

PSYTE #1
Bauhaus Universität, Weimar, Germany

VARIABLES

The length of the piece is determined by the amount of time granted by the institution for its execution. For Psyte #1 the performance length is one hour.

The length of the performance is represented by the letter A.

Determine to the nearest second the longitude and latitude of the site where the performance is to take place. These coordinates will be represented by the following letters:

Longitude = B° C' D"

Latitude = E° F' G"

Determine the number of walls in the room where the piece is going to be performed. This will be represented by the letter H.

Dimensions of an individual wall will be noted as follows:

Depth = (l¹)x, (l²)x, etc.

Width = (l¹)y, (l²)y, etc.

Determine the time of the sunrise and sunset of the day of the performance. Then determine the length of the day. Then determine the absolute difference in length between the given day and the same day of the week one week earlier. This absolute difference will be represented by the letter J.

For each given day determine the average maximum recorded temperature in degrees celcius at the performance location through recorded history. This will be represented by the letter K.

DERIVING THE TIMING OF MUSICAL EVENTS

To determine when musical events will occur execute the following equations

$$A/B=m$$

$$A/C=n$$

$$A/D=o$$

$$A/E=p$$

$$A/F=q$$

$$A/G=r$$

$$A/I=s$$

$$A/J=t$$

$$A/K=u$$

This generates a series of numbers. This series generates a schedule for the performance. Musical events will occur every m,n,o,p,q,r,s,t and u seconds during the duration of the performance. In instances where two musical events are set to occur at the same time the events will repeat continuously until the next musical event is scheduled to take place.

DETERMINING THE INSTRUMENTATION

Instruments are to be assigned to every wall in the performance space. Instruments are not assigned to doorframes or other walls that would not be of sufficient size to accommodate the instrument or the performer. The type of instrument to be assigned to each wall depends on the orientation of the building and the direction the wall faces in accordance with the following axis.

North: Idiophones

East: Membranophones

South: Chordophones

West: Aerophones

DETERMINING THE CONTENT OF MUSICAL EVENTS

I. IDIOPHONES

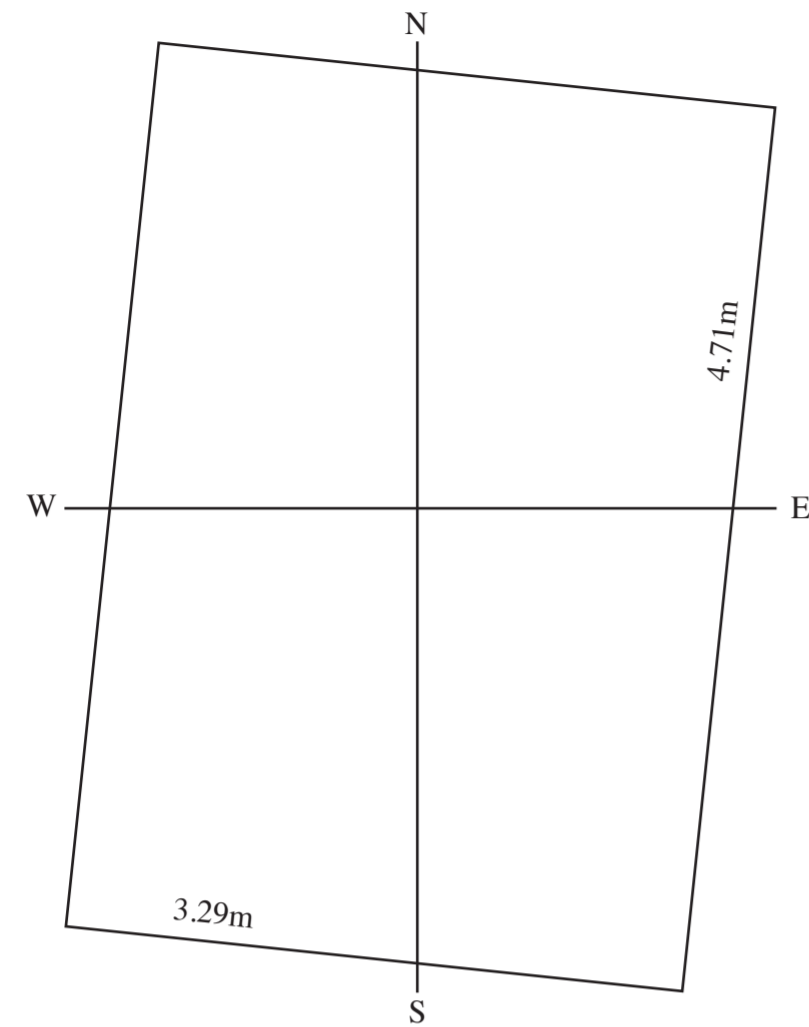
- a. Harmonic Idiophones - Notes will be based on the dimensions of the wall that the instrument has been assigned to:
 - i. Find (l)x and (l)y in centimeters. These numbers represent the frequency of the origin and destination notes for each wall. When a musical event is triggered a player will play every half note between (l)x and (l)y.
- b. Non Harmonic Idiophones - The number of hits triggered by a musical event will correspond to the J/l. The tempo and velocity of these beats is left to the performer.

II. MEMBRANOPHONES - The number of hits triggered by a musical event will correspond to the J/l. The tempo and velocity of these beats is left to the performer.

III. CHORDOPHONES - Find (l)x and (l)y in centimeters. These numbers represent the frequency of the origin and destination notes for each wall. When a musical event is triggered a player will play every half note between (l)x and (l)y. He will repeat this scale v times where v=A/l. v must be a whole number and l will be given in square meters.

IV. AEROPHONES - Find (l)x and (l)y in centimeters. These numbers represent the frequency of the origin and destination notes for each wall. When a musical event is triggered a player will play every half note between (l)x and (l)y. He will repeat this scale v times where v=A/l. v must be a whole number and l will be given in square meters.

ORIENTATION



North: Vibraphone
 East: Drum Kit
 South: Piano
 West: Saxophone

(l^1)329cm x (l^1)230cm

329 Hz = 3900 cents = E4
 230 Hz = 3400 cents = A#3

(l^2)471cm x (l^2)230cm

471 Hz = 4600 cents = A#4
 230 Hz = 3400 cents = A#3

(l^3)329cm x (l^3)230cm

329 Hz = 3900 cents = E4
 230 Hz = 3400 cents = A#3

(l^4)471cm x (l^4)230cm

471 Hz = 4600 cents = A#4
 230 Hz = 3400 cents = A#3

VARIABLES

Length of Performance: 1 hr = 60 min = 3600 sec

Longitude: 11° 32' 79"

Latitude: 50° 97' 52"

Number of walls: 4

(l^1)329cm x (l^1)230cm

(l^2)471cm x (l^2)230cm

(l^3)329cm x (l^3)230cm

(l^4)471cm x (l^4)230cm

Absolute difference in day length between Jan 22, 2010 and Jan 29, 2010: 23 min = 1380 sec

Average recorded high temperature in Weimar Germany on Jan 29, 2010: 3° C

A/B = m = 3600/11 = 327

A/C = n = 3600/32 = 113

A/D = o = 3600/79 = 45

A/E = p = 3600/50 = 72

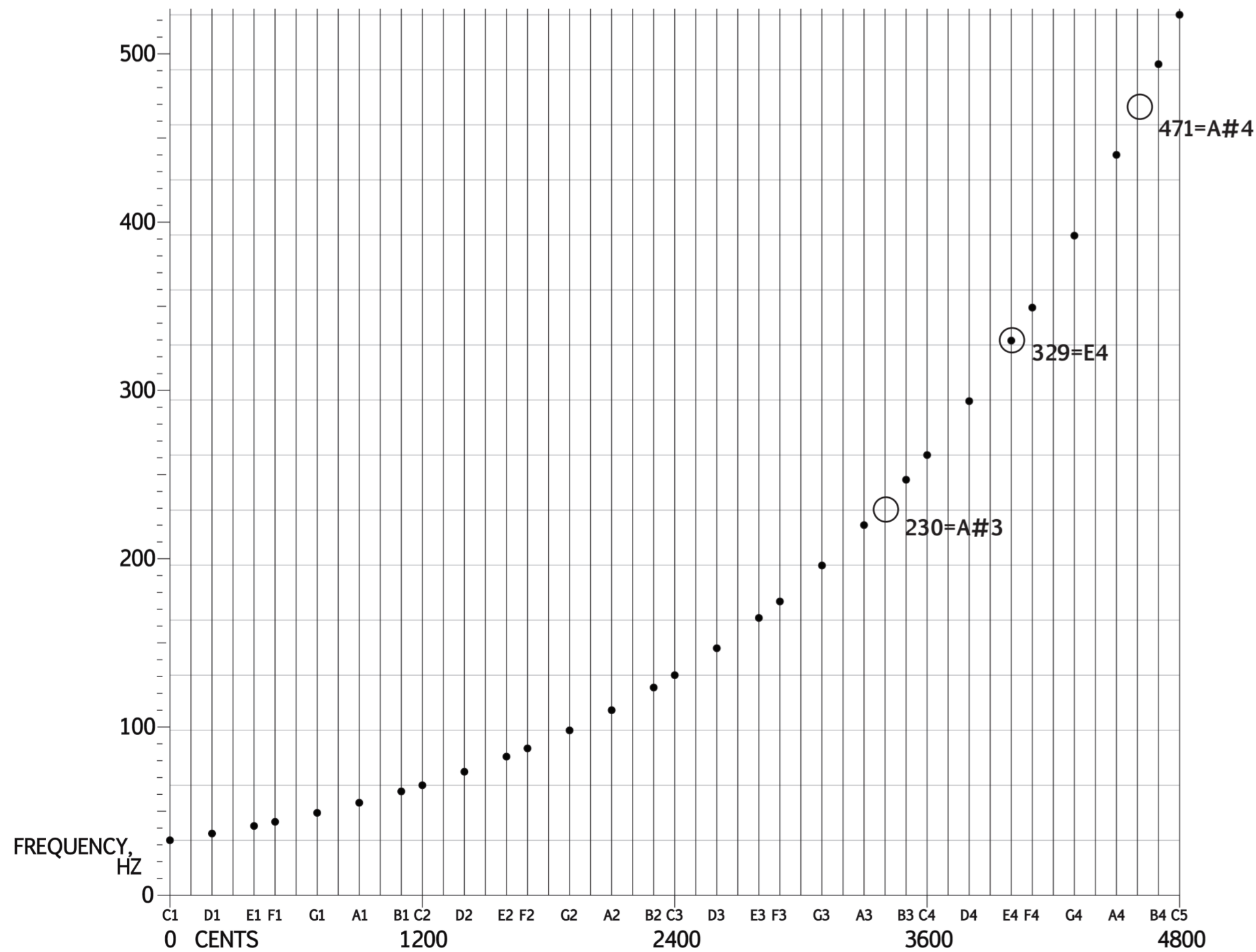
A/F = q = 3600/97 = 37

A/G = r = 3600/52 = 69

A/I = s = 3600/4 = 900

A/J = t = 3600/23 = 157

A/K = u = 3600/3 = 1200



TIMING

Musical events occur every 37, 45, 69, 72, 113, 157, 327, 900, 1200 seconds

37>37 74 111 138 185 222 259 293 333 370 407 444 481 518 555 592 629 666 702 740 777 814 888 925 962 999 1046 1073
 1110 1147 1184 1221 1258 1295 1332 1369 1406 1443 1480 1519 1554 1591 1628 1665 1702 1739 1776 1813 1850 1887 1924
 1961 1998 2035 2072 2109 2146 2183 2220 2257 2294 2331 2368 2405 2442 2474 2516 2553 2590 2627 2664 2707 2738 2775
 2812 2849 2886 2923 2960 2997 3034 3071 3108 3145 3182 3219 3256 3293 3330 3367 3404 3441 3475 3515 3552 3589

45> 45 90 135 180 225 270 315 360 405 450 495 540 585 630 675 720 765 810 855 900 945 990 1035 1080 1125 1170 1215
 1170 1215 1260 1305 1350 1395 1440 1485 1530 1575 1620 1665 1710 1755 1800 1845 1890 1935 1980 2025 2070 2115 2160
 2205 2250 2295 2340 2385 2430 2475 2520 2565 2610 2655 2700 2745 2790 2835 2880 2925 2970 3015 3060 3105 3150 3195
 3240 3285 3330 3375 3420 3465 3510 3555 3600

69>69 138 207 276 345 414 483 552 621 690 759 828 894 966 1035 1104 1173 1242 1311 1380 1449 1518 1587 1656 1725 1794
 1863 1932 2001 2070 2139 2205 2277 2346 2415 2484 2553 2622 2691 2760 2829 2898 2967 3036 3105 3174 3243 3312 3381
 3450 3519 3588

72>72 144 216 288 360 432 504 576 648 720 792 864 936 1008 1080 1152 1224 1296 1368 1440 1512 1584 1656 1728 1800 1872
 1944 2016 2088 2160 2232 2304 2376 2448 2520 2592 2664 2736 2808 2880 2952 3024 3096 3168 3240 3312 3384 3456 3528
 3600

113>113 232 348 464 580 696 812 928 1044 1160 1276 1392 1508 1624 1740 1856 1972 2088 2204 2320 2436 2552 2668 2784
 2900 3016 3132 3248 3364 3480 3596

157> 157 314 471 628 785 942 1099 1256 1413 1570 1727 1884 2041 2198 2355 2512 2669 1826 2983 3140 3297 3454

327>327 654 981 1308 1635 1962 2289 2616 2943 3270 3597

900>900 1800 2700 3600

1200>1200 2400 3600