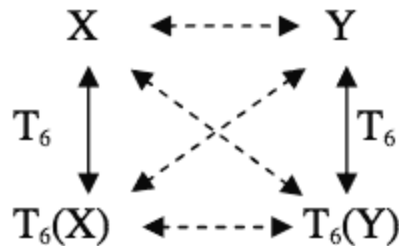
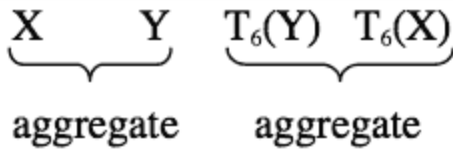


MTO 14.3 Examples: Capuzzo, Maximally Alpha-Like Operations

(Note: audio, video, and other interactive examples are only available online)

<http://www.mtosmt.org/issues/mto.08.14.3/mto.08.14.3.capuzzo.php>

Example 1. Dallapiccola, *Quattro Liriche de Antonio Machado*, III (1948), mm. 80–85



Dashed arrows are impossible

Example 2. Z-related/M-related scs

Solid line: Z-relation

Dashed line: M-relation

4-Z15 $\overline{\hspace{1.5cm}}$ 4-Z29

5-Z17 $\overline{\hspace{1.5cm}}$ 5-Z37

5-Z18 $\overline{\hspace{1.5cm}}$ 5-Z38

6-Z11 $\overline{\hspace{1.5cm}}$ 6-Z40

6-Z6 $\overline{\hspace{1.5cm}}$ 6-Z38

6-Z19 $\overline{\hspace{1.5cm}}$ 6-Z44

7-Z17 $\overline{\hspace{1.5cm}}$ 7-Z37

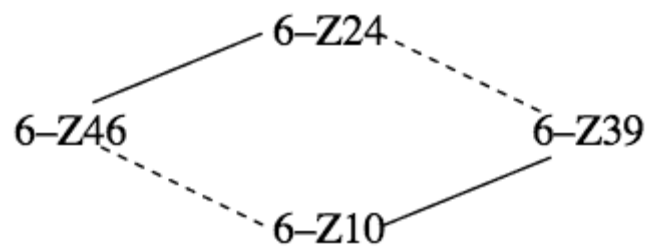
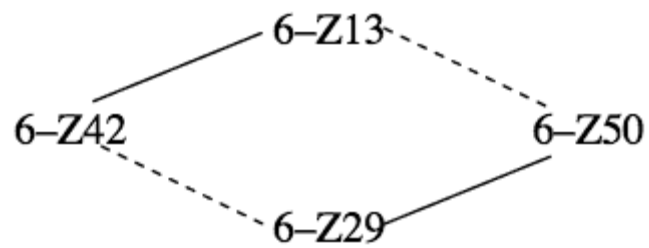
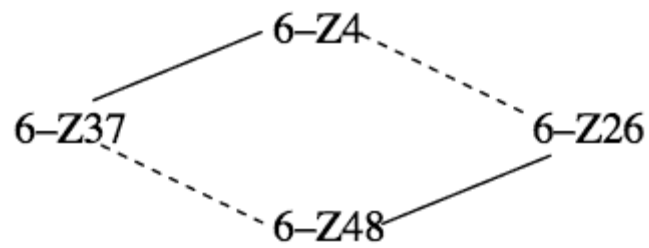
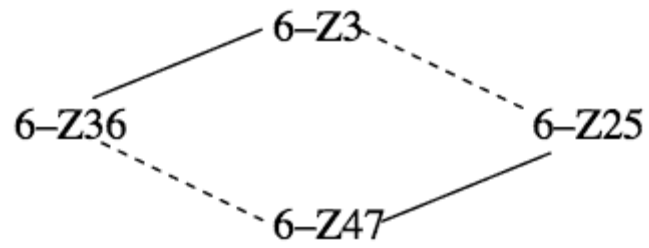
7-Z18 $\overline{\hspace{1.5cm}}$ 7-Z38

8-Z15 $\overline{\hspace{1.5cm}}$ 8-Z29

Example 3. Z-related/M-variant scs

Solid line: Z-relation

Dashed line: M-relation



Example 4. Z-related/M-invariant scs

Solid line: Z-relation

Dashed line: M-relation

5-Z12 ————— 5-Z36

6-Z12 ————— 6-Z41

6-Z17 ————— 6-Z43

6-Z23 ————— 6-Z45

6-Z28 ————— 6-Z49

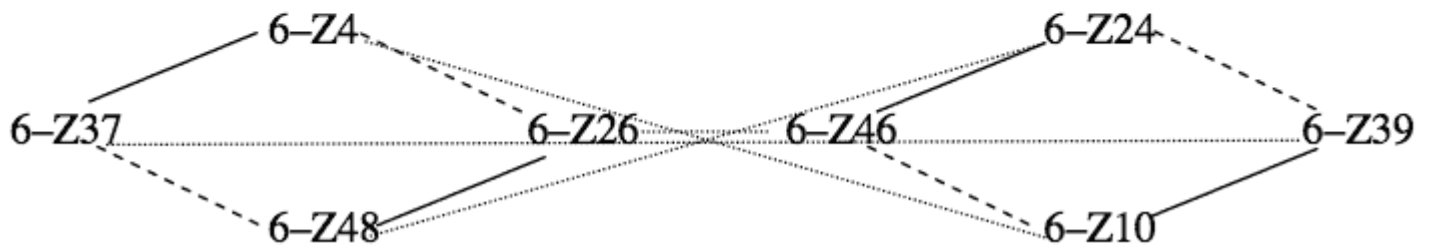
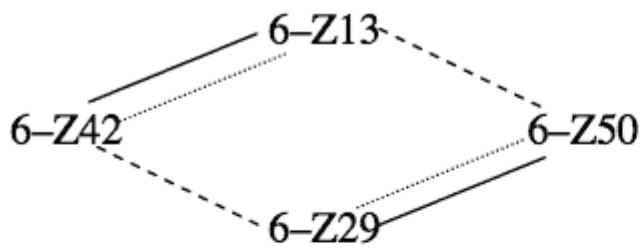
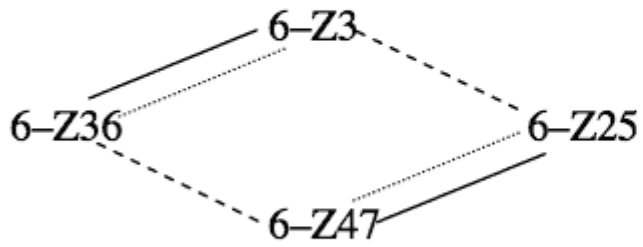
7-Z12 ————— 7-Z36

Example 5. Adding α to the Z-related/M-variant scs

Solid line: Z-relation

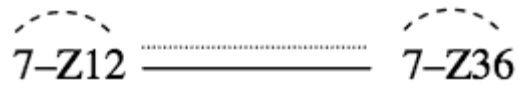
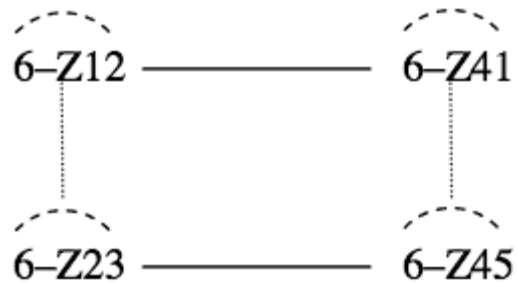
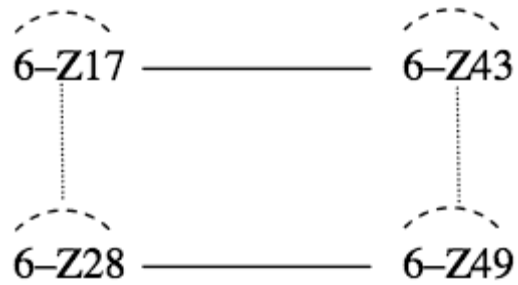
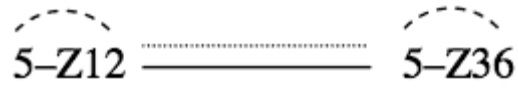
Dashed line: M-relation

Dotted line: α



Example 6. Adding α to the Z-related/M-variant scs

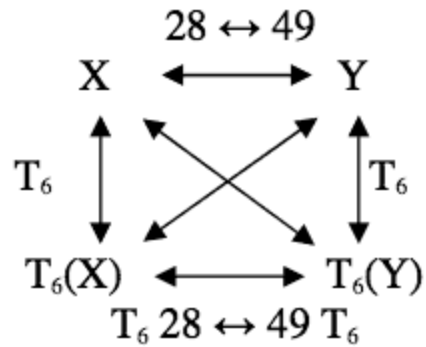
Solid line: Z-relation
Dashed line: M-relation
Dotted line: α



Example 7. Two maximally α -like operations

$28 \leftrightarrow 49.1$	$(01) (23) (47) (56) (89) (AB)$	5 ic 1s, 1 ic 3
$28 \leftrightarrow 49.2$	$(\underline{09}) (12) (34) (56) (78) (AB)$	5 ic 1s, 1 ic 3

Example 8. Redo of the transformational network in Example 1 using $28 \leftrightarrow 49$



Diagonal arrows:

$X \rightarrow T_6(Y) = T_6 28 \leftrightarrow 49$ (right-to-left orthography: first $28 \leftrightarrow 49$, then T_6)

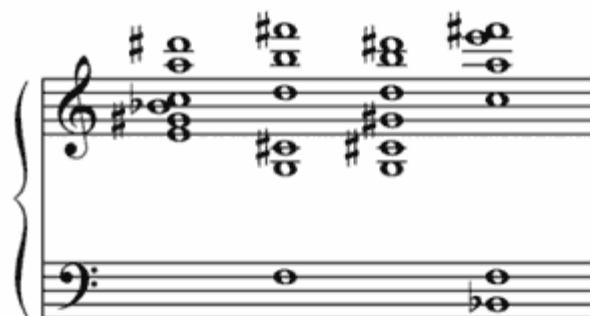
$T_6(Y) \rightarrow X = 28 \leftrightarrow 49 T_6$

$Y \rightarrow T_6(X) = T_6 28 \leftrightarrow 49$

$T_6(X) \rightarrow Y = 28 \leftrightarrow 49 T_6$

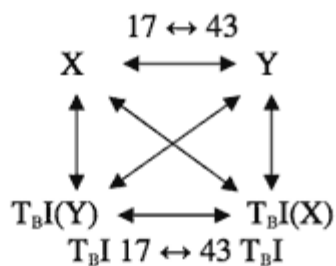
Example 9. Carter, *Retrouvailles* (2000), mm. 5–10

Sc: 6-Z17 6-Z43 6-Z17 6-Z43



X Y T_BI(X) T_BI(Y)
 aggregate aggregate

Transformational network



Diagonal arrows: T_BI

Vertical arrows:

$Y \rightarrow T_{B}I(X) = T_{B}I 17 \leftrightarrow 43$ (right-to-left orthography)

$T_{B}I(X) \rightarrow Y = 17 \leftrightarrow 43 T_{B}I$

$X \rightarrow T_{B}I(Y) = T_{B}I 17 \leftrightarrow 43$

$T_{B}I(Y) \rightarrow X = 17 \leftrightarrow 43 T_{B}I$

Example 12. Maximally α -like operations for the remaining Z-pairs in Example 5

6-Z24/6-Z46

{012469} \in 6-Z46

{3578AB} \in 6-Z24

24 \leftrightarrow 46 (B0) (A1) (23) (45) (67) (89) 5 ic 1s, 1 ic3

6-Z26/6-Z48

{013578} \in 6-Z26

{2469AB} \in 6-Z48

26 \leftrightarrow 48.1 (B0) (12) (34) (56) (7A) (89) 5 ic 1s, 1 ic3

26 \leftrightarrow 48.2 (B0) (A1) (23) (45) (67) (89) 5 ic 1s, 1 ic 3

N.B.: 24 \leftrightarrow 46 and 26 \leftrightarrow 48.2 are identical

6-Z10/6-Z39

{013457} \in 6-Z10

{2689AB} \in 6-Z39

10 \leftrightarrow 39 (B0) (A1) (23) (49) (56) (78) 4 ic 1s, 1 ic 3, 1 ic 5

6-Z4/6-Z37

{012456} \in 6-Z4

{3789AB} \in 6-Z37

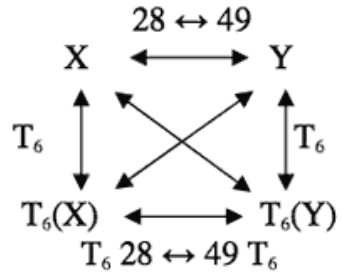
4 \leftrightarrow 37.1 (B0) (91) (A2) (34) (58) (67) 3 ic 1s, 2 ic 4s, 1 ic 3

4 \leftrightarrow 37.2 (B0) (A1) (23) (48) (59) (67) 3 ic 1s, 2 ic 4s, 1 ic 3

Example 13. Maximally α -like operations in beat-class space

Snare Drum

$X = \{02458B\}$
 $Y = \{13679A\}$
 $T_6(Y) = \{790134\}$
 $T_6(X) = \{68AB25\}$



Diagonal arrows:

$$X \rightarrow T_6(Y) = T_6 \ 28 \leftrightarrow 49 \text{ (right-to-left orthography)}$$

$$T_6(Y) \rightarrow X = 28 \leftrightarrow 49 \ T_6$$

$$Y \rightarrow T_6(X) = T_6 \ 28 \leftrightarrow 49$$

$$T_6(X) \rightarrow Y = 28 \leftrightarrow 49 \ T_6$$