pp

54

Vln. I *pp* *mf* *ff* *mf*

Vln. II *pp* *mf* *ff* *mf*

Vla. *pp* *mf* *ff* *mf*

Vc. *pp* *mf* *ff* *mf*

73

Vln. I *pp*

Vln. II *pp*

Vla.

Vc.

92

Vln. I *mf* *f*

Vln. II *mf* *f*

Vla. *mf* *f*

Vc. *mf* *f*

mf *f*

