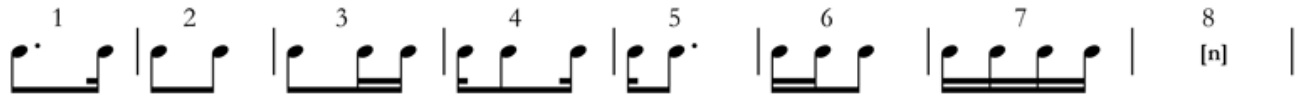




## MTO 17.2 Examples: Bernstein, Duplicated Subdivisions

(Note: audio, video, and other interactive examples are only available online)  
<http://www.mtosmt.org/issues/mto.11.17.2/mto.11.17.2.bernstein.php>

**Example 1.** The subdivision series of *It Takes Twelve to Tango*



**Example 2.** Measures 1–12 of *It Takes Twelve to Tango*, with the subdivision series and semiblocks indicated above the staff and the aggregate boundaries indicated with vertical lines

Note that the first beat's series proceeds to series member 2 only at measure 11 while the second beat's series proceeds through series members 2–8 in measures 1–10 before beginning again at measure 11. Further note the coordination of two-measure aggregates and repeated subdivisions.

A1: 1 2 | 1 2 | 1 3 | 1 4 |

Tempo Di Tango

Piano

*mp* *mp* *mf* *f* *mf* *mp* *mf*

*mp* *mf* *mp* *mf* *f* *mf* *mp* *mf*

1 5 | 1 5 | 1 6 | 1 7 |

5

*p* *mf* *p* *f* *mp* *p* *mp* *mf* *p* *mp*

*p* *mf* *p* *f* *mp* *p* *mp* *p* *mp*

1 8 | 1 8 | A2: 2 1 | 2 1 |

9

*mf* *mp* *p* *mf* *f* *mp* *p*

*mp* *mf* *f* *mp* *f* *mp* *p*

**Table 1.** Subdivisions of the quarter note in *It Takes Twelve to Tango*

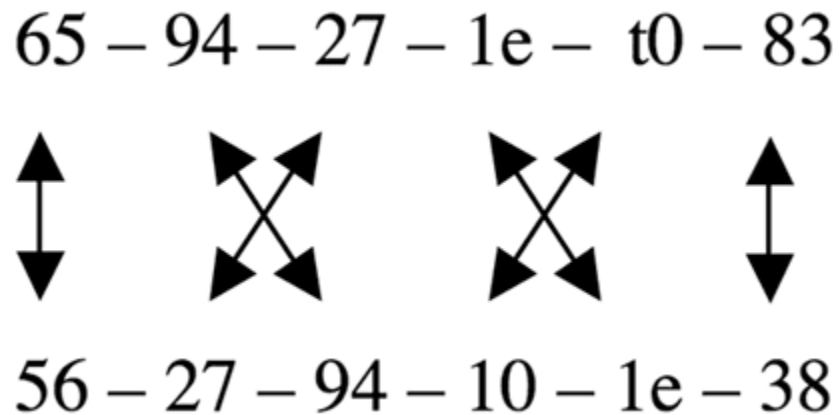
'X' indicates an attack and 'O' indicates a sustain. Columns represent the first beats, rows the second beats, numbers the measures in which the subdivisions coincide, and bracketed numbers a string of notes of cardinality [n] that evenly divides the quarter note.

|      | A1               | A2     | B1               | B2                 | C1     | C2     | D1     | D2             |
|------|------------------|--------|------------------|--------------------|--------|--------|--------|----------------|
|      | X00X             | X0X0   | X0XX             | XX0X               | XX00   | XXX0   | XXXX   | [n]            |
| X00X |                  | 11, 12 | 21               | 29                 | 38, 39 | 50, 51 | 61     | 68 [7]         |
| X0X0 | 1, 2             |        | 22               | 30                 | 40, 41 | 52, 53 | 62     | 69 [5]         |
| X0XX | 3                | 13     |                  | 31                 | 42, 43 | 54, 55 | 63     | 70 [5]         |
| XX0X | 4                | 14     | 23               | 36, 37             | 44     | 56     | 64     | 71 [5]         |
| XX00 | 5, 6             | 15, 16 | 24               | 32                 | 48, 49 | 57, 58 |        | 72 [5], 73 [3] |
| XXX0 | 7                | 17     | 25               | 33                 | 45     |        | 65     | 74 [5]         |
| XXXX | 8                | 18, 19 | 26               | 34                 | 46     | 59     | 67     | 75 [1]         |
| [n]  | 9 [1],<br>10 [3] | 20 [7] | 27 [1]<br>28 [3] | 35a [1]<br>35b [3] | 47 [5] | 60 [5] | 66 [3] |                |

**Table 2.** Measures occupied by each subdivision and aggregate, in each semiblock

|                |          |
|----------------|----------|
| A1 (mm. 1–10)  | 2112112  |
| A2 (mm. 11–20) | 2112121  |
| B1 (mm. 21–28) | 1111112  |
| B2 (mm. 29–37) | 11111122 |
| C1 (mm. 38–49) | 22211112 |
| C2 (mm. 50–60) | 2221211  |
| D1 (mm. 61–67) | 1111111  |
| D2 (mm. 68–75) | 1111211  |

**Example 3.** Dyadic invariance between inversionally related series forms (“t” and “e” indicate pitch classes ten and eleven respectively)



**Table 3.** Disposition of twelve-tone series within lynes, blocks, and registers (C=0 throughout)

|            | A (mm. 1-20)                 | B (mm. 21-37)                | C (mm. 38-60)                | D (mm. 61-75)                |
|------------|------------------------------|------------------------------|------------------------------|------------------------------|
| VI: F6-E7  | 6594271et083<br>380te1724956 | 295764t3180e<br>e0813t467592 | 562794t01e38<br>83e10t497265 | 92645718t3e0<br>0e3t81754629 |
| V: F5-E6   | 87e6493102t5<br>12t3506897e4 | 4e7986053t21<br>5t2013946e78 | 7849e602315t<br>2150t397684e | e486793t0512<br>t513206e9487 |
| IV F4-E5   | 9t6e18245370<br>07354281e6t9 | 16t89e052734<br>437205e98t61 | t9186e532407<br>704325e6819t | 619et8275043<br>3405728te916 |
| III: F3-F4 | 72t0e9386154<br>5483160t9e72 | te7029356481<br>8153460792te | 27e9t0613845<br>4516839e0t27 | et2970643518<br>1846539207et |
| II: F2-F3  | 05978t4e1623<br>e6243170t598 | 895t0713426e<br>3261e4t87950 | 508t97164e32<br>6e3124t57089 | 98075t4213e6<br>23e46179t805 |
| I: F1-F2   | 491e02835t67<br>6738t5e12049 | 3t6875e42910<br>104e9286573t | 94021e5t8376<br>76t53820e194 | 01924e5786t3<br>t3756829e401 |

**Table 4.** The pitch-class array for semiblock C2

Double virgules indicate the end of a series form. The parentheses and strikethroughs in measure 56 indicate that pitch classes 5 and t are expected in V but appear in register IV.

| Measure    | 50–51               | 52–53              | 54–55          | 56               | 57–58            | 59                 | 60                 |
|------------|---------------------|--------------------|----------------|------------------|------------------|--------------------|--------------------|
| VI: F6-E7  |                     |                    |                | 497              | t01e38<br>26     | 8 //               | 5 //               |
| V: F5-E6   |                     |                    |                | 02315t           | 97               | t //               | 7684e //           |
| IV: F4-E5  |                     | 5                  | 32             | (5t)<br>e68      |                  | 2407 //<br>1       | 19t // 3           |
| III: F3-E4 |                     | 61384<br>9e0t27 // |                |                  | 45               | 5 //               |                    |
| II: F2-E3  |                     |                    | 164e<br>t57089 |                  |                  | e3<br>9 //         | 2 //               |
| I: F1-E2   | 5t8376<br>20e194 // |                    |                |                  |                  | 6 //               | 0                  |
| Partition  | 6 <sup>2</sup>      | 6 5 1              | 6 4 2          | 6 3 <sup>2</sup> | 6 2 <sup>3</sup> | 4 2 1 <sup>6</sup> | 5 3 1 <sup>4</sup> |

**Example 4.** Measures 50–60 of *It Takes Twelve to Tango*, with the aggregate boundaries indicated by vertical lines, the missing attacks indicated by ovals, and the transposed pitch classes in measure 56 boxed

Note the gradual ascent between measures 50 and 57.

The musical score is presented in three systems, each with a grand staff (treble and bass clefs).  
System 1 (Measures 50-53): Measure 50 has a dynamic of *mp*. Measure 51 has a dynamic of *p mp*. Measure 52 has dynamics of *mf mp* and *mf*. Measure 53 has a dynamic of *mp*.  
System 2 (Measures 54-57): Measure 54 has dynamics of *p* and *mp*. Measure 55 has dynamics of *mf p* and *mp p*. Measure 56 has dynamics of *mp* and *p mp*. Measure 57 has dynamics of *mp* and *p mp*.  
System 3 (Measures 58-60): Measure 58 has dynamics of *mf mp* and *mf mp*. Measure 59 has dynamics of *p mp* and *p mp*. Measure 60 has dynamics of *mf mp* and *mp*.  
Annotations: Vertical lines separate the systems. Ovals are placed around notes in measures 51, 55, and 58. A dashed line labeled '8va' is above the right hand in measures 55-57. A box is drawn around the notes in measure 56.

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