(2009-10) James Saunders

#### geometria situs was commissioned by Südwestrundfunk for the Donaueschinger Musiktage 2010

First performed by Sylvain Cambreling and the SWR Sinfonieorchester Baden-Baden, Donauescingen, 17 October 2010.

#### programme note

Geometria situs is the Latin term adopted for the study of the geometry of place, a field of mathematics which has become known as topology. Topology deals with the spatial properties of an object which remain constant when undergoing deformations such as compression or stretching, but not by cutting or gluing. Some objects may be deformed into each other; the classic example is a coffee cup and a donut, both of which feature a single hole. Topology is also referred to as flat sheet geometry.

In geometria situs, all players operate independently and have a series of pages, each of which features a sustained sound which undergoes a series of gradual changes of timbre and dynamic. Each change is cued by the conductor who marks them at irregularly spaced time points. The material is therefore stretched and compressed depending on its placement in the piece, such that the same material might be differently structured on each hearing.

geometria situs was commissioned by Südwestrundfunk for the Donaueschinger Musiktage 2010. It was first performed by Sylvain Cambreling and the SWR Sinfonieorchester Baden-Baden, Donauescingen, 17 October 2010.

#### instrumentation

Instrumentation is flexible, but could comprise:

3 (3 d.pic), 3. (2 d.cor), 3 (3. d. bcl).3/4.3.3.2/timp.3perc/14.12.10.8.6

percussion required: bass drum, tam tam, vibraphone, crotales All players will need at least on auxiliary instrument as determined by their selected pages. See below for information.

#### number of pages

conductor	5	percussion	24
starting cue	10	timpani	8
flute	21	blown tube	6
oboe	20	bowed plastic cup	5
clarinet	16	bowed polystyrene	5
bass clarinet	10	bowed wood	8
bassoon	18	coffee cup on surface	6
horn	24	violin	57
trumpet	18	viola	57
trombone	24	cello	60
tuba	12	double bass	46

Duration: up to 25 minutes.

#### preparation

geometria situs comprises a set of pages for orchestral players and time charts for the conductor. The conductor gives cues at each of the time points, which trigger actions and changes in sound by the players.

Pages should be distributed amongst the orchestral players. Where multiples of a single instrument are present (e.g. violas), split the pages evenly amongst them such that all pages are used before duplicates are included. Where there are insufficient pages to provide enough material, players may be given copies of pages already distributed, such that these are also spread evenly before further duplicates are used.

Each player should be provided with instrumental parts for their specific instrument. Each player should also be given at least one auxiliary part as follows:

woodwind	blown tube; cup on surface
brass	blown tube; cup on surface
percussion	bowed polystyrene; bowed wood; bowed plastic cup; cup on surface
strings	bowed polystyrene; bowed wood; bowed plastic cup

Players should source auxiliary instruments themselves, such that a variety of objects are used in a performance. Where possible, avoid duplicating objects used by other players.

Each player is also given a page which indicates their starting point. These pages should be spread evenly amongst players, such that there is an equal spread of each starting timepoint, and that these are also shared evenly amongst the different instrument types.

The conductor selects one of the time charts. For shorter performances, later time points may be omitted. The conductor needs a stopwatch.

#### performance

The conductor gives cues at each of the time points on the selected timechart. These should be given with a clear downbeat. In between each downbeat, the approximate time to the next timepoint should be indicated so that players can measure the transition of their sounds. This might be achieved by gradually raising the other hand proportionally over the required duration so that it reaches the top of the downbeat at the correct time.

The players all act individually. Their selected pages should be ordered in advance of the performance without reference to choices made by other players. The ordering should be changed for each performance (and rehearsal as appropriate).

Each page of the instrumental parts comprises a single held sound separated into distinct phases by vertical cue points. Each sound changes one parameter (e.g. dynamic, timbre, playing technique) between or at a cue point. Where a sound changes between cue points, this should be an even and gradual transition. Where there is a sudden change (e.g. moving from normal to tremolo bowing), where possible the change should be gradually introduced in advance of or following the cue (e.g. so the tremolo might gradually accelerate to full speed by the cue). Transitions around cue points should in general be smooth.

Players individually select a cue given by the conductor at which to begin their next page. The first cue is provided by the page supplied in the part (i.e. +6 would mean to start on the sixth cue, and +1 would mean to start on the first cue etc.).

After completing their first page, players determine freely when they begin their next page. There must be at least one inactive period for each player between pages however (i.e. the final cue of the preceding page may not also be the first cue of the next). If all pages are used before the performance is complete, they may be reused.

The first of the selected conductor cues becomes cue 1 on the current page. Players complete the page as determined by the duration of the cues given by the conductor. The choice of starting point will therefore affect the duration of each page, and the changes within it.

When there are 10 cues remaining, the conductor will signal this by counting down on their fingers when giving cues. At this point, players may only begin a new page if there are sufficient cues remaining for it to be completed (i.e. if the conductor has signalled '4' remaining cues, pages with five or more cue points may not be started, and the player remains silent until the end).

In general, there should be a relatively uniform sound and balance between all instruments. The low dynamic range should be adjusted appropriately to allow for the correct sound production on the edge of silence at the low end, through to an audible result with enough presence for the performance space at the higher end.

For sounds which need to be interrupted through breaths or bow changes, try to create as smooth a result as possible, and avoid cue points for changes.

transposing instruments	Parts may be played on any related instrument unless specified (e.g. flute parts can be played on piccolo, alto flute etc.). If a transposing instrument is used, the sounding result will vary depending on the transposition.
general instructions	
o-pppp()	The sound should be on the edge of silence, and stop and start irregularly, or have an inconsistent quality due to any associated playing techniques (often used on combination with various tremolo or o-pppp markings).
ppp(<>)	The sound should centre on the indicated dynamic, but allow any micro-variations to emerge naturally (do not try to play them though)
wind and brass	
[throat]	A very rapid series of single articulations of the air stream in the throat (not a growl or flutter-tongue). The pace should be as fast as possible, to the point where it is hard to control the regularity of the attack.
[air/pitch]	Breath sound with a clear pitch component. Where this is unspecified (single-line stave), any pitch may be selected. Where two-line staves are used, a lower- and higher-pitched breath sound should be selected. Where trills are marked on breath sounds, find a fingering which allows the articulation to be heard clearly.
[air/noise]	Breath sound with little pitch component. Noise tones should be emphasised.
М	Multiphonic. All multiphonics should be relatively pure, with a tendency towards consonant pitch content. Where more than one multiphonic is indicated on a page, each should be different
4	An alternate, timbre fingering (small mictrotonal detunings are acceptable). The numbers are based on Peter Veale's The Techniques of Oboe Playing (Kassel, 1998) and range from 0 (normal fingering) to 5. The higher the number, the more diffuse the result.
[bleed]	Slightly depress or raise a valve from the normal fingering to destabilise the sound. Where a trill line is also indicated, the position of the valve should be slowly varied.
mutes	Mutes are indicated as boxed text. See auxiliary instrument instructions for related markings
<u>flute</u> [whistle tones] [blocked] diamond noteheads	Conventional whistle tones. Aim for a relatively stable pitch, but accept any occasional oscillations. Place mouth completely over mouthpiece and blow into instrument. A hollow pitched tone, pure.
oboe/bassoon [rolling tone] tr	The rolling tone is obtained by a stronger lip pressure on the reed. A double trill using a separate trill key for each hand resulting in a faster oscillation.

<u>horn</u>	
hand stopping	Where gradual stopping and glissando are indicated, do not compensate for pitch change (allow gliss to occur as a result of stopping). Where gradual stopping only is indicated, compensate for pitch change in order to maintain pitch (timbral change only).
auxiliary instruments	
mutes + o	Mutes are indicated in boxed text for brass instruments. Where mutes are indicated for auxiliary instruments (e.b. blown tubes), either the hand or another appropriate object may be used. closed open
<b>+</b>	blocked – as closed, but with extra pressure to seal the tube as much as possible.
	A mute tremolo involving a small uneven shaking movement of the mute centred on the position(s) indicated.
bowed wood	Select any piece of wood (timber, found, objects, instruments), and bow as indicated with a string instrument bow. String players may use the wood of their instrument if preferred. Noise tones are preferred.
bowed polystyrene	Select any piece of polystyrene and bow an edge as indicated. When sourcing polystyrene, experiment with size and density to find a rich sound.
[light pressure]	Bow the polystyrene very lightly to produce a clearer and more stable tone
[very slow bow]	Very slow bow movement, producing a series of unpredictable clicks/noise.
bowed plastic cup	A hard, thin plastic disposable drinking glass, preferable with a well defined (sharp) rim. Any size may be used. Bow one side of the rim at an angle of at least 30°, unless indicated. Up and down bow will produce a different sound.
[fast, light pressure]	A fast and light bow movement producing a sound with a clearer pitch content. Bow markings are not given with this indication given the need to use a lot of bow.
[bow flat]	Bow flat across cup such that the bow touches the rim on opposing edges.
blown tube	Select any type of straight, open tube, made from any material (e.g. cardboard tube, drinking straw, copper pipe, waste pipe, hose etc.). Any length capable of producing an audible sound may be used. When blowing, an air sound should result, possibly with a slight pitch content. This may be aided by sounding a 'f' phonetic into the tube. Do not blow in the manner of a flute or brass instrument. See above for mute information.
coffee cup on surface	A standard card takeaway coffee cup. Any flat surface may be selected to be sampled by the cup (e.g. a metal sheet, polystyrene block, a brick, a wooden tray, felt etc.) using the techniques indicated
U	use base of cup on surface
Π	use rim of cup on surface (upside down)

[drag]	Pull the cup across the chosen surface. Appropriate pressure for the designated volume will be
[scratch]	A rapid back and forth friction action
[circle]	A friction action with a regular circular motion

#### percussion

See auxiliary instruments for other related instructions

[push]	A constant long friction action in one direction with the hand pushing the beater/object across the surface. The pushing action should create greater friction resulting unstable iittering, unevenness etc.
[roll]	A very rapid roll with one stick/hand only ( <u>not</u> a conventional two stick/hand) The pace should be as fast as possible, to the point where it is hard to control the regularity of the attack. All rolls should be of this
[damp]	Lightly damp crotales with finger tips to reduce upper partials
[muffle]	Lightly damp timpani with finger tips
washing-up brush	A plastic-haired washing-up brush with relatively stiff bristles.
strings	
diamond noteheads	Diamond noteheads indicate a harmonic pressure left hand fingering. The indicated pitch and roman numeral denote the position of the finger and the string to be used. This will produce a range of results from relatively clear harmonics through to (coloured) noise.
[damp]	Damp all strings lightly with the fingers of the left hand. A coloured pitch/noise sound will result.
[bow tailpiece]	Bow the tailpiece using the indicated techniques: the sound will vary depending on their specification
[bow spike]	Place cello on lap and bow near the end of the spike, producing a low-pitched tremolo
preparations	Selection and placement of the exact objects to be used when preparing instruments is at the discretion of the players. Aim for maximum variety between players and avoid duplicating preparations where possible. Objects should be inserted and removed from the instrument as quietly as possible.
metal preparation	A small, light piece of metal (e.g. a large paper clip, cutlery, a skewer, metal ruler, small bolt etc.) should be inserted above I and IV and below II and III. The best position will be determined by the combination of instrument and object.
wood preparation	A small light piece of wood (e.g. a lolly stick, pencil, chopstick, toothpick, coffee stirrer etc.) should be inserted above I and IV and below II and III. The best position will be determined by the combination of instrument and object. The wood should force the non-bowed strings to vibrate sympathetically.
card preparation	A small piece of paper or card should be woven between the strings over the fingerboard. The marking 'card' indicates that stings/card should be bowed over the card itself (molto sul tasto).
cloth preparation	A small piece of cloth (any type of fabric may be used) should be woven between the strings over the fingerboard. Bow in the conventional manner.

geometria situs	Jar	mes Saunders
conductor (1)		
0:00	9:23	17:35
0:16	9:36	17:43
0:58	9:41	17:53
1:09	10:11	18:00
<u>1:31</u>	10:26	18:05
2:03	<u>10:37</u>	18:41
2:11	11:32	18:44
<u>2:23</u>	<u>12:05</u>	<u>18:48</u>
3:02	13:06	19:23
3:34	13:25	19:38
3:43	13:31	19:53
3:48	13:41	<u> 19:59</u>
<u>3:56</u>	13:51	<u>20:55</u>
4:29	<u>13:53</u>	21:09
<u>4:47</u>	14:04	21:12
5:28	14:17	21:34
5:30	14:19	<u>21:48</u>
5:39	<u>14:33</u>	22:14
<u>5:40</u>	15:01	22:22
7:16	15:03	22:26
7:20	15:32	<u>22:37</u>
7:46	<u>15:52</u>	<u>23:17</u>
<u>7:51</u>	<u>16:38</u>	24:02
8:27	17:04	24:36
8:31	17:07	<u>24:55</u>
<u>8:36</u>	17:08	<u>25:00</u>
9:04	17:26	

geometria situs conductor (2)	Jc	ames Saunders
0.00	6.20	14.20
0.27	6:56	1.5:49
0:49	<u></u>	16:04
0:57	7:12	16:12
1:19	7:19	16:24
1:23	7:28	16:26
1:31	7:33	16:36
1:33	8:41	16:49
2:09	8:45	16:54
2:38	10:18	17:38
2:43	10:22	18:17
2:45	10:23	<u>18:29</u>
2:52	10:30	19:04
<u>2:53</u>	<u>10:49</u>	19:35
3:26	11:03	<u>19:51</u>
<u>3:32</u>	11:09	20:04
4:38	11:45	20:15
<u>4:41</u>	<u>11:56</u>	20:32
5:07	12:02	<u>20:59</u>
5:25	12:04	<u>21:01</u>
5:43	12:15	22:14
<u>5:57</u>	<u>12:28</u>	<u>22:31</u>
6:01	13:16	<u>23:57</u>
6:12	13:26	24:10
6:30	13:35	<u>24:15</u>
6:40	<u>13:40</u>	25:00
6:44	14:09	

geometria situs	James S	Saunders
conductor (3)		
0:00	8:18	15:18
0:52	<u>8:28</u>	<u>15:47</u>
<u>0:55</u>	9:03	16:25
1:14	9:16	16:34
1:41	9:25	16:39
1:50	9:27	<u>16:48</u>
1:54	9:37	17:02
<u>1:58</u>	9:57	<u>17:41</u>
2:29	<u>9:59</u>	18:00
2:34	10:20	18:08
<u>2:57</u>	10:36	18:34
3:15	<u>10:55</u>	<u>18:44</u>
<u>3:57</u>	11:32	<u>19:47</u>
4:07	11:36	20:10
4:17	<u>11:49</u>	20:24
4:35	12:02	20:27
<u>4:40</u>	12:04	20:43
5:07	12:39	<u>20:44</u>
5:23	<u>12:40</u>	21:09
<u>5:44</u>	13:01	<u>21:33</u>
6:24	13:13	<u>22:02</u>
6:48	13:41	23:07
<u>6:59</u>	13:50	23:23
7:04	<u>13:51</u>	<u>23:42</u>
7:50	14:14	<u>24:04</u>
<u>7:54</u>	14:55	<u>25:00</u>
8:03	<u>14:57</u>	

geometria situs	James	Saunders
conductor (4)		
0:00	9:02	18:40
0:13	9:39	19:03
0:19	9:53	19:16
0:24	10:07	19:39
0:35	10:42	20:04
0:46	11:17	20:05
0:51	11:30	20:12
1:13	<u>11:42</u>	20:21
<u>1:16</u>	12:05	<u>20:41</u>
2:20	12:10	21:47
<u>2:25</u>	12:54	21:50
3:01	13:14	<u>21:50</u>
<u>3:15</u>	13:15	22:44
4:00	13:16	<u>22:59</u>
4:01	<u>13:26</u>	23:16
4:42	14:49	23:49
<u>4:44</u>	<u>14:58</u>	23:52
5:18	15:05	<u>23:55</u>
5:38	15:21	24:30
5:40	<u>15:36</u>	24:30
5:41	16:01	<u>24:40</u>
<u>5:57</u>	16:05	25:00
6:32	16:36	
6:35	<u>16:37</u>	
6:41	17:33	
<u>6:48</u>	<u>17:36</u>	
<u>7:06</u>	18:13	
8:03	18:24	
<u>8:21</u>	18:28	

geometria situs	James S	Saunders
conductor (5)		
0:00	<u>8:52</u>	18:06
<u>0:13</u>	9:13	18:10
<u>1:00</u>	9:22	18:15
2:14	<u>9:52</u>	18:38
2:15	10:26	<u>18:42</u>
<u>2:46</u>	10:33	19:14
3:14	<u>10:45</u>	19:17
<u>3:43</u>	11:09	19:20
4:03	11:16	19:31
4:20	11:17	19:33
4:36	11:28	<u>19:40</u>
4:43	11:42	20:29
<u>4:51</u>	<u>11:46</u>	20:36
5:04	12:16	<u>20:48</u>
<u>5:30</u>	12:26	21:14
6:21	12:31	21:24
6:23	12:36	21:37
<u>6:43</u>	<u>12:46</u>	21:51
7:04	13:22	<u>21:57</u>
7:13	<u>13:44</u>	22:05
7:31	<u>14:38</u>	<u>22:23</u>
<u>7:42</u>	<u>15:21</u>	23:09
8:05	16:26	<u>23:42</u>
8:35	<u>16:44</u>	24:37
8:37	17:28	<u>24:52</u>
8:42	<u>17:36</u>	25:00
8:49	18:05	

#### James Saunders

James Saunders

James Saunders



James Saunders

James Saunders

#### James Saunders

James Saunders

James Saunders

James Saunders

flute (1)



flute (2)



flute (3)



flute (4)



flute (5)



flute (6)



James Saunders

flute (7)



flute (8)







#### James Saunders



\* any audible trill fingering



#### geometria situs flute (13)




flute (15)



flute (16)



flute (17)



flute (18)





#### geometria situs flute (20)





oboe (1)



oboe (2)



oboe (3)



oboe (4)



oboe (5)



oboe (6)



oboe (7)



oboe (8)



oboe (9)



oboe (10)



oboe (11)



oboe (12)



#### geometria situs oboe (13)



#### geometria situs oboe (14)



#### geometria situs oboe(15)



#### geometria situs oboe (16)



oboe (17)



oboe (18)



oboe (19)



oboe (20)



clarinet (1)



clarinet (2)



clarinet (3)



clarinet (4)



clarinet (5)



clarinet (6)



clarinet (7)



clarinet (8)


clarinet (9)



clarinet (10)



clarinet (11)



clarinet (12)



clarinet (13)



clarinet (14)



clarinet (15)



clarinet (16)



bass clarinet (1)



bass clarinet (2)



bass clarinet (3)



bass clarinet (4)



bass clarinet (5)



bass clarinet (6)



bass clarinet (7)



bass clarinet (8)



bass clarinet (9)



bass clarinet (10)



bassoon (1)



bassoon (2)



bassoon (3)



bassoon (4)



bassoon (5)



bassoon (6)



bassoon (7)



bassoon (8)



bassoon (9)



bassoon (10)



bassoon (11)



bassoon (12)



bassoon (13)



bassoon (14)



bassoon (15)



bassoon (16)



bassoon (17)



bassoon (18)


horn (1)



horn (2)



horn (3)



horn (4)



horn (5)



horn (6)



horn (7)



horn (8)



horn (9)



horn (10)



horn (11)



horn (12)



horn (13)



horn (14)



#### geometria situs horn (15)





#### geometria situs horn (17)



#### geometria situs horn (18)



horn (19)



horn (20)



horn (21)



horn (22)



horn (23)



horn (24)



trumpet (1)



trumpet (2)



trumpet (3)



trumpet (4)



trumpet (5)



trumpet (6)



trumpet (7)



trumpet (8)



trumpet (9)



trumpet (10)



trumpet (11)



trumpet (12)


trumpet (13)



trumpet (14)



trumpet (15)



trumpet (16)



trumpet (17)



trumpet (18)



trombone (1)



trombone (2)



trombone (3)



trombone (4)



trombone (5)



trombone (6)



trombone (7)



trombone (8)



trombone (9)



trombone (10)



trombone (11)



trombone (12)



trombone (13)



trombone (14)



trombone (15)



trombone (16)



trombone (17)



trombone (18)



trombone (19)



trombone (20)



trombone (21)



trombone (22)



trombone (23)



trombone (24)



tuba (1)



tuba (2)



tuba (3)



tuba (4)



tuba (5)



tuba (6)


#### geometria situs <sup>tuba (7)</sup>



#### geometria situs <sup>tuba (8)</sup>



tuba (9)



tuba (10)



tuba (11)



tuba (12)



percussion (1)



percussion (2)



percussion (3)



percussion (4)



percussion (5)



percussion (6)



percussion (7)



percussion (8)



percussion (9)



percussion (10)



percussion (11)



percussion (12)



percussion (13)



percussion (14)



percussion (15)



percussion (16)



percussion (17)



percussion (18)



percussion (19)



percussion (20)



percussion (21)



percussion (22)



percussion (23)



percussion (24)



timpani (1)



timpani (2)



timpani (3)



timpani (4)



timpani (5)



timpani (6)


timpani (7)

James Saunders



o-pppp (----) \_\_\_\_ppp (<>)

-----0

timpani (8)



blown tube (1)



blown tube (2)



blown tube (3)



blown tube (4)

James Saunders



+

blown tube (5)

James Saunders



+

blown tube (6)



bowed plastic cup (1)



bowed plastic cup (2)



bowed plastic cup (3)

#### James Saunders



\*change bow direction as necessary

bowed plastic cup (4)



bowed plastic cup (5)



bowed polystyrene (1)



bowed polystyrene (2)



bowed polystyrene (3)



bowed polystyrene (4)



bowed polystyrene (5)



bowed wood (1)



bowed wood (2)



bowed wood (3)



bowed wood (4)



bowed wood (5)



bowed wood (6)



bowed wood (7)



bowed wood (8)



coffee cup on surface (1)



coffee cup on surface (2)



coffee cup on surface (3)



#### geometria situs coffee cup on surface (4)



coffee cup on surface (5)



coffee cup on surface (6)



#### geometria situs violin (1)



violin (2)



violin (3)



violin (4)


violin (5)



violin (6)



violin (7)



violin (8)



violin (9)



violin (10)



violin (11)



violin (12)



violin (13)



violin (14)



violin (15)



violin (16)



violin (17)



violin (18)



violin (19)



violin (20)



violin (21)



violin (22)



violin (23)



violin (24)



violin (25)



violin (26)



violin (27)



violin (28)



violin (29)



violin (30)



violin (31)



violin (32)



violin (33)



violin (34)



violin (35)



violin (36)



violin (37)



violin (38)



violin (39)



violin (40)


violin (41)



violin (42)



violin (43)



violin (44)



violin (45)



violin (46)



violin (47)



violin (48)



violin (49)



violin (50)



violin (51)



violin (52)



violin (53)



violin (54)



violin (55)



violin (56)



violin (57)



#### geometria situs viola (1)



viola (2)



viola (3)



viola (4)



viola (5)



viola (6)



viola (7)



viola (8)



viola (9)



viola (10)



viola (11)



viola (12)



viola (13)



viola (14)



viola (15)



viola (16)



viola (17)



viola (18)



viola (19)


viola (20)



viola (21)



viola (22)



viola (23)



viola (24)



viola (25)



viola (26)



viola (27)



viola (28)



viola (29)



viola (30)



viola (31)



viola (32)



viola (33)



viola (34)



viola (35)



viola (36)



viola (37)



viola (38)



viola (39)



viola (40)



viola (41)



viola (42)



viola (43)



#### geometria situs viola (44)



#### geometria situs viola (45)



viola (46)



viola (47)



viola (48)



viola (49)



viola (50)



viola (51)



viola (52)



viola (53)



viola (54)



viola (55)

### James Saunders





\_\_\_\_\_ ppp \_\_\_\_\_
viola (56)



viola (57)







cello (3)



cello (4)



cello (5)



cello (6)



cello (7)



cello (8)



cello (9)



cello (10)



cello (11)



cello (12)



cello (13)



cello (14)



cello (15)



cello (16)



cello (17)



cello (18)



cello (19)



cello (20)



cello (21)



cello (22)



cello (23)



cello (24)



cello (25)



cello (26)



cello (27)



cello (28)



cello (29)



cello (30)



James Saunders

cello (31)



cello (32)



cello (33)



#### geometria situs cello (34)


cello (35)



cello (36)



cello (37)



cello (38)



cello (39)



cello (40)



cello (41)



cello (42)



cello (43)



cello (44)



cello (45)



cello (46)



cello (47)



cello (48)



cello (49)



cello (50)



cello (51)



cello (52)



cello (53)



cello (54)



cello (55)



cello (56)



cello (57)



cello (58)



cello (59)



cello (60)



double bass (1)



double bass (2)



double bass (3)



double bass (4)



double bass (5)



double bass (6)



double bass (7)



double bass (8)



double bass (3)



double bass (10)


double bass (11)



double bass (12)



double bass (13)



double bass (14)



double bass (15)



double bass (16)



double bass (17)



double bass (18)



double bass (19)



double bass (20)



double bass (21)



double bass (22)



double bass (23)



double bass (24)



double bass (25)



double bass (26)



double bass (27)



double bass (28)



double bass (29)



double bass (30)



double bass (31)



double bass (32)



double bass (33)



double bass (34)



double bass (35)



double bass (36)



double bass (37)



double bass (38)



double bass (39)



double bass (40)



double bass (41)



double bass (42)



double bass (43)



double bass (44)



double bass (45)



double bass (46)

