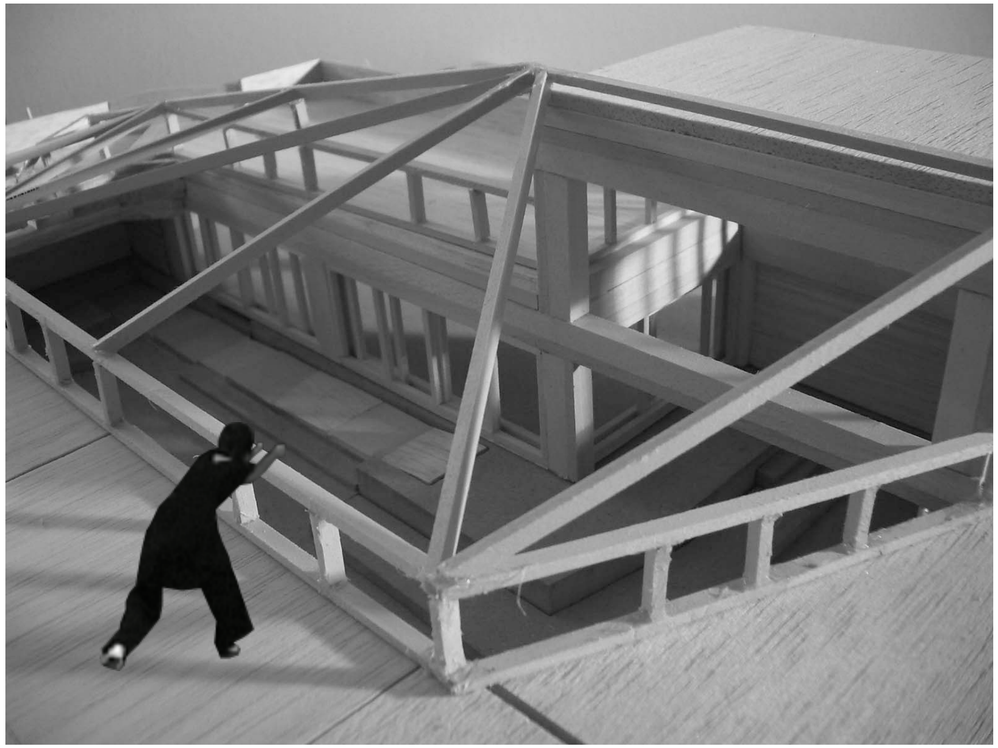
LIVING DANCE

creating ARCHITECTURE through DANCE



A Comprehensive Exam Submitted to the Faculty of Graduate Studies in Partial Fulfillment of the Requirements for the Degree of

MASTERS OF ARCHITECTURE

by Victoria Yeung

Faculty of Architecture, University of Manitoba, Winnipeg, MB

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ABSTRACT

Life may not be the party we hoped for; but while we are here we might as well DANCE.

Proverb

The aim of this project was to find a way to partner dance and architecture in order to create a space that was more engaging to the body. Dance, and its core element, movement, took on three different roles in this study:

(1) Interpretive forms of dance and movement were used for site exploration,

(2) Movement notation was used as a method for documenting both the site inspired dance as well as the existing context,

and

(3) The understanding and analysis of site through movement and movement notation was used to understand how an existing site could be improved.

The site was then redesigned based on the criteria regarding body experience that was established through interpretation, notation and, exploration. The resulting design is a space that allows the body to be free and engage the site both physically and socially in a more meaningful way.

GOAL STATEMENT

The primary goal of this project was to see what possibilities existed for dance to be used as a method for site exploration. It explored how a site could be an active partner in dance, how existing forms of movement notation could influence site mapping, and how the knowledge acquired through this form of study could lead to architecture that fulfills the needs of the site. Although, the project did not actively focus on sociological aspects of site interaction, it can be stated that the secondary goal was to use these methods in order to redesign an otherwise uninviting space into a place where people would be willing to stay, work, sit, and meet.

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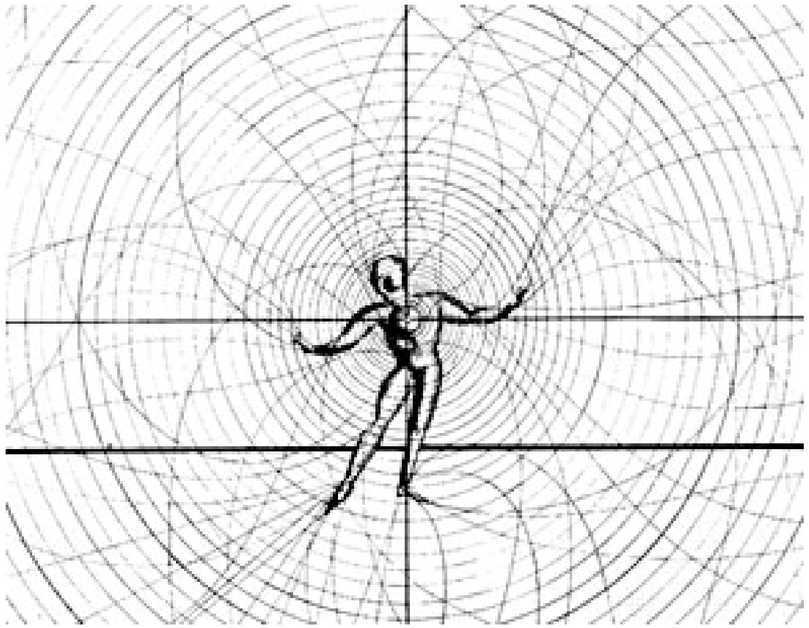


Images of the body are some of the more troubling icons of science fiction…[and] of the latter twentieth century...

They include images of the remnant body in limited service to the all-powerful brain…

Hagood, 'Popular Culture and the Imagined Body', 33

Figure: Schlemmer, 'Relation of Body to Stage', 43

INTRODUCTION

In his article "Popular Culture and the Imagined Body," dance critic Thomas Hagood argues that in today's world, we run the risk of completely divorcing our bodies from our minds. As virtual realities and cyberspace allow us to partake in non-physical actions and interaction, the importance of the physical body is diminished.

Gartner suggests that the

> *philosophical alienation of the body from the mind has resulted in the absence of embodied experience from almost all contemporary theories of meaning in architecture… Experience, as it relates to understanding seems reduced to a matter of the visual registration of coded messages – a function of the eye while might well rely on the printed page and dispense with the physical presence altogether (Gartner 10-11).*

As society further disassociates mind from body, we run the risk of creating architecture that favors the visual over the experiential. The design process often takes the following path:

Site => Visual Experience => Graphic Notation => Architecture

This often results in architecture that is visually oriented, as that is the method of interpretation used to create it. However, this project agrees with architect and cultural theorist, Paul Virilio, when he argues that this type of design process often fails to create relevant architecture. Plans and sections do not indicate time – rather they try to apprehend objects by quantitative criteria instead of their qualitative aspects. He speaks of the

> *architectural measure of space… [as] movement; it is the quality of a volume and is therefore very difficult to note down (Virilio 107).*

Faced with this dilemma, Virilio has turned towards dance, specifically movement notation as a source for a qualitative approach to design.

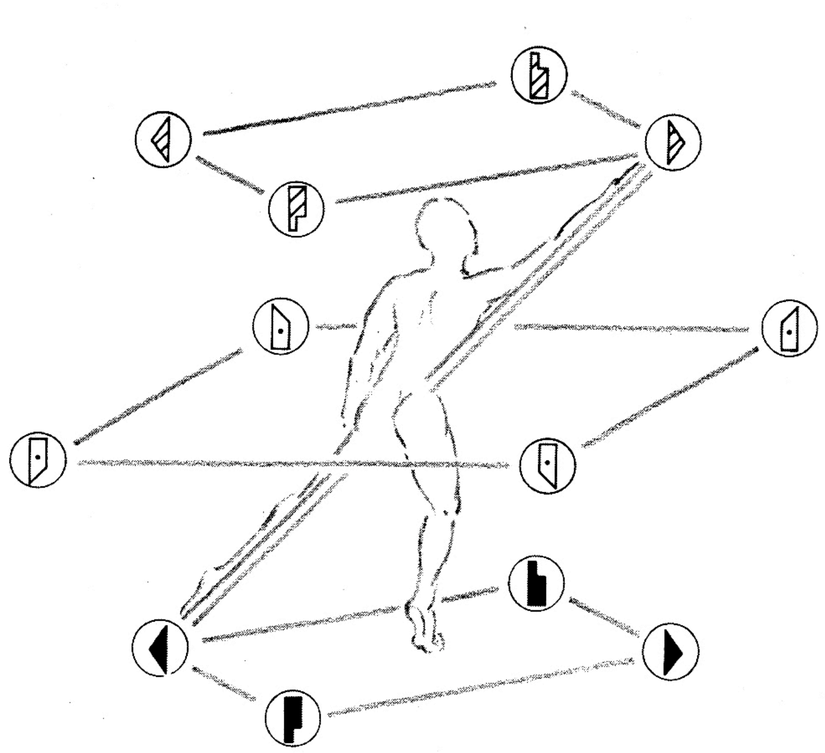


FIG. 34.—*Naturally equilibrated bodily attitude.*

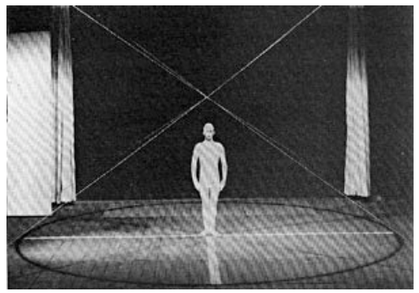
left arm and leg: ◀ right arm: ▷

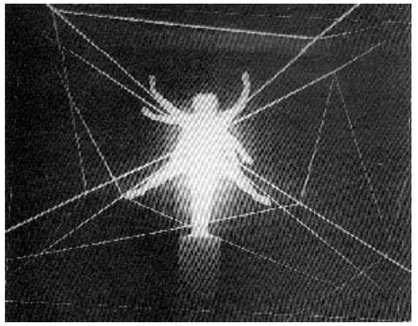
That being said, 'Living Dance' furthers this notion and attempts to put into practice the idea of using dance and movement notation as a tool for exploring and understanding existing sites in order to create a more body-oriented architecture. The resulting design process will now look something like this:

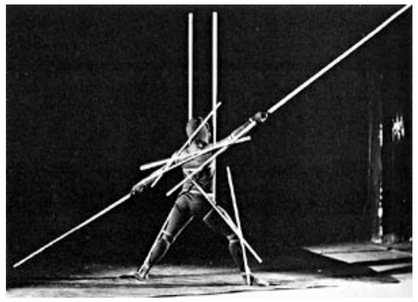
Site => Physical Experience Though Dance =>
Graphic Notation => Architecture

By using the body as a tool to both notate and interpret existing conditions and experiences, the resulting built form will, in theory, be more in tune with the actual site experience. Living Dance attempts to make an argument for a more 'body oriented' approach to design – to show how we can design for the body, with the body.

Figure: Laban, 'Choreutics', 89



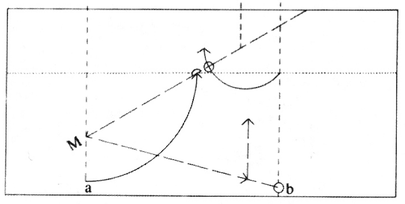


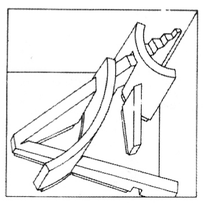


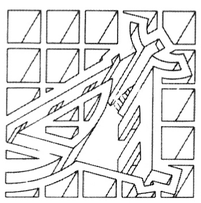
Sensuality has been known to overcome even the most rational of buildings.

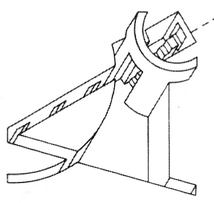
Johnson, 'The Body in the Mind: The Bodily Basis of Meaning, Imagination and Reason, 107

Figure: Schlemmer, 'Relation of Body to Stage', 44-47









The pleasure of space: This cannot be put into words... it is a form of experience... symmetries and dissymmetries emphasizing the spatial properties of my body: right and left, up and down. Take to its extreme, the pleasure of space leads toward the poetics of the unconscious, to the edge of madness.

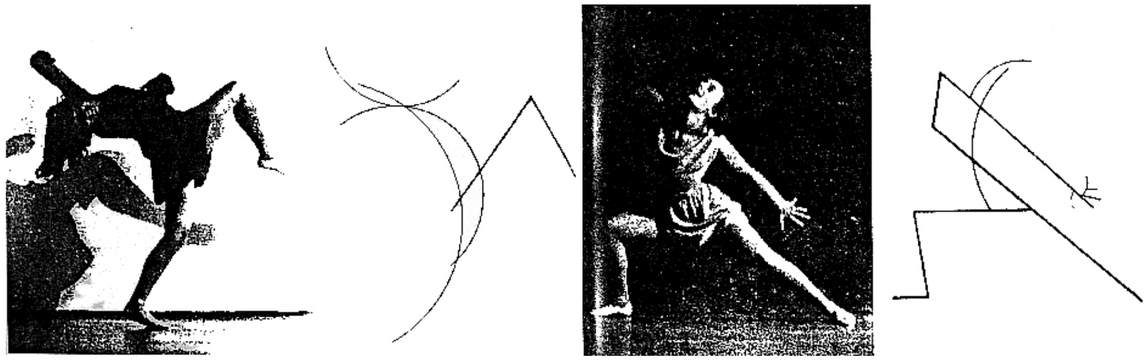
Tschumi, 'Architecture and Disjunction', 84

Figure: Tschumi, 'Event Cities 2', 35

PART ONE

DANCE

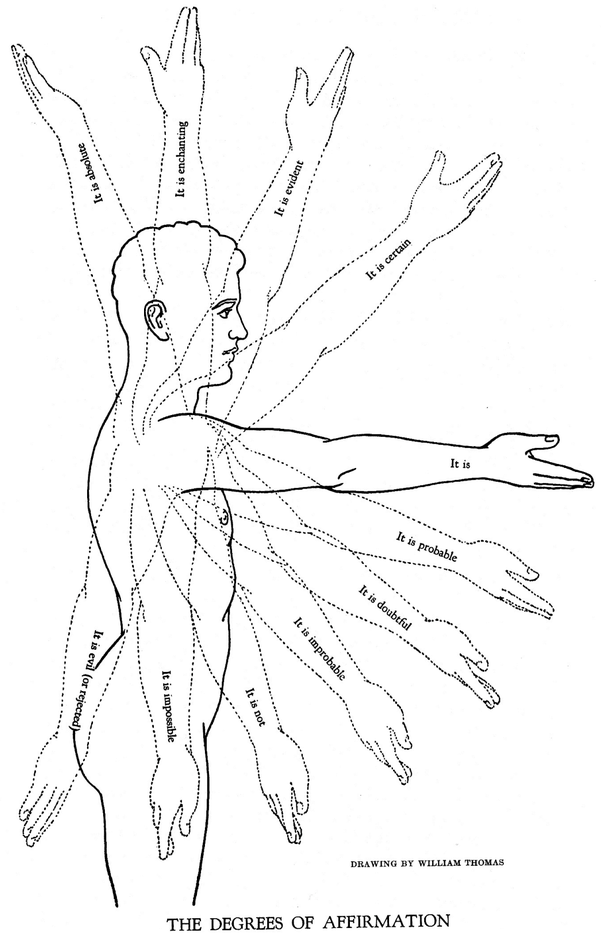
exploration of SITE through MOVEMENT



Dancing and architecture both specifically involve looking at issues of boundary, space and time, movement, and experiential-abstract relationships. Dancers and architects are both also involved with the act of making stable, concrete proposals at the same time as they strive to make sense of the unstable…

Bronet & Schumacher, 'Design in Movement', 101-2

Figures: the work of Wassily Kandinsky



THE DEGREES OF AFFIRMATION

1.1 Background

In her book, "The Anthropology of Dance", anthropologist Anya Peterson Royce compares dance to language. However, unlike verbal or written language, dance has the ability to communicate through the body. It is, in essence, an entirely physical, body-oriented method of communication.

Dance is also a form of interpretation and expression. However, unlike other art forms that express a feeling or idea directly such as sculpture or drawing and are visually oriented, dance often exists in partnership with other methods of expression, typically music. It is therefore well suited to express and interpret an existing experience.

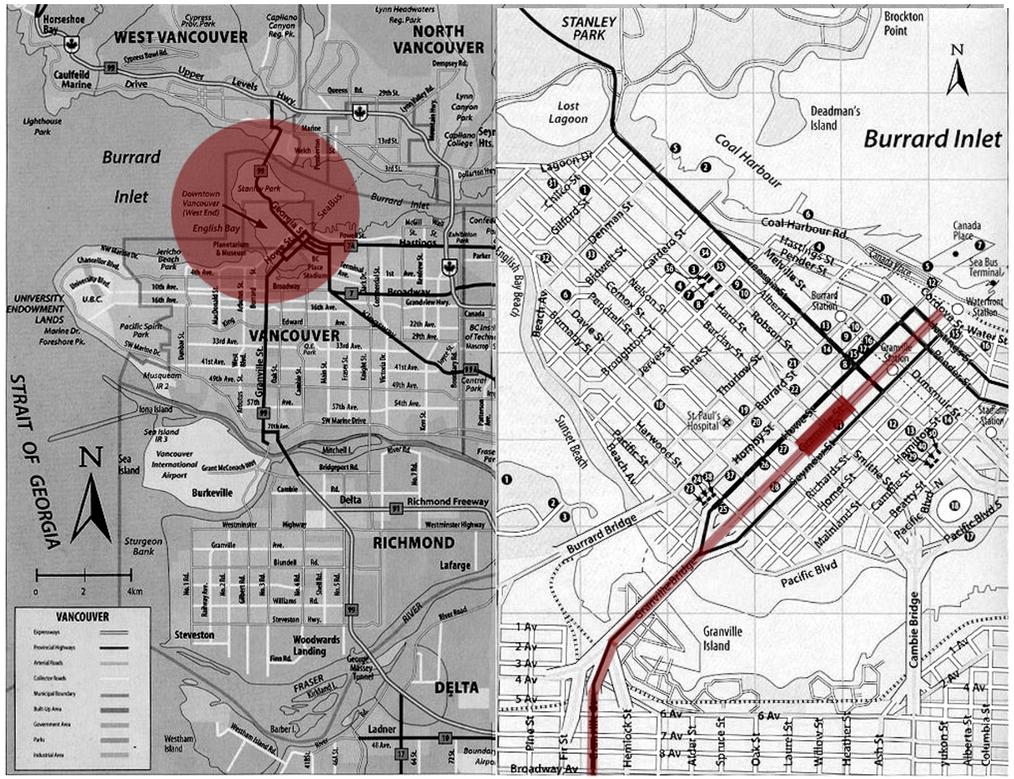
For this project, two forms of dance were explored for their capacity to express a site: choreographed swing dance, which is learned and danced with a partner, and improvised interpretive dance, which is danced solo and performed spontaneously.

Figure: Delsarte, 'Every Little Movement', 56

Living Dance – a dance that one doesn't learn formally, rather through participation.

Nilsson, 'Dance Transmission', 284

Figure: Driver, 'A Century of Dance', 8



1.2 The Granville Dance

GRANVILLE STREET

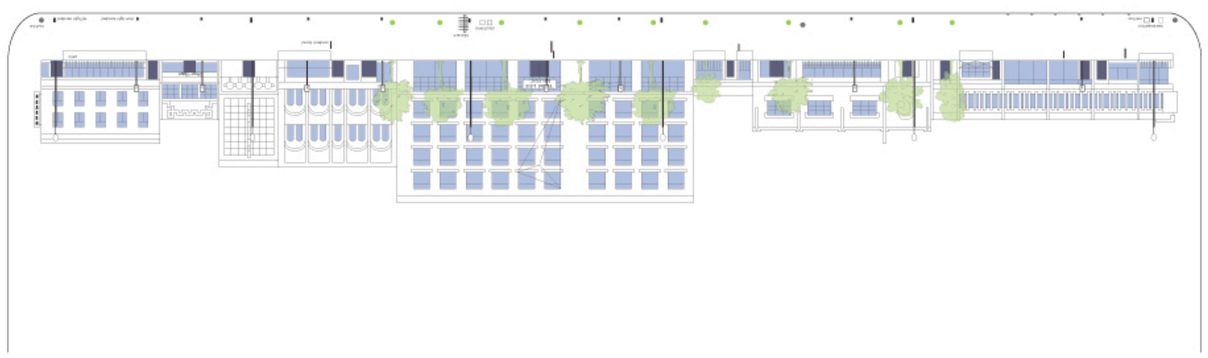
The first attempt at 'dancing the site' took place on Granville Street in downtown Vancouver, BC – specifically the two blocks between Robson Street and Nelson Street. Historically nicknamed "Theatre Row" for its theaters and cinemas, it is now primarily a retail district and transit corridor during the day and entertainment district in the evening.

The design process began with a documentation of the site through sound, collage, photography, video, and traditional forms of site mapping such as plan, section, and elevation.

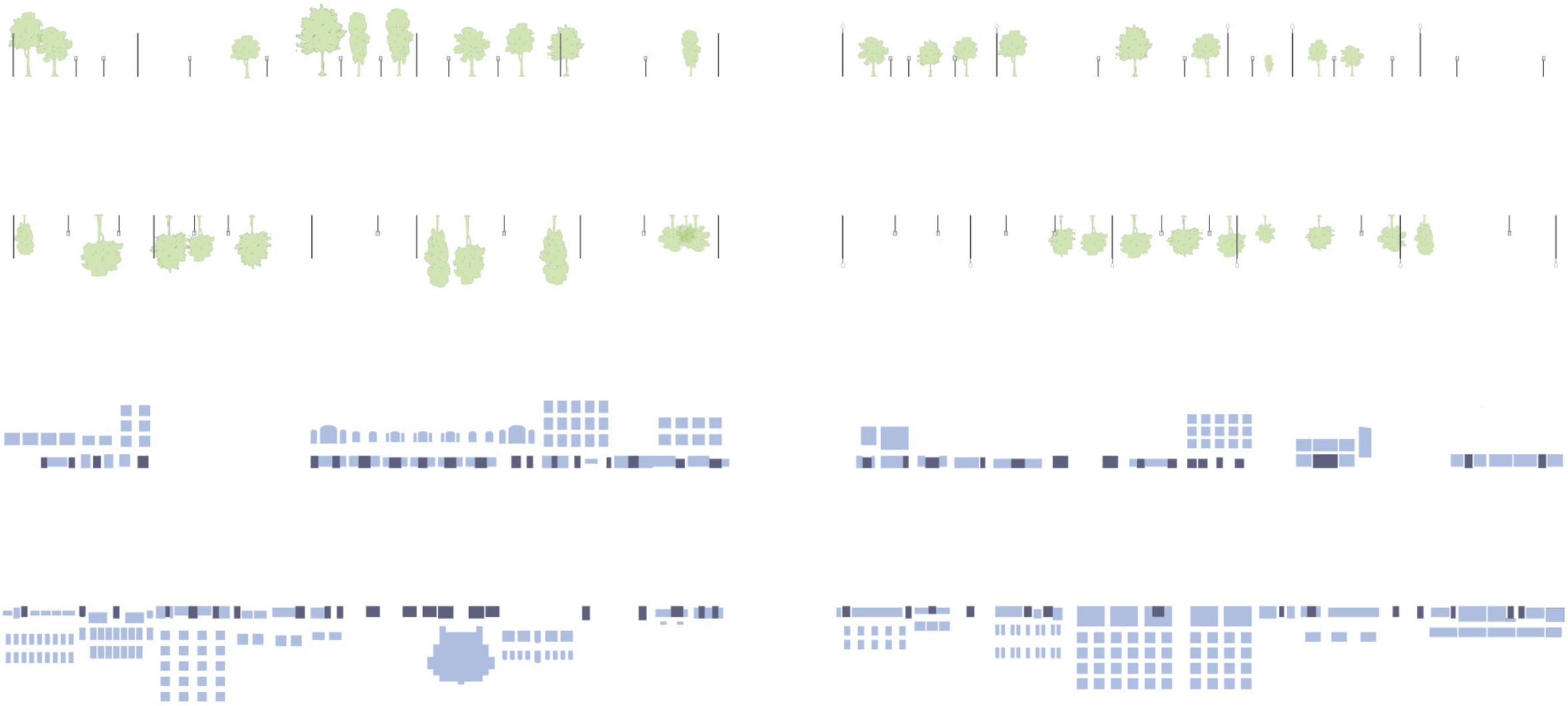
Visiting and revisiting the site, the two most striking aspects of the experience appeared to be the busses – the rhythmic hum of their engines starting and stopping – and the patchwork quality of the street – best expressed through the various genres of music blasting from the stores, restaurants, and bars. This aural experience, though felt and recorded in video, failed to come across in traditional mapping methods.

Robson

Smithe



Nelson



Robson Smithe Nelson

retail -shops, hair salons, tatoo parlors
hotel, hostel, apartment
restaurant, coffee shop
theaters - performance and cinema
bars/lounges
commercial office
arcade
education
new development
vacant
police station
parking lot

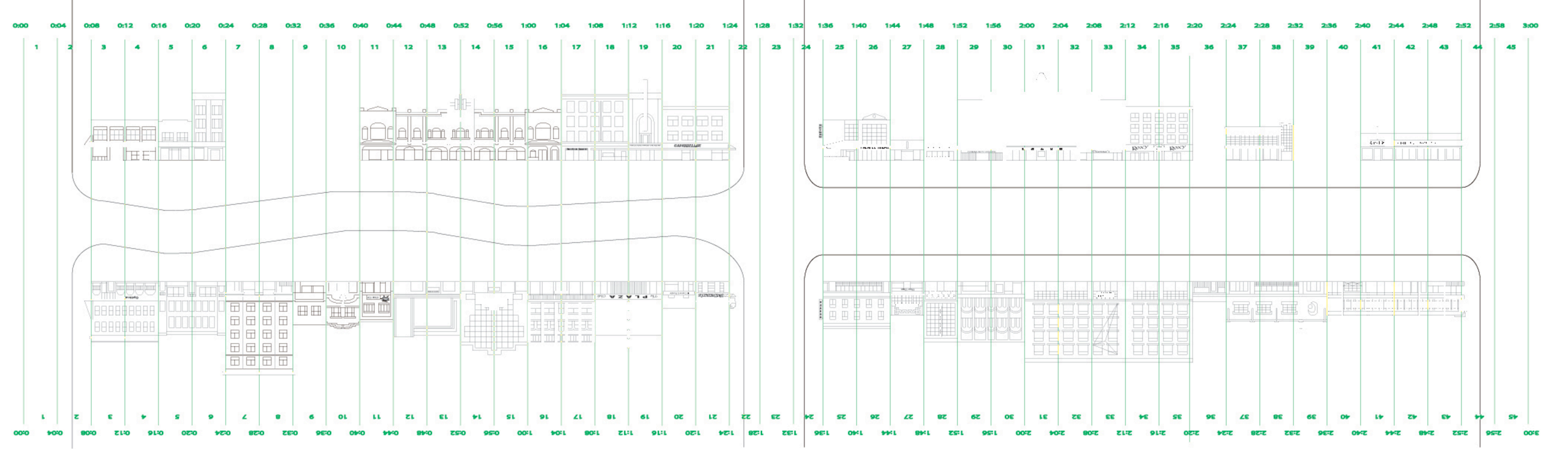
Robson

Smithe

Nelson

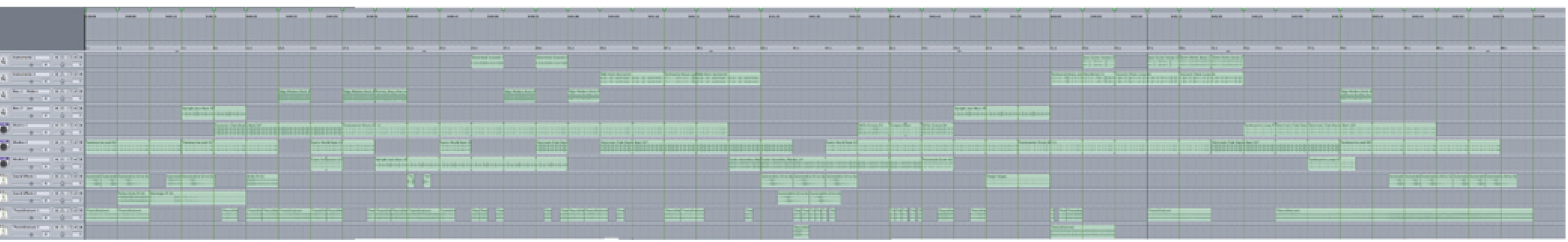
1300 1200 1100 1000 900 800 700 600 500 400

site



As an attempt at a non-graphic method of site mapping, the sounds heard on the site and the musical genres that represented the cultural diversity of the street were distilled and recombined to create a 3-minute sound collage made up of sound bites and loops.

An 8-count musical phrase, which is the basis of most jazz music and therefore swing dance, was used to represent the 25' lot, which is typical to downtown Granville Street. The result was an aural collage where time represented distance, each phrase representing a segment of the street and at each segment a musical representation and/or sound bite of what was physically present on the site. Since there were two sides of the street and multiple conflicting sounds and genres, the result was hardly a song, rather an 'aural collage'.



Bar 8 beat	Time 4s	North (FOLLOW)	South (LEAD)	Sounds/Music	Choreography
1	0:00	Robson Street	Robson Street	Voices, Siren	***Enter separately slowly***
2	0:04	Robson Sidewalk	Robson Sidewalk	Talking	***Faster for siren, connect***
3	0:08	Optical	Lennox Pub	Pub sounds/glasses clinking	***Connect & Break/Dip on 1***
4	0:12	Optical	Burger King		***Groove (on each beat)***
5	0:16	Charlie's	Aldo	Dance music, Jazz	***Bench: Lead LUNCE on 5***
6	0:20	Charlie's	Aldo/ Inlingua	Dance music, Jazz	***SO***
7	0:24	Love @ 1st Bite Pizza	<empty>	Alternative Rock	***FUNKY move together***
8	0:28	Taf's Café	<empty>	Latin Music, Bird Sounds	***Patio: BREAK (Follow dances Latin rhythm)***
9	0:32	Kitto Japanese	<empty>		***FUNKY move together – lead do something for whistle***
10	0:36	John Fluevog	<empty>	Alternative Rock	***SO***
11	0:40	Cherry Bomb	Commodore	Punk Rock, Hip Hop/R&B	***Bus Stop (Follow move lead on 5)***
12	0:44	Granville Cinema 1	Commodore	Folk	***Bus Stop (Follow move 1-4)***
13	0:48	Granville Cinema 1	Commodore	Alternative Rock	***Bike rack/Phones (Lead move – emphasize bus sounds)***
14	0:52	Granville Cinema 2	Commodore	Hip Hop, Bus Stop	***Bus Stop (FUNKY move together)***
15	0:56	Granville Cinema 2	Commodore	Progressive Rock	***Groove together***
16	1:00	Granville Cinema 3	Commodore	Folk/Rock	***Patio BREAK (Lead dances bassline)***
17	1:04	Granville Cinema 3	American Apparel	Dance	***SO (Lead dances horns)***
18	1:08	Plaza Club	Crepes	Hip Hop/R&B	***Patio BREAK (Follow dances to horns, Lead takes a 'break'!)***
19	1:12	Plaza Club	Orpheum	Hip Hop/R&B, Classical	***SO – Follow to drum beat, Lead to classical melody***
20	1:16	Dunne & Rundle	Cammoflage	Top 40/Pop	***SO – Lead dance to horns***
21	1:20	McD's	Corner Store	Top 40/Pop	***Into Closed***
22	1:24	Smithe Sidewalk	Smithe Sidewalk	Buses, Cars	***Tuck Turn to Separate – follow emphasize car sounds***
23	1:28	Smithe Street	Smithe Street	Car sounds, Siren	***Slowly Boogie Backs***
24	1:32	Smithe Sidewalk	Smithe Sidewalk	Buses, Cars	***Slowly Boogie Forward***
25	1:36	Centro	Starbucks	Patio voices	***Connect Closed*** ***Patio BREAK (Body roll together on 7/8)***
26	1:40	Centro	Falafel House	Latin	***Patio BREAK (Follow dances Latin percussion)***
27	1:44	Taco Time	Arcade	Latin	***Follow continues on Latin percussion***
28	1:48	Tonic Club	Roxy Burger	Top 40, Hip Hop/Pop	***SO (follow dances bassline)***
29	1:52	Speakeasy/Harbour Dance Centre	Vogue Theatre	Classical Salsa, Jazz, Hip Hop – fusion	***Patio BREAK (Lead move)***
30	1:56	Speakeasy/Harbour Dance Centre	Vogue Theatre	Classical Salsa, Jazz, Hip Hop – fusion	***Switches – snap fingers***
31	2:00	Tom Lee Music	Vogue Theatre	Choral	***SO (follow to horns)***
32	2:04	Tom Lee Music	Vogue Theatre	Orchestral	***Bike rack/Phones (Follow syncopates melody)***
33	2:08	Tom Lee Music	Vogue Theatre	Jazz, Rock	***SO***
34	2:12	Tom Lee Music	The Roxy	Piano	***SO – move***
35	2:16	Tom Lee Music	The Roxy	Band, Country	***SO – Lead dance to banjo***
36	2:20	Granville Room	<empty>	Top 40	***Patio BREAK (Follow dances to dance beat, Lead continues on Banjo)***
37	2:24	Caprice Nightclub	New Development	Top 40, Dance, Hip Hop	***SO***
38	2:28	Caprice Nightclub	<empty>	Buses	***Dance to siren (slow down)***
39	2:32	Caprice Nightclub	<empty>	Top 40, Dance, Hip Hop	***Bus Stop (Lead move)***
40	2:36	Starbucks/Pita Pit etc.	Adrenaline	Alternative Rock	***Patio BREAK*** ***Bus Stop (Follow dance to bassline)***
41	2:40	Starbucks/Pita Pit etc.	Kripp's Pharmacy	Car Sounds, Buses	***SO in Closed***
42	2:44	Starbucks/Pita Pit etc.	Kripp's Pharmacy	Car Sounds, Buses	***Groove***
43	2:48	Starbucks/Pita Pit etc.	Kripp's Pharmacy	Car Sounds, Buses	***Patio BREAK (Dip/Hold)***
44	2:52	Nelson Sidewalk	Nelson Sidewalk	Car Sounds, Buses, Siren	***Stand up and separate***
45	2:56	Nelson Street	Nelson Street	Car Sounds, Buses	***Walk away***
	3:00	**THE END**			

To choreograph is, originally, to trace or to note down dance... today, choreography refers, not to the activity of notation, but rather to the creation of dance, or to 'composition.'

Louppe, 'Traces of Dance', 14

From this aural mapping, a dance was choreographed. The sound collage itself was to provide the 'music' for the choreography while documented elements such as the character of the street-scape dictated the type, style, and connection associated with each dance movement. The north side of the street was expressed through movements of the follow (female dancer) and the south side of the street was expressed through that of the lead (male dancer). The dance itself was then performed and recorded.

RETHINKING GRANVILLE

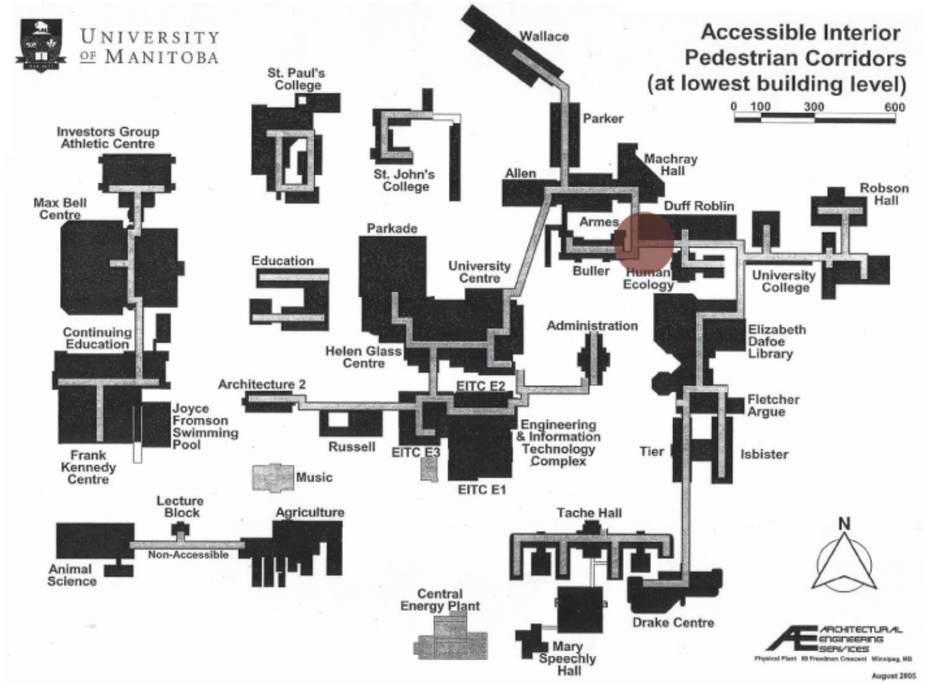
Unfortunately, this methodology used had some weaknesses.

Firstly, because the site was interpreted through drawing, then music, and then dance, the actual relationship between the body and the site was too far removed. Essentially, the dance became an abstract generalization of the existing context rather than on and of it.

This issue raised a second point: the limitations of the dance form chosen to interpret the site. The interaction between lead and follow needed to execute swing dance was interesting, however it became the focal point, rather than the relationship between dance and site.

Nothing is experienced by itself, but always in relation to its surroundings, the sequences of events leading up to it, the memory of past experiences.

Lynch, 'The Image of the City', 1

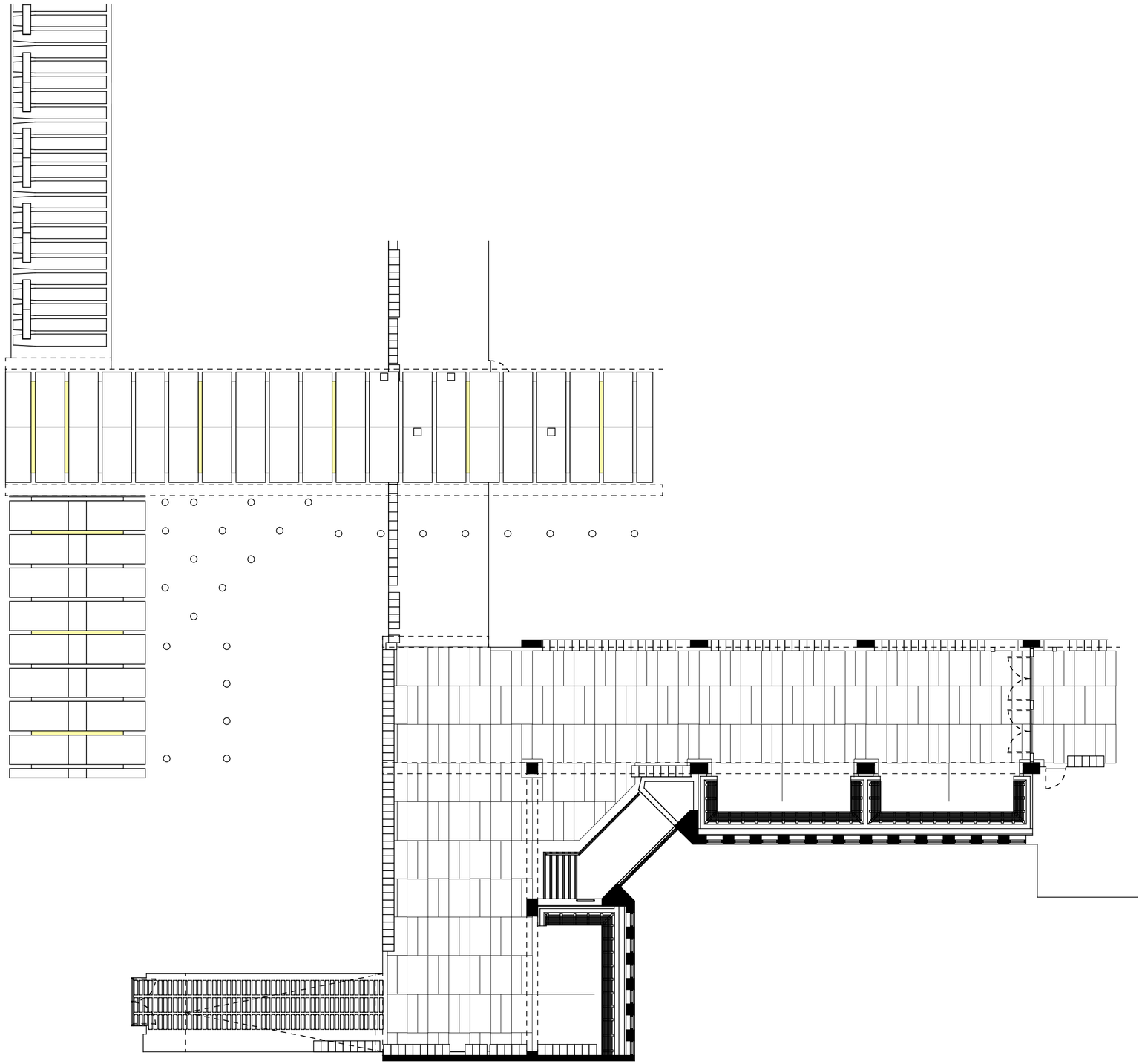


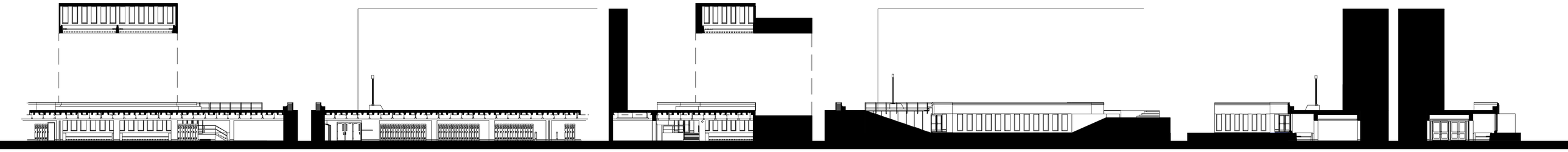
1.3 The Tunnel Dance

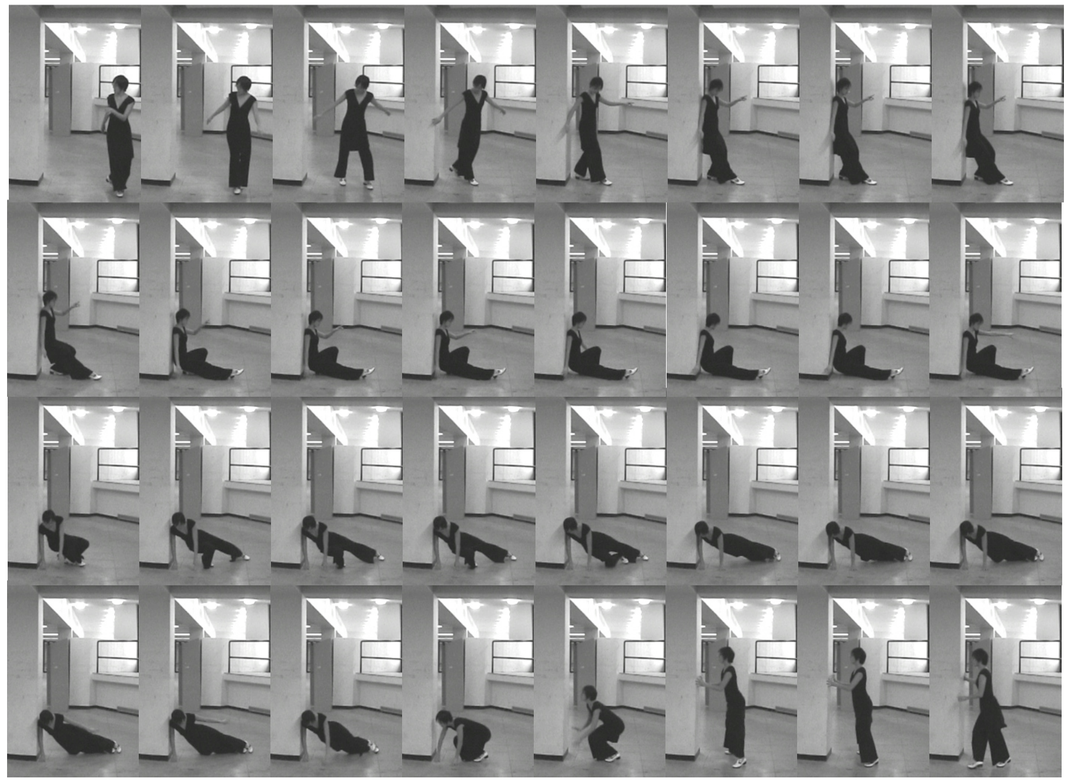
THE TUNNELS

Realizing the weaknesses of the first mapping process a second attempt was made to 'dance the site'. In order to allow for a closer relationship between dance and site, a few key changes to the method were made.

Most significantly, the site was relocated from Granville Street to the University of Manitoba - specifically, the section of tunnel connecting Machray Hall, Duff Robin and the Human Ecology Building. Ease of accessibility provided the opportunity for the dance to take place on site, and the location being of a smaller scale allowed opportunity for greater detail in notation.







THE NEW DANCE

Only when a part of the quality of movement is, or seems to be, unconscious do we speak of a natural or true expression.

Laban, 'Choreutics', 49

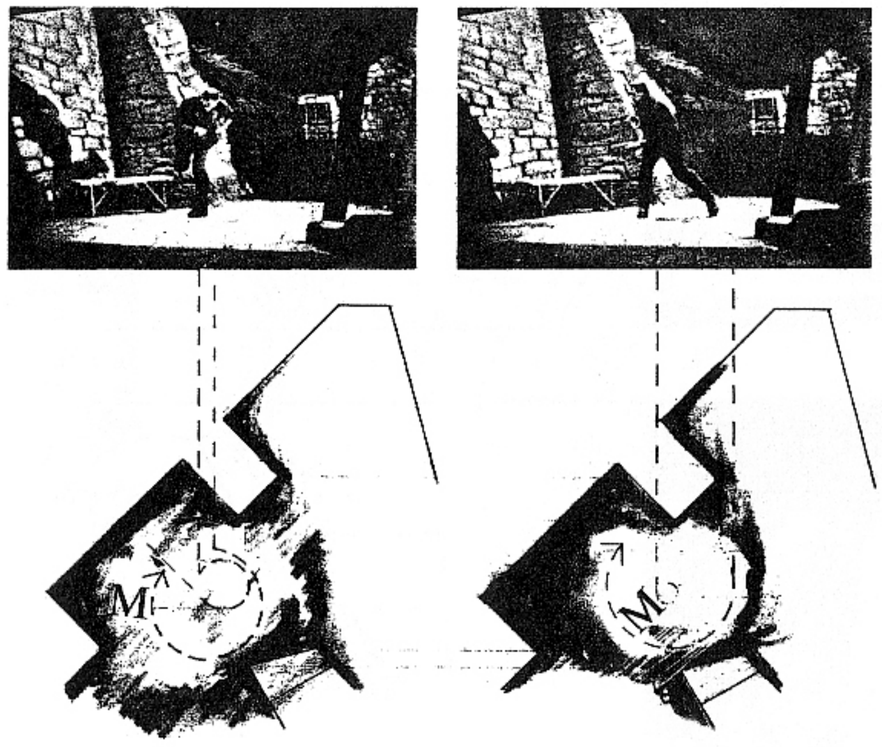
The role of site and dancer was also changed. The lead and follow relationship was maintained but simplified. The site was now the lead, choreographing the movements of the follow, the dancing body. The dance itself also took on a more post-modern approach. This new choreography took place on site, was improvised, used everyday movements such as walking, pushing, pulling, and sitting as inspiration, and involved everyday objects such as doors, stairs, seating, and found objects.

The new dance was performed spontaneously and recorded.

PART TWO

NOTATE

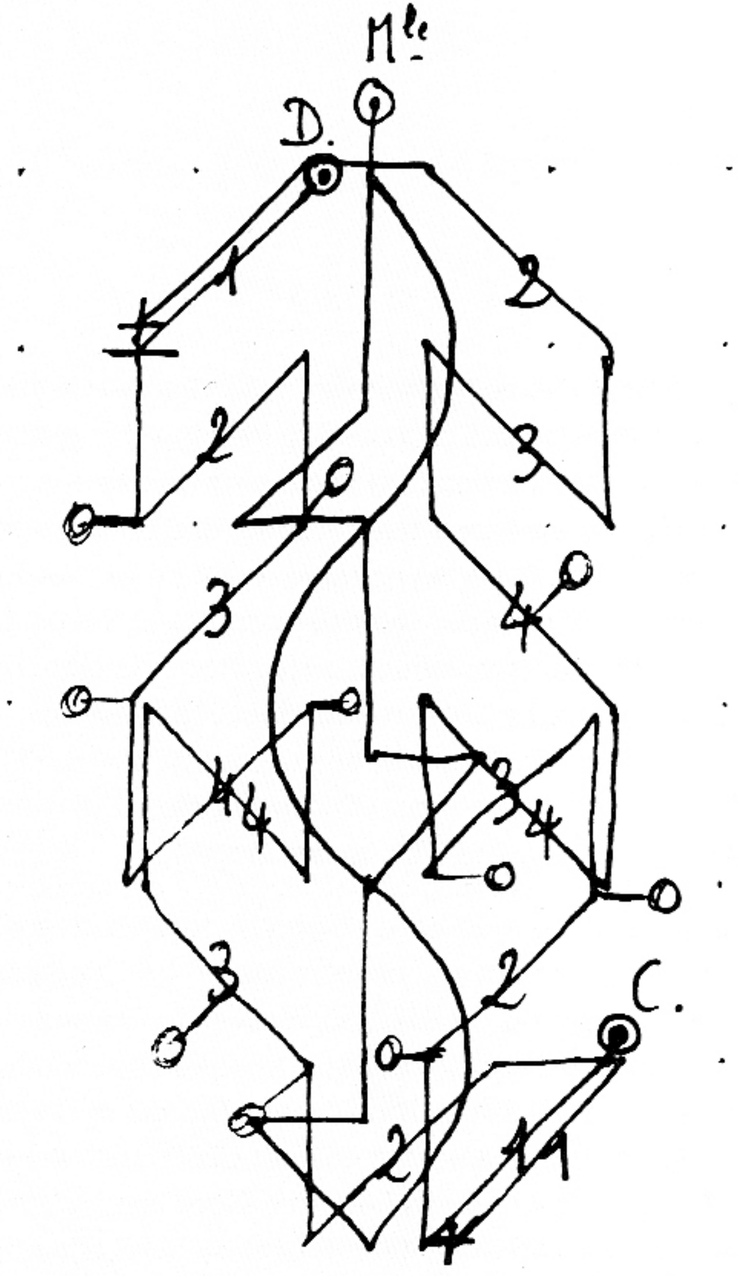
RECORDING (everyday/dance) MOVEMENT



Rather than merely indicating directional arrows on a neutral surface, the logic of movement notation ultimately suggests the real corridors of space, as if the dancer had been 'carving space out of a pliable substance'; or the reverse, shaping continuous volumes, as if a whole movement had been literally solidified, 'frozen' into a permanent and massive vector.

Tschumi, 'Manhattan Transcripts', 10

Figure: Tschumi, 'Event Cities 2', 21



2.1 Background

When we wish to describe a single unit of space-movement we can adopt a method similar to that of an architect when drafting a building… He is obliged to make a ground plan, and at least two elevations, thus conveying to the mind a plastic image of the 3-dimensional whole.

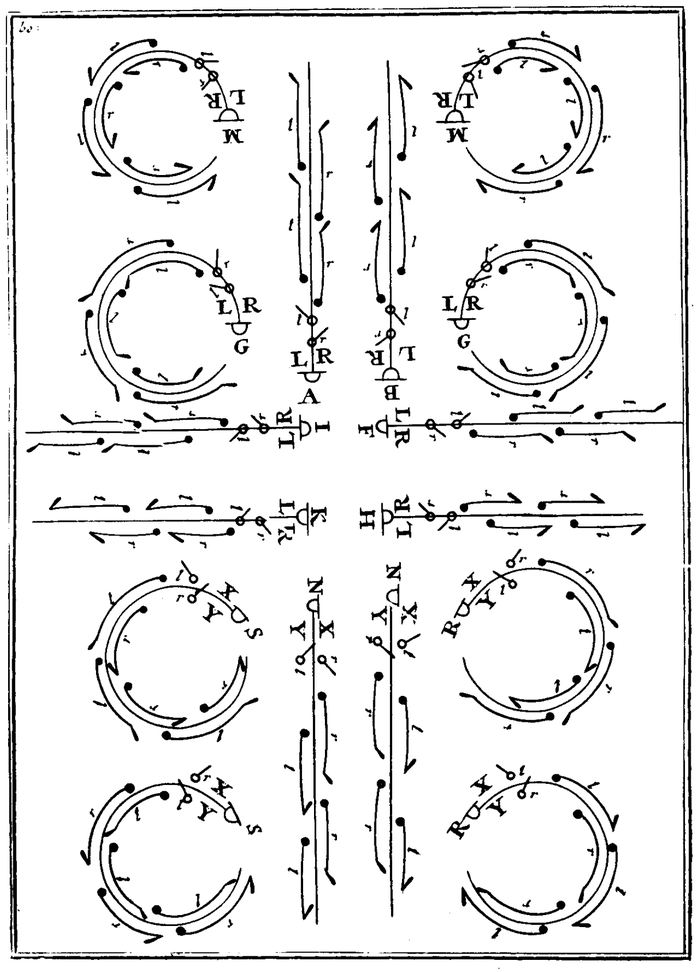
Laban, 'Choreutics', 5

There are many forms of movement notation in existence, however they all share a common goal – to express the 'essence' of 3-dimensional movement (often dance, although not always), graphically in 2-dimensions.

Annotating differs from recording in that it is not meant to accurately replicate the experience, rather the information is filtered and only the most important elements are mapped or traced. Unfortunately, not all forms of notation are useful or appropriate for all forms of movement. It is up to the annotator to chose a method that is suitable for what he or she feels is the 'essence' of the dance.

As evidence of this fact, one can look at history to see how dance notation has developed to meet the needs of a changing dance climate. Specifically, one can compare Feuillet's Method (15th century) to Labanotation (20th century).

Figure: Louppe, 'Traces of Dance', 33



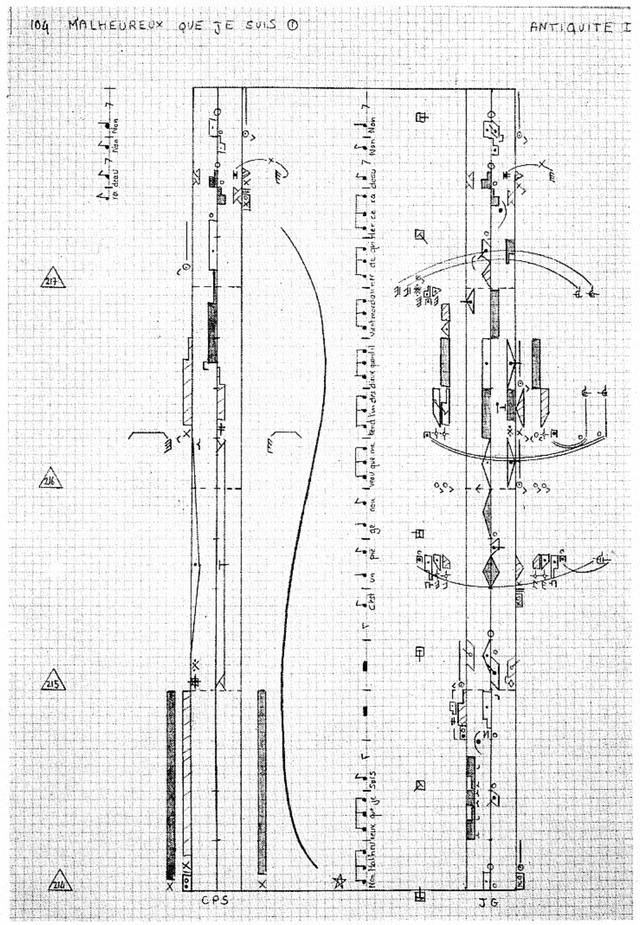
FEUILLET'S METHOD

Feuillet's Method, invented in the mid-1600s, was a direct result of Louis XIV's creation of the Royal Academy of Dance and the eventual codification, notation, and publication of traditional French dance. In his method, paper space represented objective space - the stage - and the lines on the page followed the dancer's path. Specific footwork was indicated by the use of symbols to illustrate lunges, leaps, and so on. As stiff upper bodies and precise footwork characterized most court dances at the time, this form of notation reflected what elements were important to the dance.

However, in the following centuries, Feuillet's method became out of style and fell under harsh criticism. The limitations of this 'planimetric' system were that: (1) it failed to address changes in dance that had become too complicated to notate, especially concerning rhythm, (2) it addressed in detail the operations executed by the feet but not the dynamics of the entire body and (3) it failed to notate 'color' or feeling (Louppe 14).

As dance evolved, notation evolved, each striving to keep up with the unlimited capacity of the creative mind.

Figure: Weaver, 'The Art of Dancing', 38



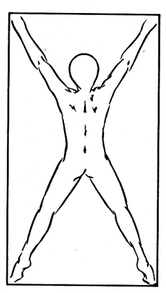


Fig. 55*a*

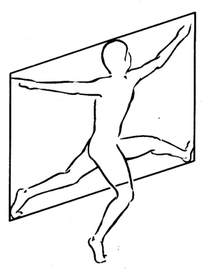


Fig. 55*b*

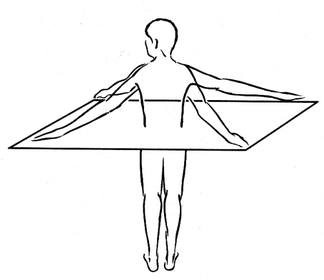
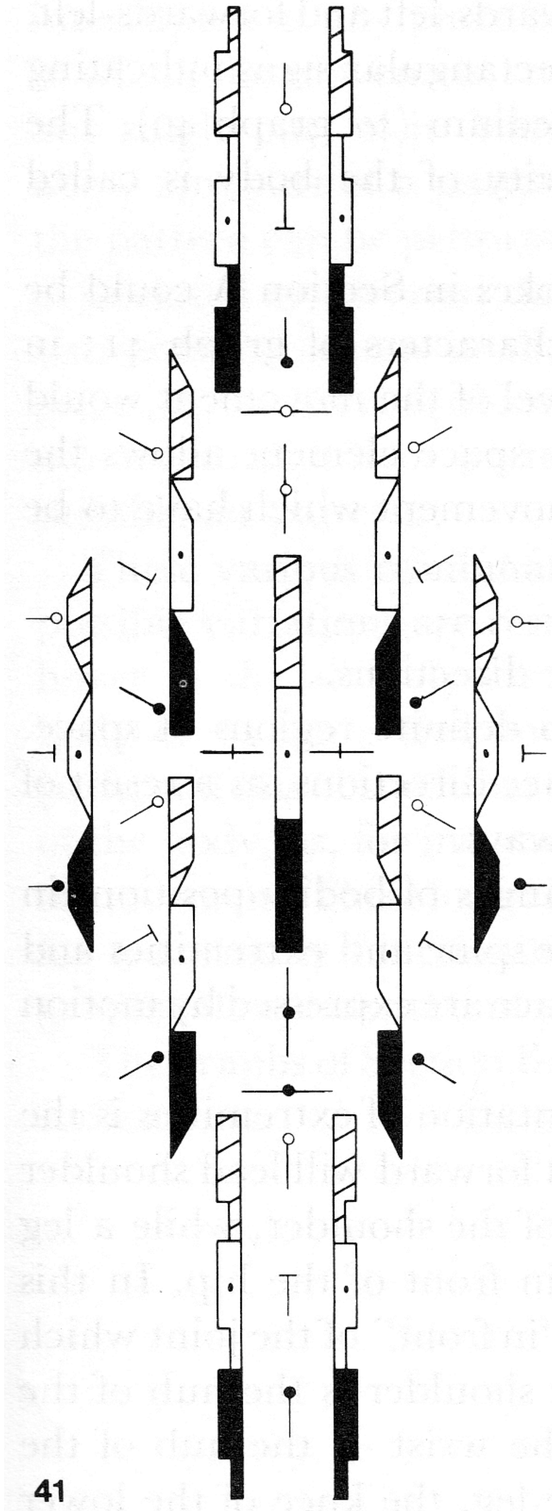


Fig. 55*c*

LABANOTATION

Although there were many contemporaries to Feuillet, the most well known was Rudolph Laban. Laban's system emerged at the beginning of the 20th century and actively aimed to address the changes in dance that were occurring at that time, specifically, the trend toward more expressive and less restrictive forms of movement. It was also an attempt at a broader form of notation to be applied to all types of movement, not just dance. Laban approached the subject in an almost scientific way. Firstly, he abandoned Feuillet's floor pattern line for an egocentric view, where movement sequences were written on a straight line to indicate time. The relative length of each symbol then indicated the duration of each movement. Secondly, it included symbols to indicate upper body and arms, not just legs, and allowed for the ability to describe each limb to as specific a degree of detail as required. Lastly, it was based on the idea of the 'Kinesphere' - the six points representing vertical (up/down), sagittal (front/back) and lateral (right/left) movements. In the Kinesphere, consecutive gestures created what Laban termed 'trace forms', likening human movement to architecture through its creation of pathways through space (Louppe 66).

Figure (top): Louppe, 'Traces of Dance', 65
Figure (bottom): Laban, 'Choreutics', 141



Labanotation is a movement notation because the symbols represent change; absence of movement is shown by the absence of symbols. The basic premise of the system is that a position is a movement that has come to rest.

Ann Hutchinson Guest, 'Labanotation', 23

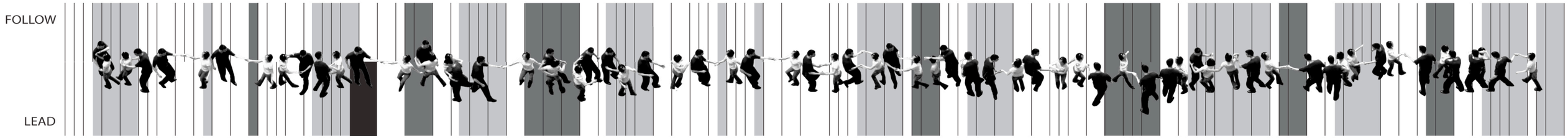
Figure: Laban, 'Laban's Pricipals', 29

2.2 Annotating Granville

As there was no existing form of dance notation specifically designed for swing dance, the dance was broken down into its key elements:

Rhythm and Change of Weight
Connection (Tension/Compression)
Movement (Speed, Direction,)
Form (Shape, Space)

Tools were borrowed from both Feuillet's Method as well as Labanotation to formulate a way of annotating the Granville Dance in such a way as to preserve the essence of 'swing'.



RHYTHM

Since it is less important how the foot lands or the type of step taken in swing dance, the rhythm was annotated simply as a series of lines representing each weight transfer from left to right foot or vice versa. As there is a basic rhythm structure in swing – 1, 2, 3&4, 5, 6, 7&8 - syncopation or variations from the norm are an indication of expression or improvisation. The footwork of the lead and follow were mapped separately as each individual dancer elaborated on different counts in the dance.

CONNECTION

Connection is an element not discussed by Feuillet or Laban since both methods appear to concentrate on documenting solo or group dance. However, it is an important concept in partnered dance. Connection exists in swing dance as periods of tension and compression between partners. This is what creates the 'swing' in swing dance and allows for the lead to 'lead' the follow. For the purpose of this study, it has been graphically annotated as zones within the rhythm pattern. As it can be seen, there is never constant tension or constant compression, rather alternating periods of 'direct', 'catch' and 'redirect'.

A Demonſtration of all the *Steps* which have been before explain'd.

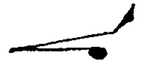
A ſtraight Step forwards. *The ſame backwards.*

An open Step outwards. *The ſame inwards.* *The ſame ſideways.*

A Circular Step outwards. *The ſame inwards.*

A waving Step forwards. *The ſame backwards.* *The ſame ſideways.*

A beaten Step forwards. *The ſame backwards.* *The ſame ſideways.*

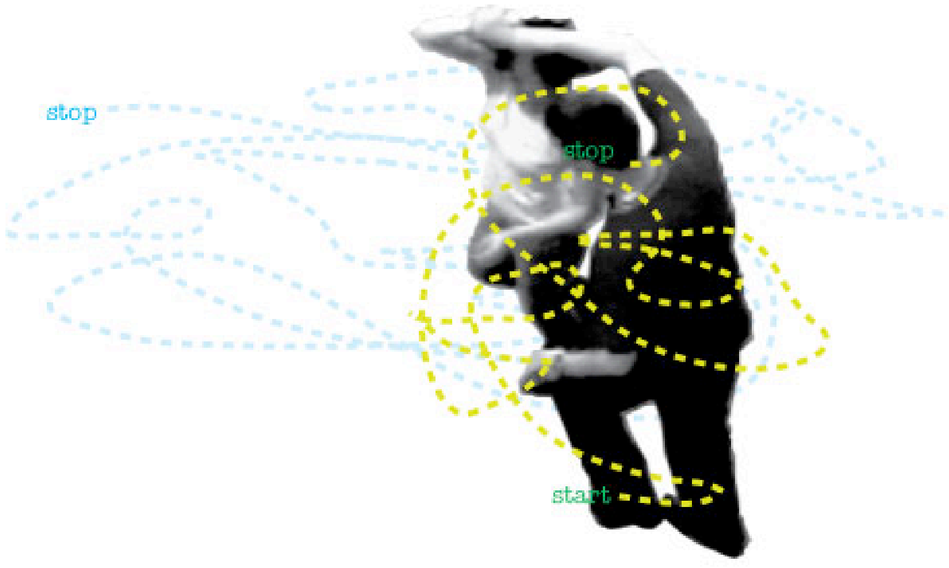


To

Dancing is composed of positions, steps, sinkings, risings, springings, capers, fallings, slidings, turnings of the Body, cadence of Time, Figures, &c.

John Weaver, 'The Art of Dancing', 2

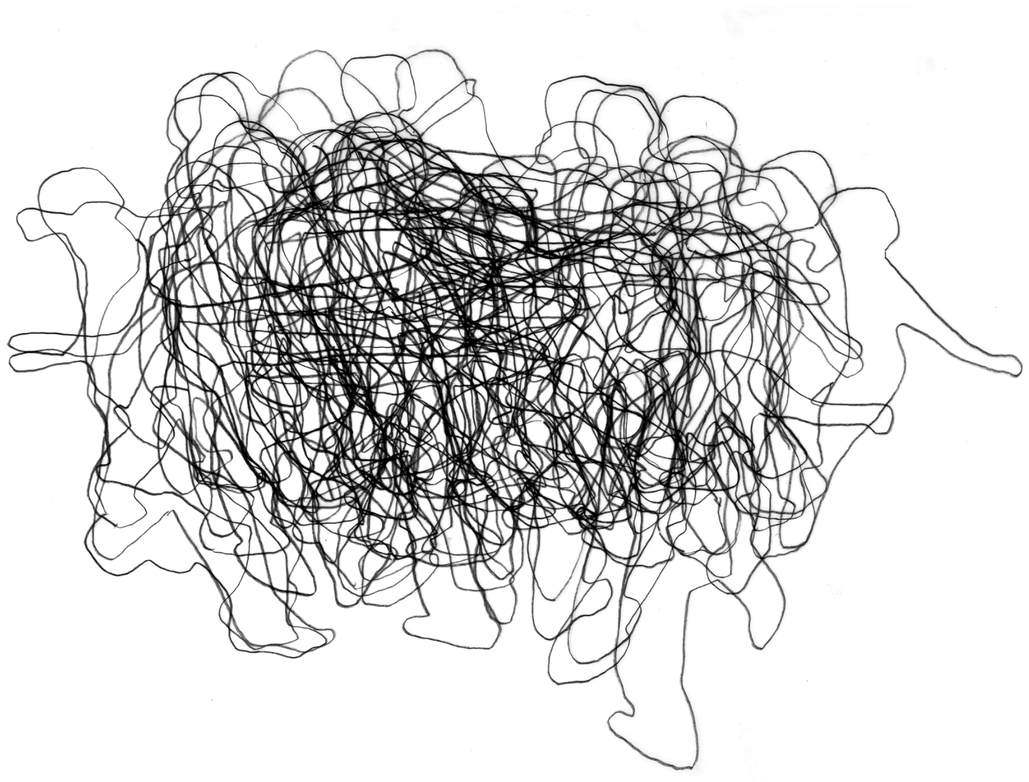
Figure: Weaver, 'the Art of Dancing', 10



MOVEMENT

Initial attempts at mapping dance movement concentrated on mapping the footwork itself, first by tracking footsteps in powder and then in paint. However, it became clear that by concentrating only on footwork, it failed to illustrate the essence of swing movement.

As partnered dance is about moving your 'core' or 'centre' in order to lead or follow your partner, second attempts at mapping the dance movement plotted the path of each dancer's torso or 'centre' instead of their feet. The resulting image can be likened to Laban's 'traceforms' with the paths of the two dancers orbiting each other. (See Appendix A.1 for more examples of movement mapping.)

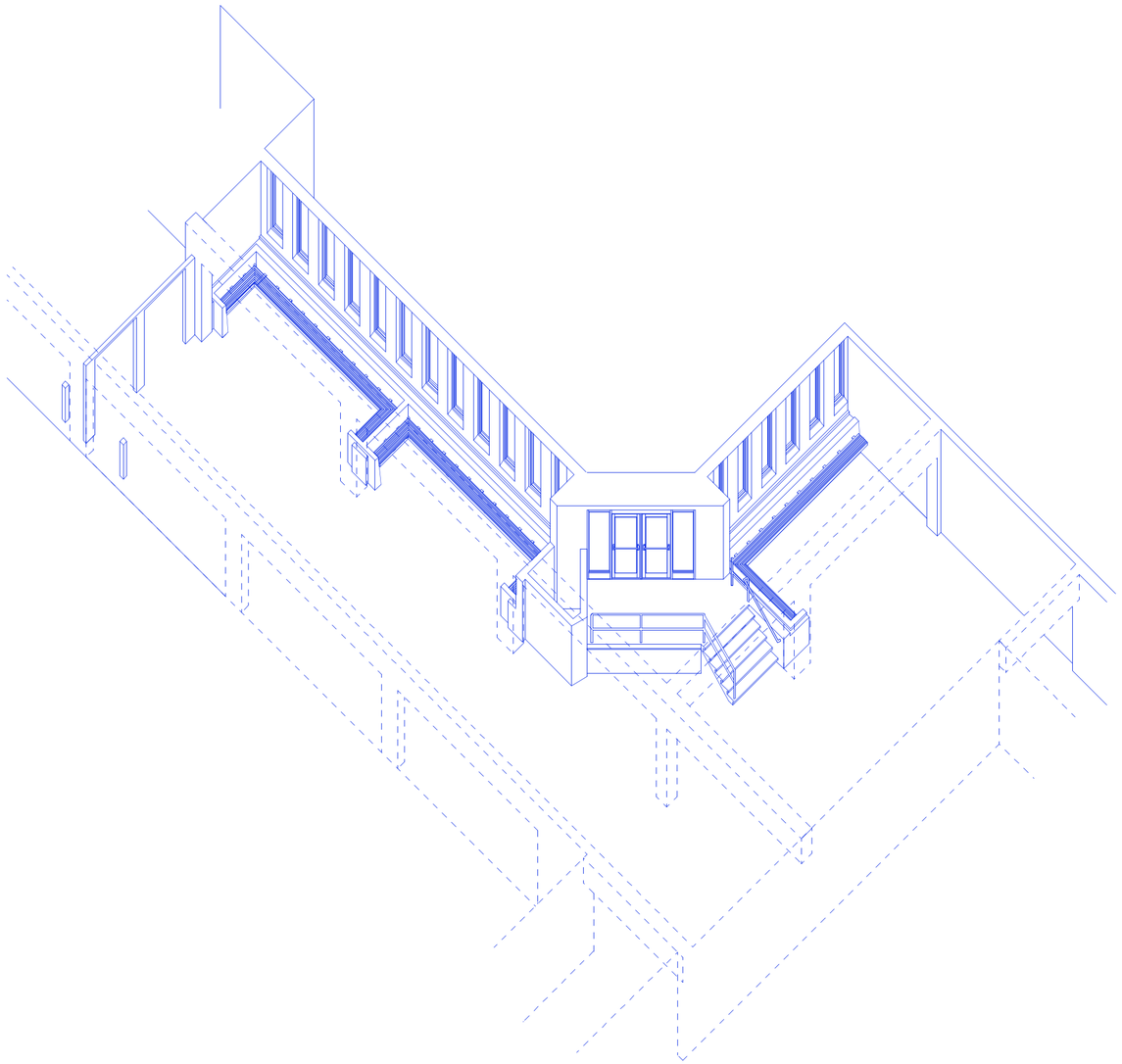


FORM

Lastly, the term 'space form' has been adopted as an extension of Laban's idea of 'trace form'. Instead of merely tracking the pathways created by specific points of the body over time, the space occupied by the body was mapped. The result was a fluctuating cloud, rather than a series of lines and points. This method appeared to be effective in illustrating the expansive and contractive nature of swing dance.

LIMITATIONS OF THE DANCE

However, the limitations of swing dance previously mentioned continued to be apparent in notation. Since the dance itself was performed off site, the resulting notation also lacked any site presence and the dance seemed to float in space, rather than be grounded in Granville Street. However, this experiment in notation proved to be a useful exercise in grasping the fundamentals of movement notation. As it can soon be seen, many of the methods explored in mapping the Granville Dance were revisited in the notation of the Tunnel Dance.



2.3 Annotating The Tunnels

For the Tunnel Dance notation, the presence of the site could not be ignored. The method used had to show the relationship between the dancing body and its surroundings. As well, it became apparent that no only did the dance itself need to be mapped, as did existing movement on the site.

In order to achieve this, the dance and the existing everyday movement were mapped through methods that once again drew from both Laban and Feuillet. The key elements annotated arose from Laban's 'Categories of Movement Motivation and Analysis.' Of the eight listed by Ann Hutchison Guest in her book, "Labanotation: The System of Analyzing and Recording Movement," the four which are dealt with in this project are:

Visual Design (Path)
Rhythmic Patterns
Relationship (Connection)
Centre of Weight (Balance)
(Hutchinson Guest 12-13)

Space-based and time-based forms of notation were then used to record these elements. The space-based notation drew from the planimetric scheme of Feuillet's Method and concentrated on the path of movement and physical location of actions. The time-based methods emerged from Laban's egocentric timeline and proved effective in recording rhythm of movement and when various parts of the body were acting or engaged. Attempts were also made to combine space and time in a composite form of notation where all four elements were dealt with simultaneously.

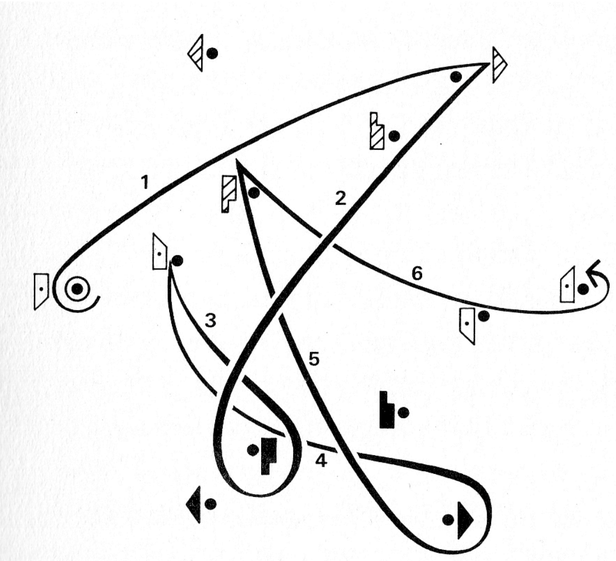


FIG. 65*a*

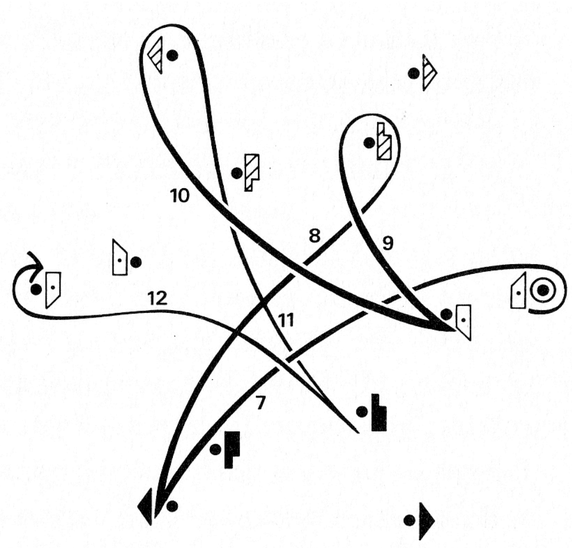


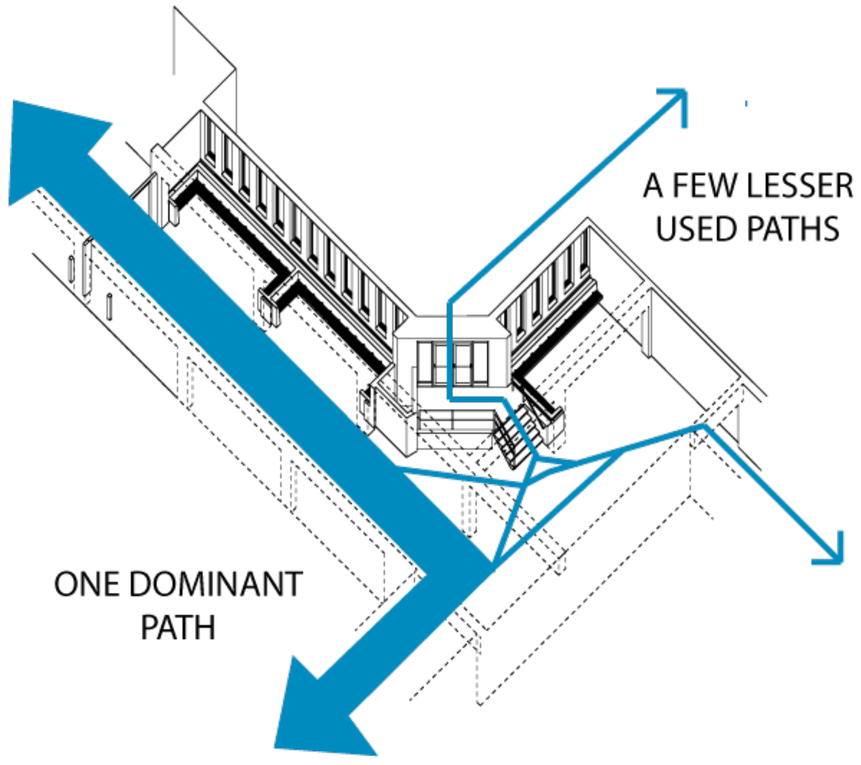
FIG. 65*b*

VISUAL DESIGN

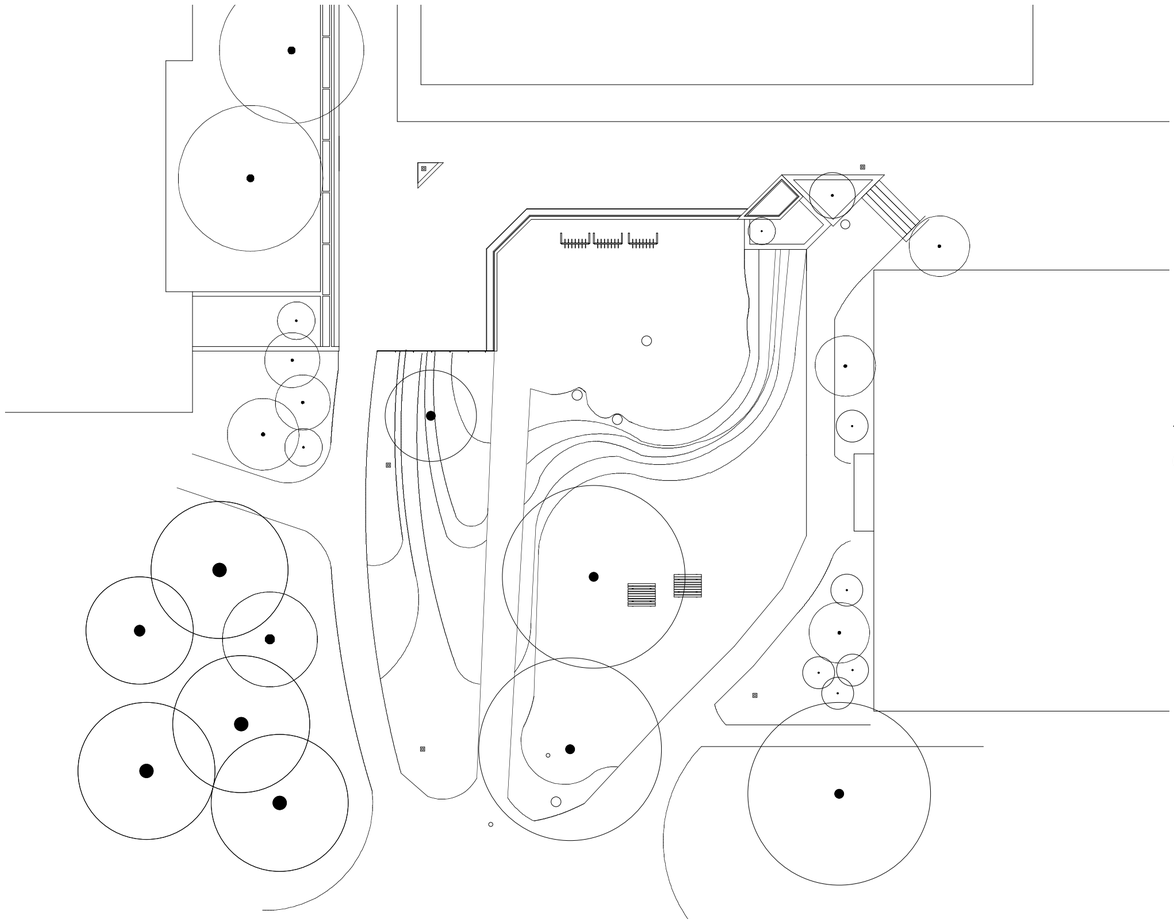
The visual design, that is, the path in space created by the movements of the limbs or the whole body may be the basic idea or feature to be conveyed. The shape or design produced may be a path across the floor, a design (traceform) made by the extremity of a limb… or plastic shapes made by the limbs or the body as a whole.

Hutchinson Guest, 'Labanotation', 13

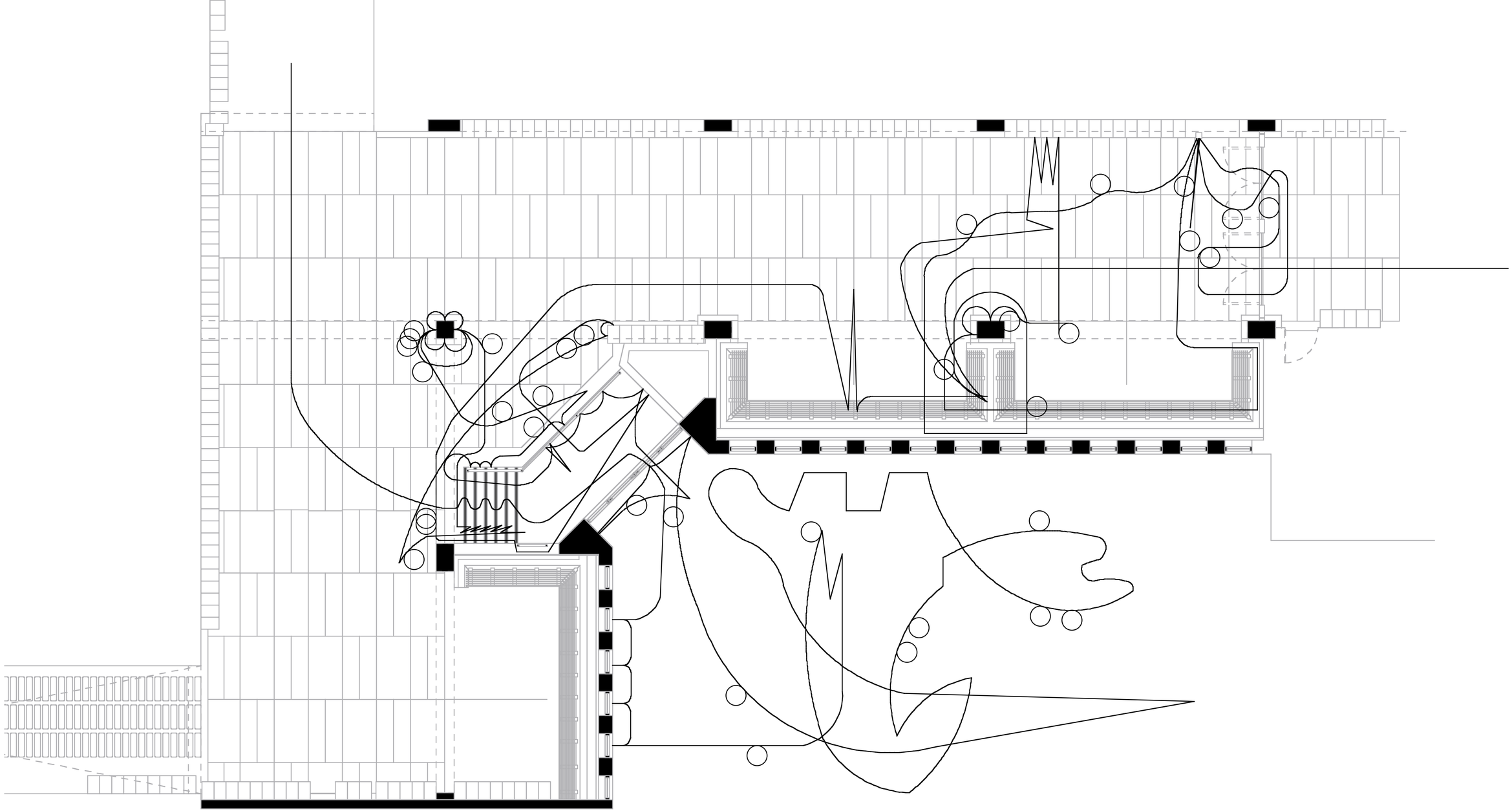
Figure: Laban, 'Choreutics', 153



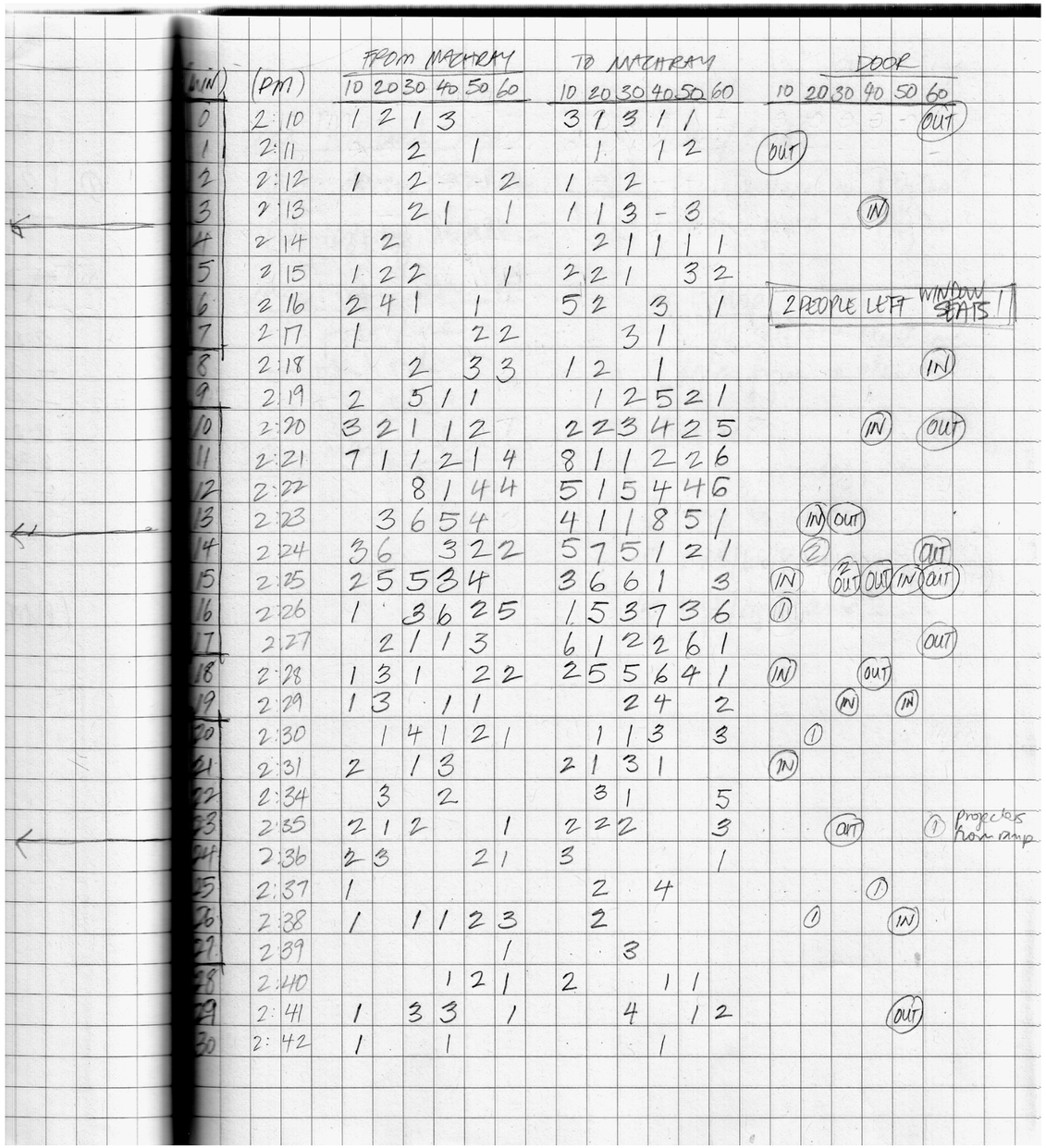
The existing interior paths comprise of a dominant path that connects Machray Hall to Duff Roblin and lesser-used paths leading to the Buller building and outside.



Although all the buildings surrounding the site could be accessed from each other, many of the pathways started at the same point and branched off.



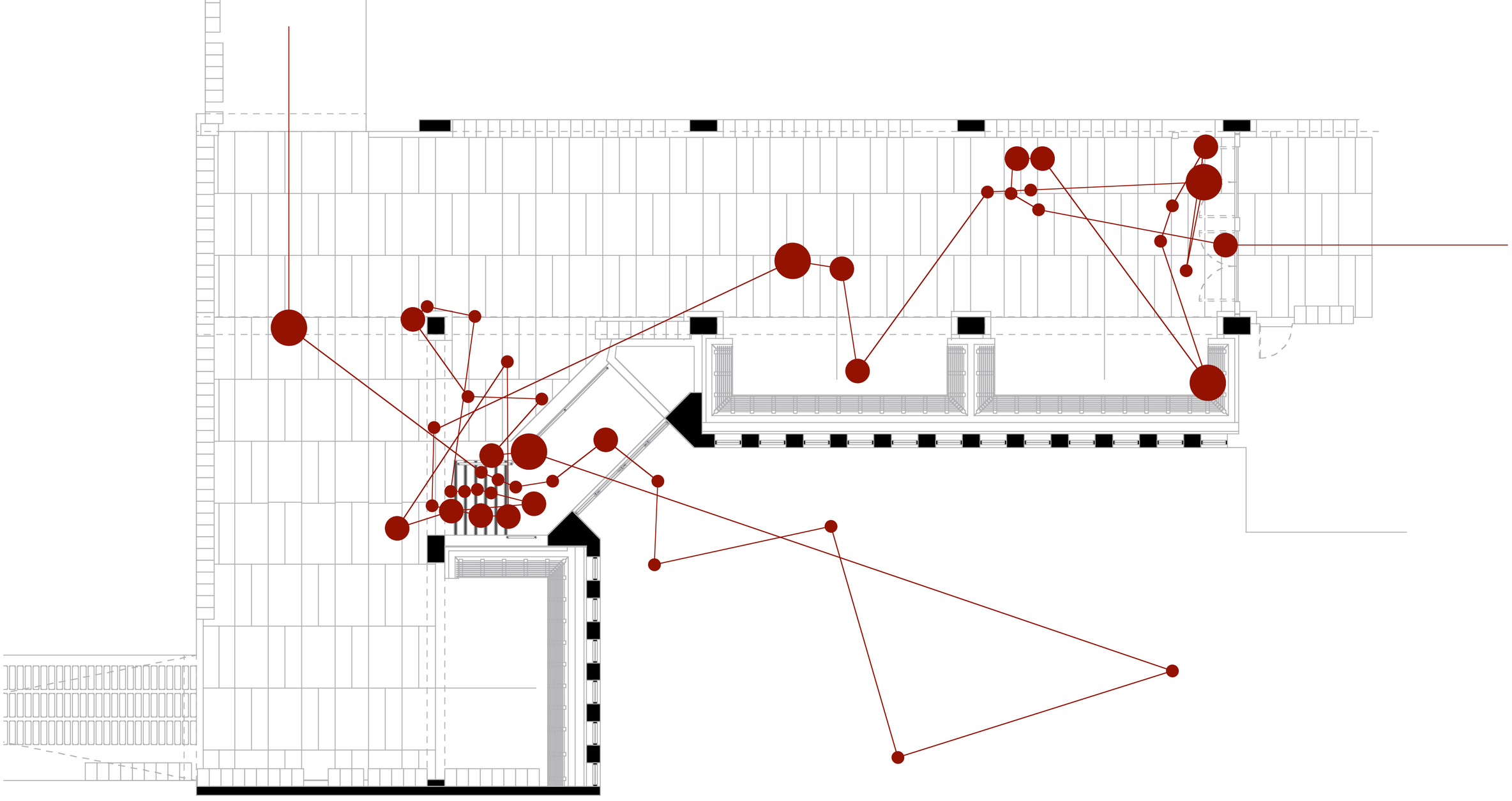
This diagram is of the dance path. The circles represent periods in the dance when the dancer did a full turn. It should be noted that the location of the dancer is shown but the duration of time spent at each point in the path is not.



RHYTHM

The ebb and flow of people moving through the site could be considered a characteristic of rhythm. Having experienced the site during both the regular school year as well as the spring/summer session, some interesting observations were made about activity density on the site.

This chart is an example of how the number of people passing through certain points on the site and the direction that they were heading at certain points in time was documented. A few conclusions were be made from this data. Firstly, more people used the site during the school year, specifically during class changes when students were using the tunnel system to get from class to class than during the spring and summer months. Secondly, during the colder months, the majority of movement occurred in interior spaces as compared to the summer months when there was more activity outside than inside. Lastly, despite the high level of traffic both inside and outside at various times of day and year, very few people stayed on site for extended periods of time.



Rhythmic changes in the dance could also be characterized by ‘pause’. In this drawing the circles represent the points where pauses occurred in the dance, the size of the circle representing duration and the location of the circles the relative placement on the site that it occurred. The lines connecting points together indicate the order of occurrence.

RELATIONSHIP

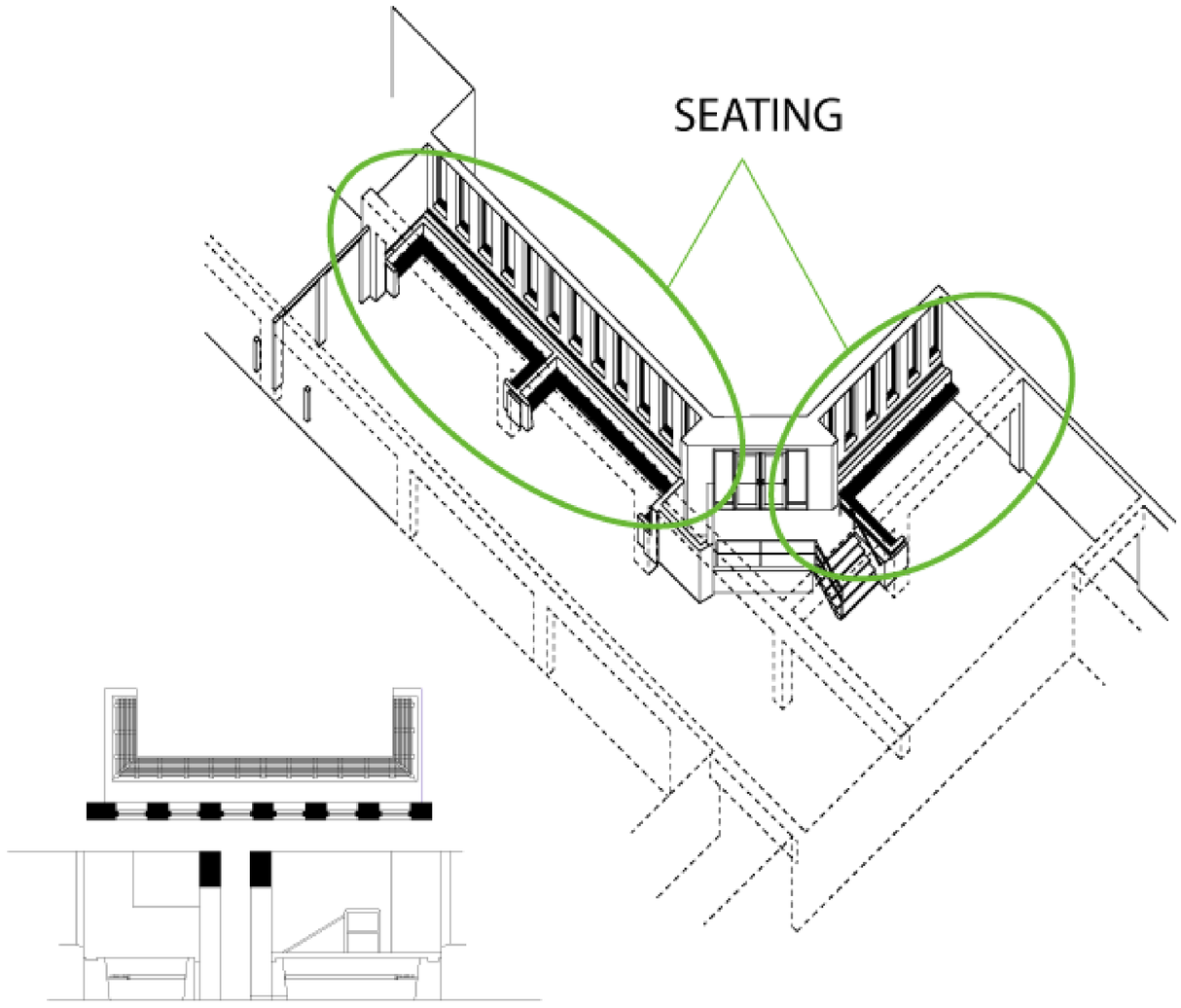
A slow dance begins between two bodies – the dynamic body of the visitor/consumer and the static body of the object of consumption.

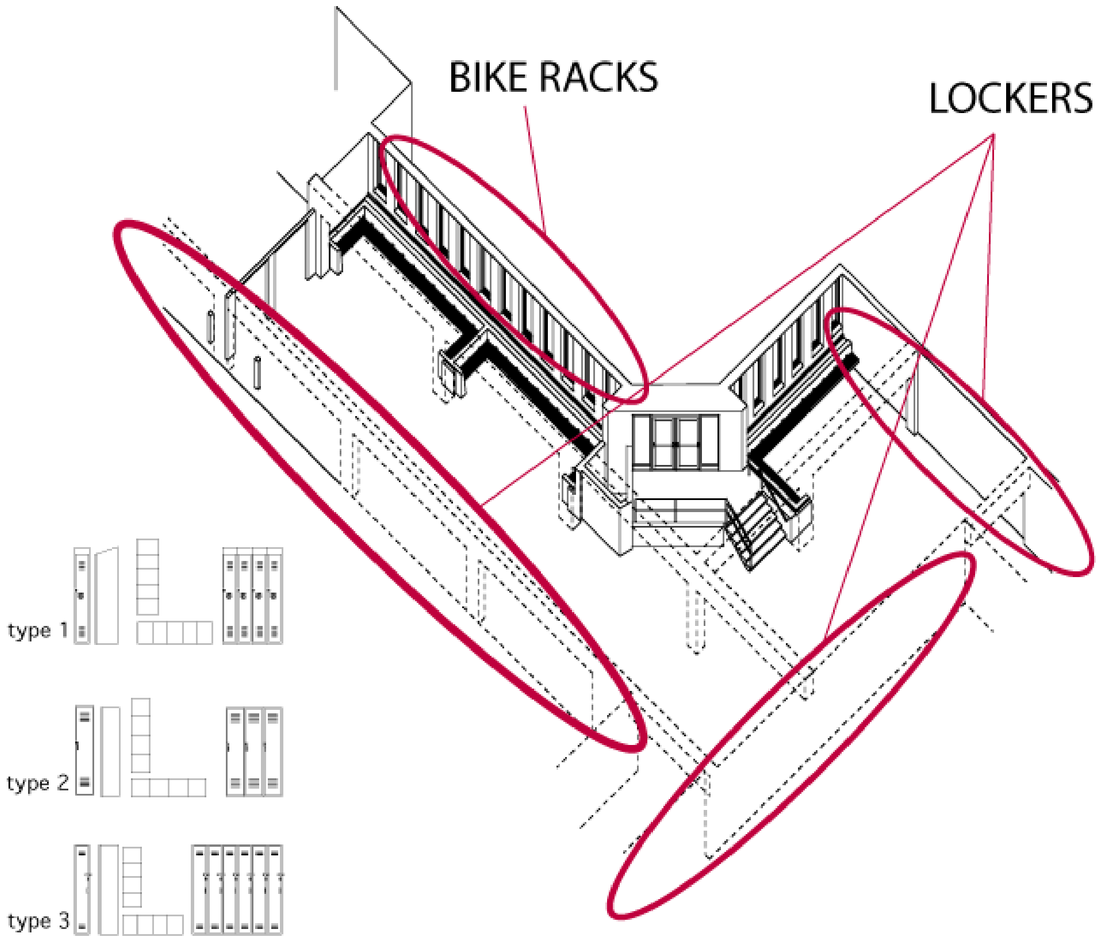
Bernard Tschumi, 'Event Cities 2', 229

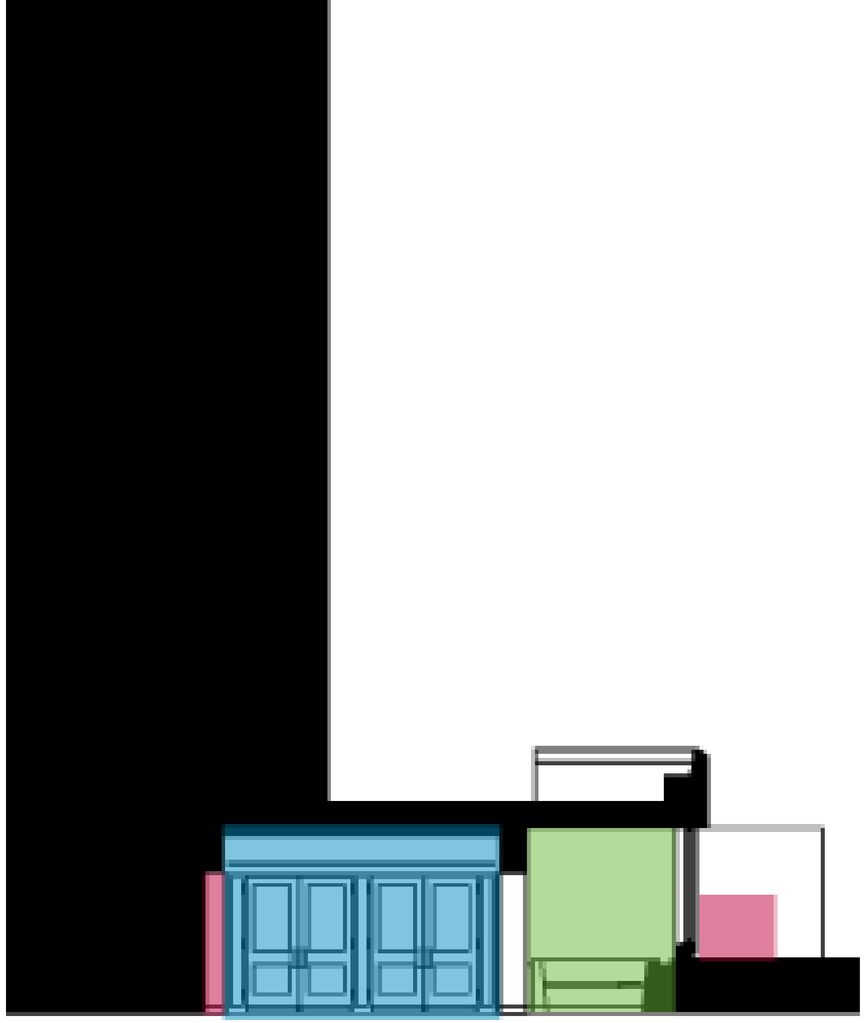
The purpose of an action may be to relate in some way to an object or person. This may be to approach it or move away from it, to be close to it, to touch, grasp, or perhaps carry it.

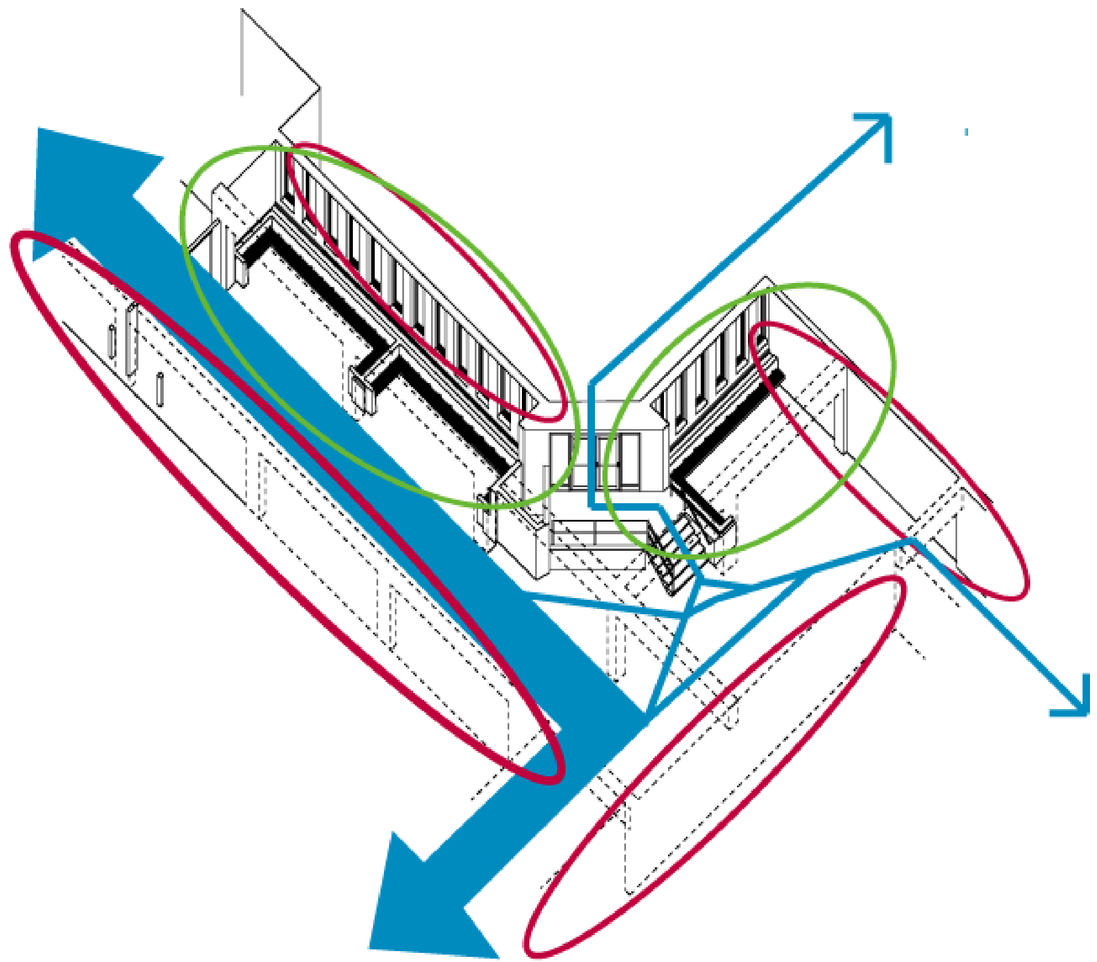
Ann Hutchinson Guest, 'Labanotation', 13

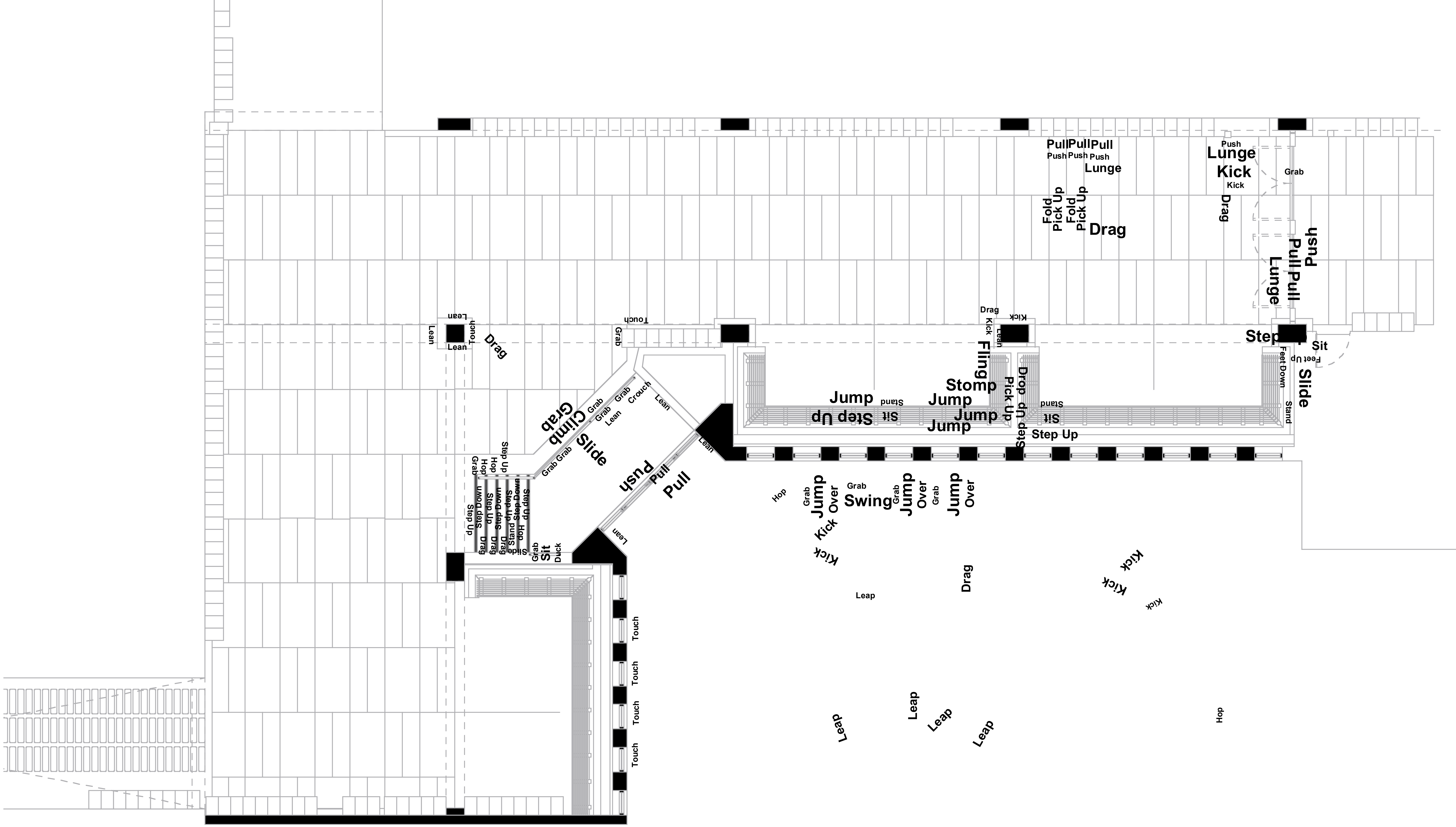
Observing the everyday, most relationships between body and site were purely functional – walking, sitting, pushing or pulling a door, going up stairs. As it has already been established, there was a dominant walking path and a few smaller lesser-used paths. The other program elements on the site: seating and storage (lockers) existed away from the dominant path and failed to encourage people to use the site as anything more than a way of getting from on building to the next.


SEATING


BIKE RACKS
LOCKERS
type 1
type 2
type 3



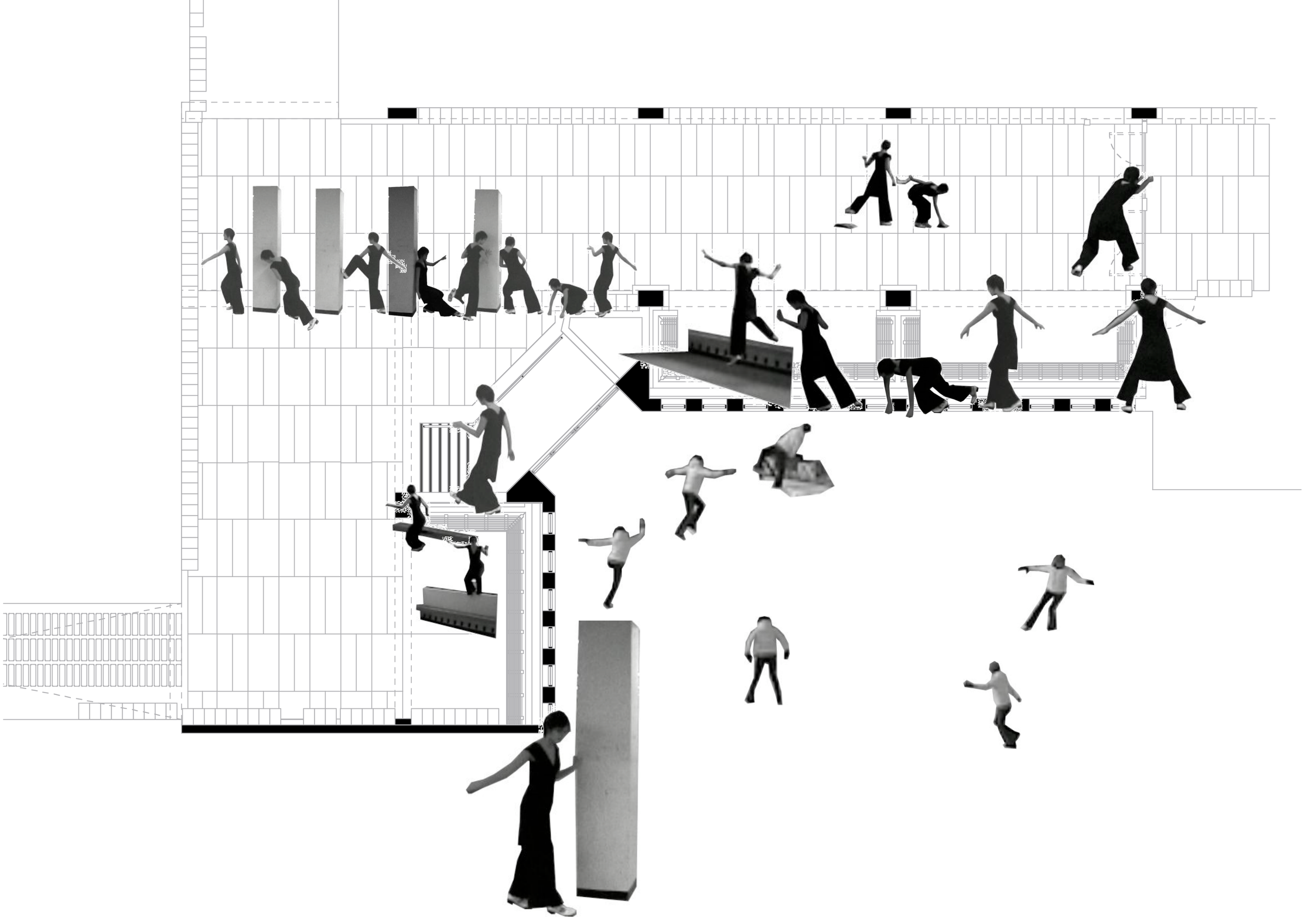


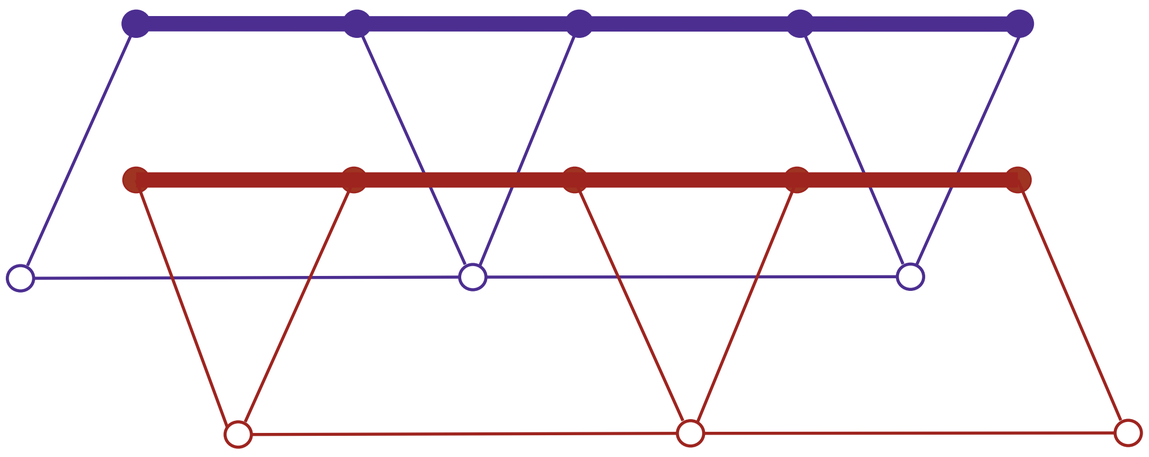

Pull Pull Pull
Push Push Push
Lunge
Fold
Pick Up
Fold
Pick Up
Drag
Push
Lunge
Kick
Kick
Drag
Grab
Push
Pull Pull
Lunge
Lean
Lean
Touch
Lean
Drag
Touch
Grab
Drag
Kick
Kick
Lean
Fling
Stomp
Pick Up
Drop
Step Up
Step Up
Sit
Feet Up
Feet Down
Slide
Stand
Jump
Stand
Sit
Step Up
Jump
Jump
Jump
Stand
Sit
Step Up
Grab
Climb
Slide
Grab
Grab
Grab
Lean
Crouch
Lean
Grab Grab
Lean
Push
Pull
Pull
Step Up
Hop
Grab
Hop
Step Down
Step Up
Step Down
Stand
Step Up
Drag
Slide
Grab
Sit
Duck
Lean
Hop
Grab
Jump
Over
Kick
Kick
Grab
Swing
Grab
Jump
Over
Grab
Jump
Over
Leap
Drag
Kick
Kick
Kick
Touch
Touch
Touch
Touch
Leap
Leap
Leap
Leap
Hop

BALANCE

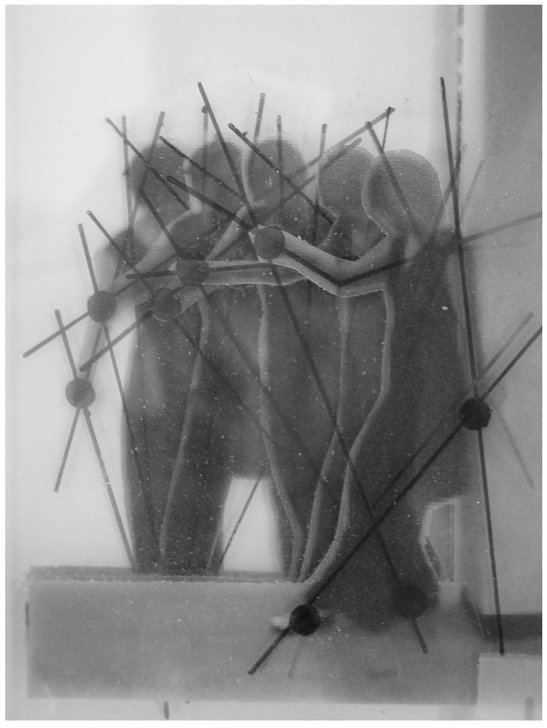
Where is place? *In Labanotation the idea of place... follows the basic law that place is directly related to the centre of gravity of the performer... place is above, at, or below your centre of weight.*

Hutchinson Guest, 'Labanotation', 29-31



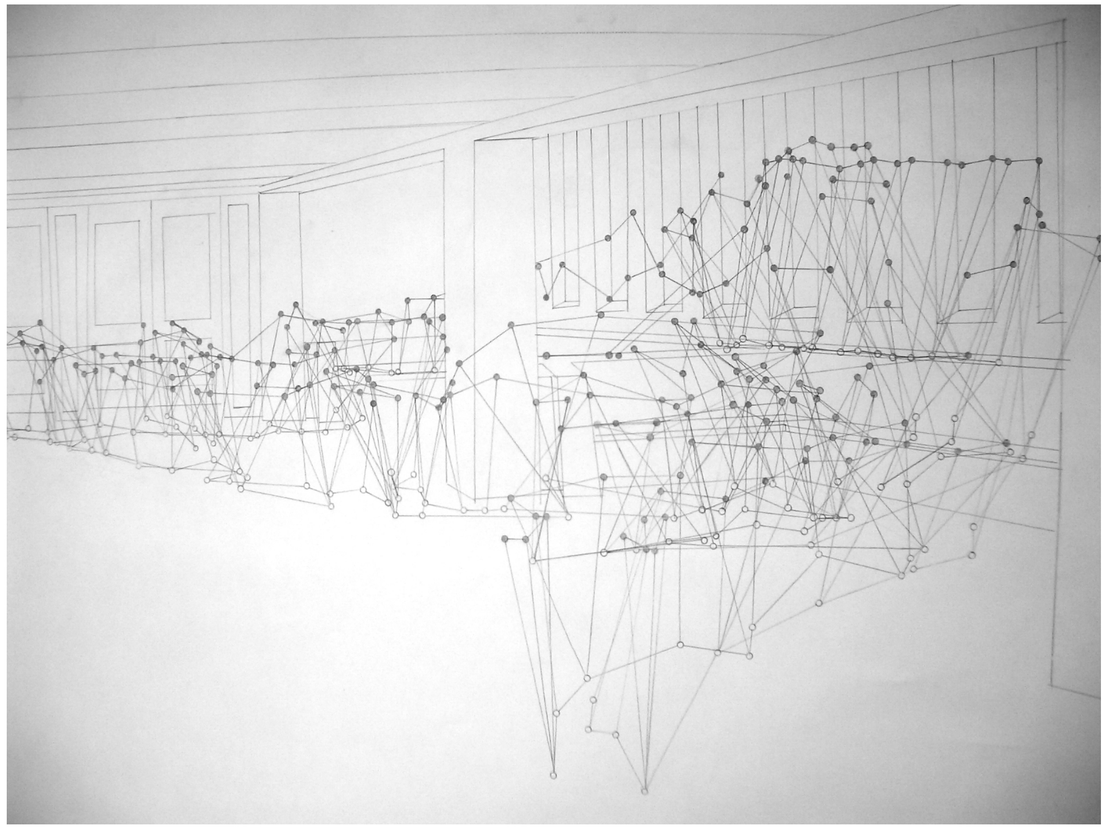


To explore balance, the left and right sides of the body were looked at separately and then together. As well, the body was broken down into its limbs and these diagrams explored how they worked together during an everyday movement such as walking. To maintain balance through movement, the two sides of the body need to work together and move in tandem (one after the other).

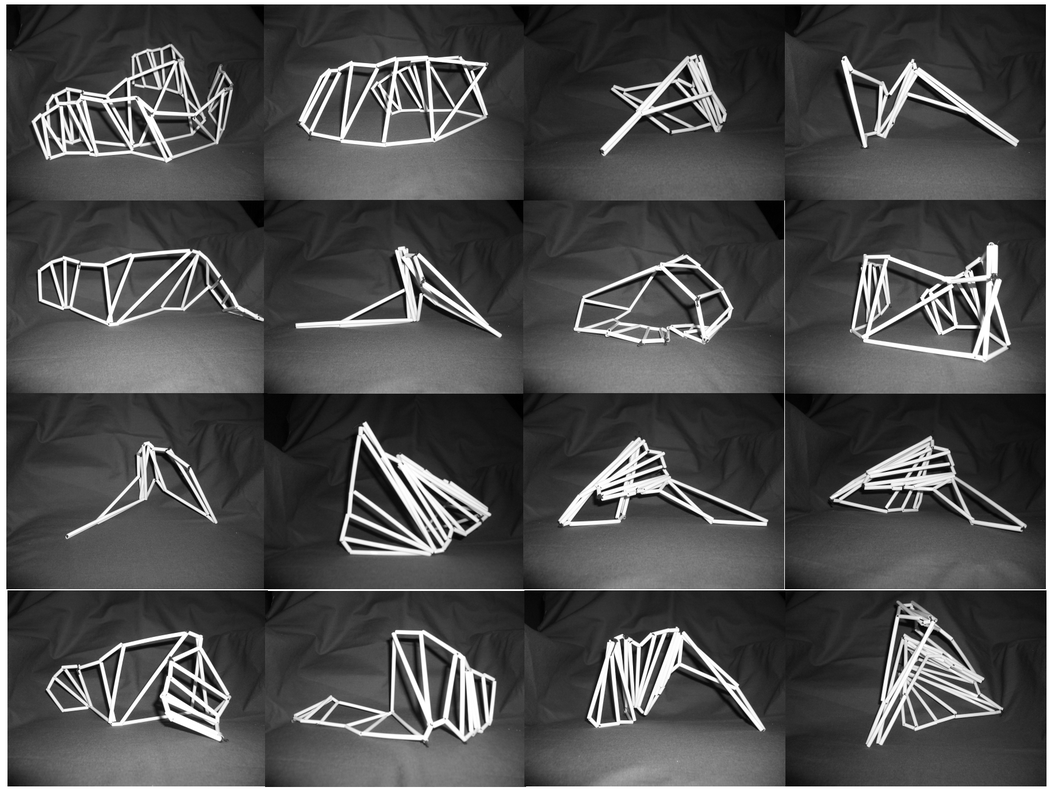


COMPOSITE NOTATION

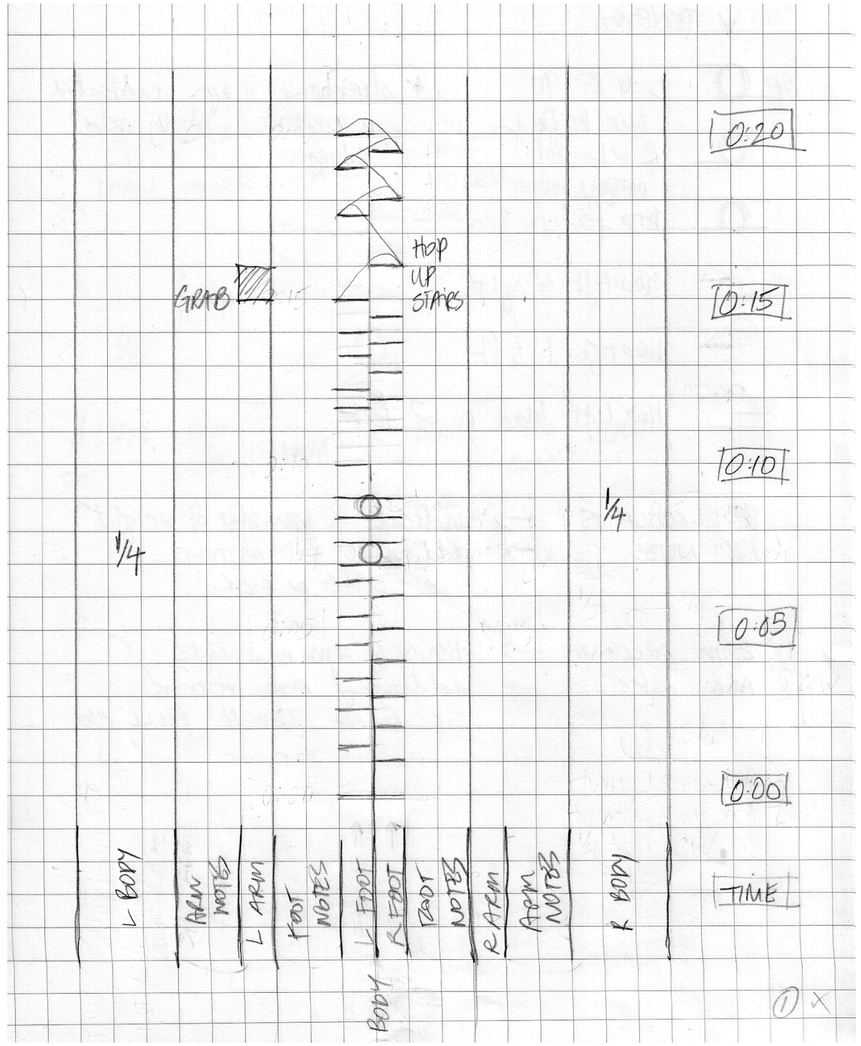
The next step was to find a way to annotate both space and time together. One way was to represent movement through stop motion. The notation used to analyze walking movement was applied to the dancing body in this series of slides.



This same technique was also used to create a drawing in perspective. Each fraction of a second was traced and as it can be seen, although the drawing was in 2-dimensions, the 3-dimensional nature of the dance can clearly be seen.



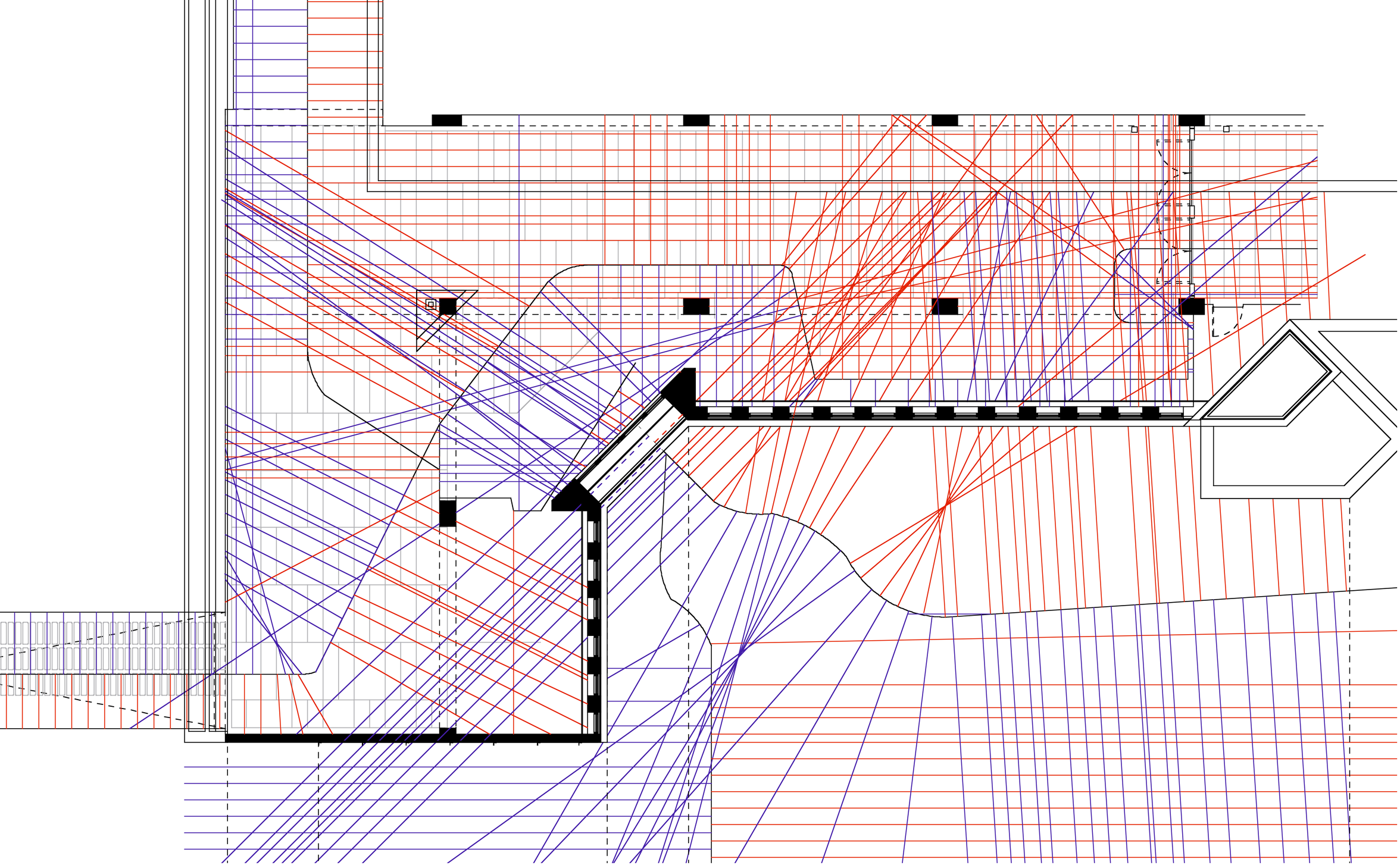
These straw and elastic models were the result of an experiment in modeling 2-dimensional notation in a 3-dimensional way. The vector lines connecting each stop motion position and connecting the the movement points of the arms and legs became the structure of these objects.

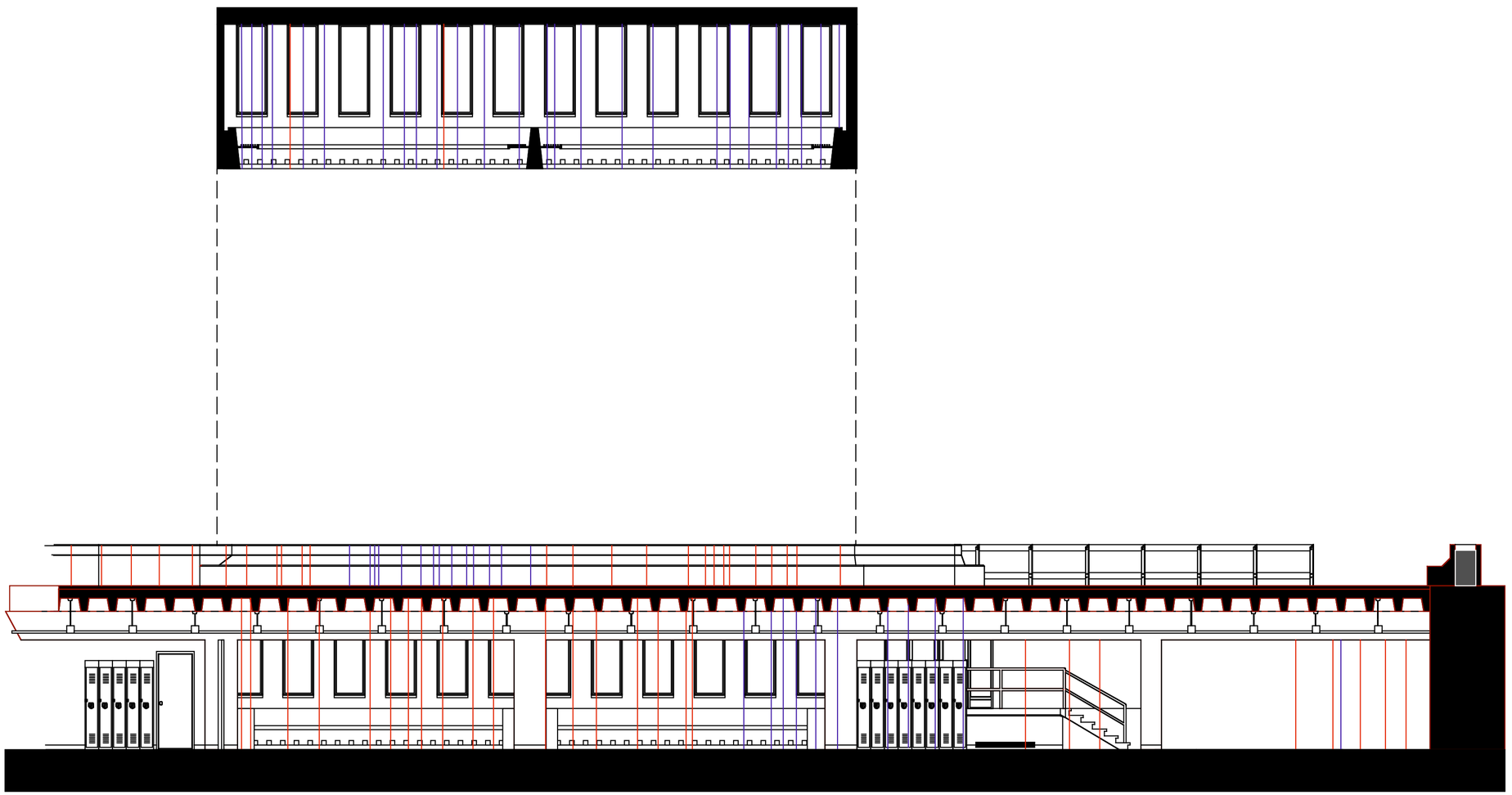


APPLYING LABANOTATION

With the intention of becoming more familiar with the inner workings of Labanotation, the Tunnel Dance was annotated in Laban's method. Represented here is the first page, showing the first 20 seconds of the dance. The middle line represented the centre of the body and each side of that line represented the corresponding side of the body. Each side was then divided into lanes, where foot or arm movements were annotated in designated columns. Each square on the page represented one second. (See Appendix C for full score.)

Since Labanotation as a method does not include provisions for site, the Laban notation of the Tunnel Dance was then combined with the dance path and applied to the site plans and sections.

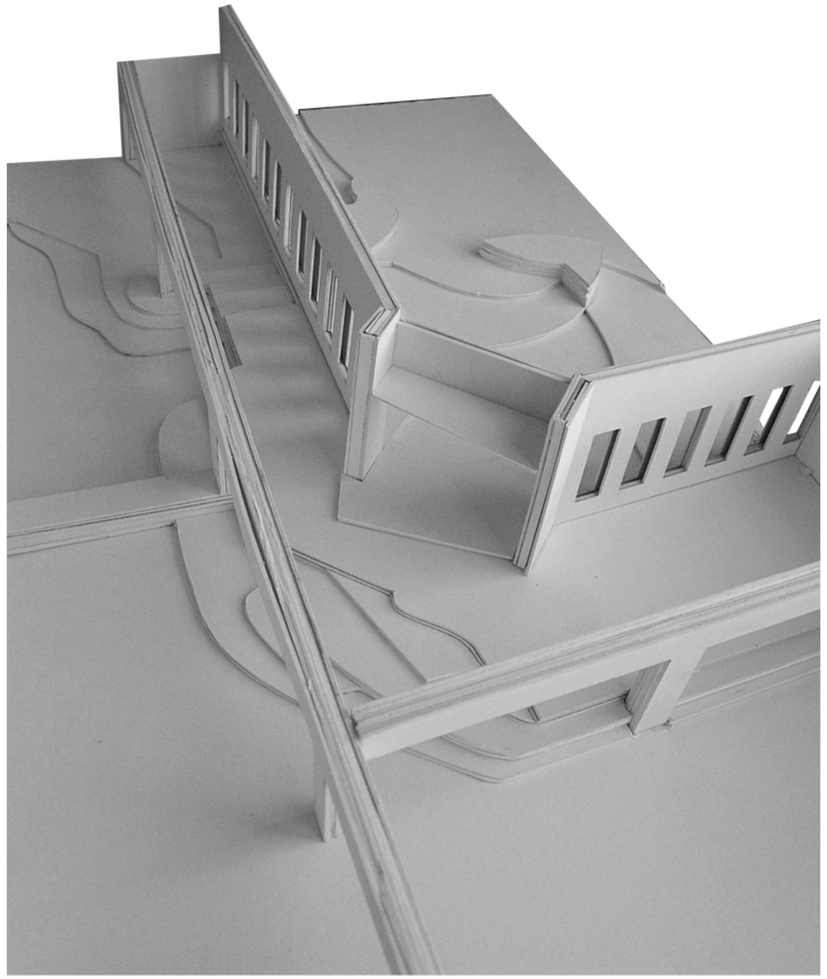




PART THREE

DESIGN

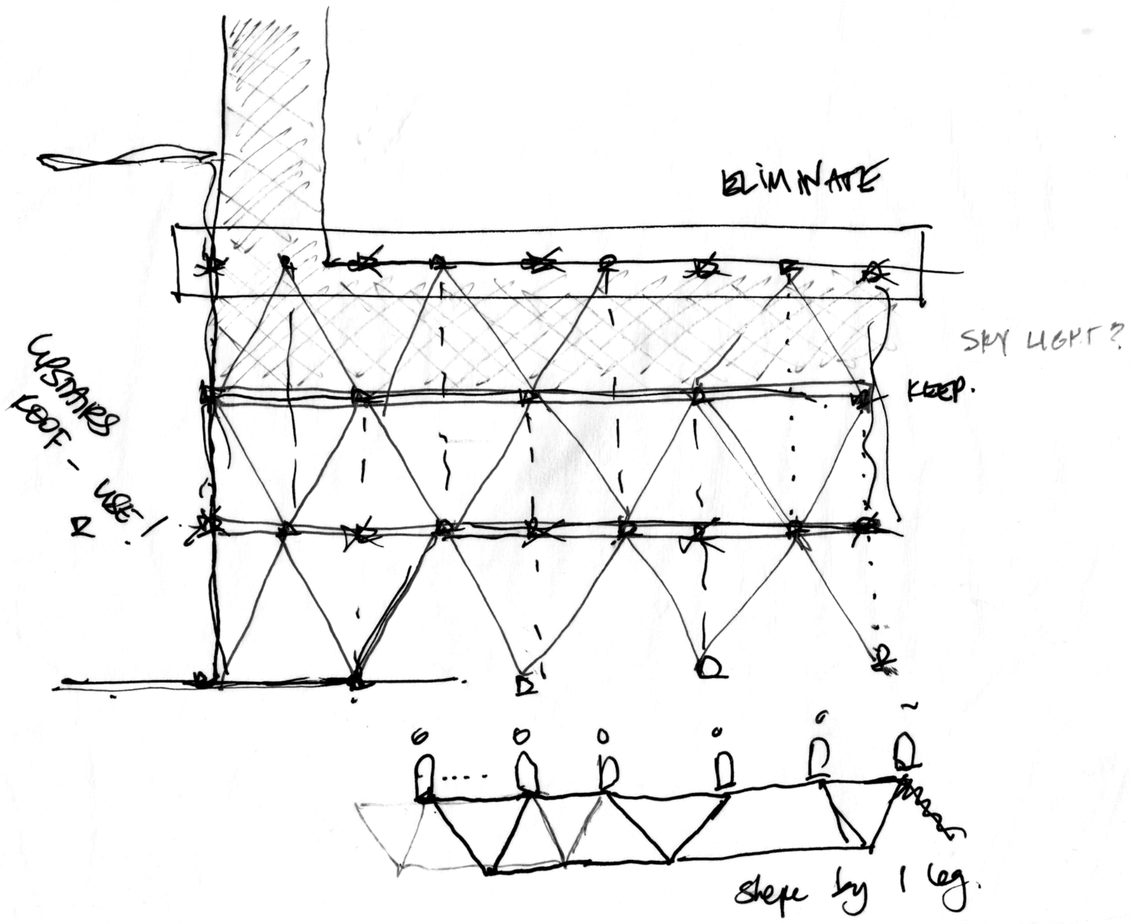
ARCHITECTURE through MOVEMENT (analysis)



3.1 Center of Balance, Dance as Form

The site, though used and populated at certain times of the day and year, had little to engage the user. For most, it was merely a means of getting from point A to point B. The primary goal for this project was to create a space that people would actually use.

Initial attempts at redesigning the site used the dance path in plan and applied it to the site. Areas of the site were then pushed and pulled to create depth and interesting shapes. Unfortunately, the weakness in this method of sculpting the site through dance proved to be its literal application of dance to site. Although visually interesting, it failed to contribute to the site in more than a one-dimensional way.

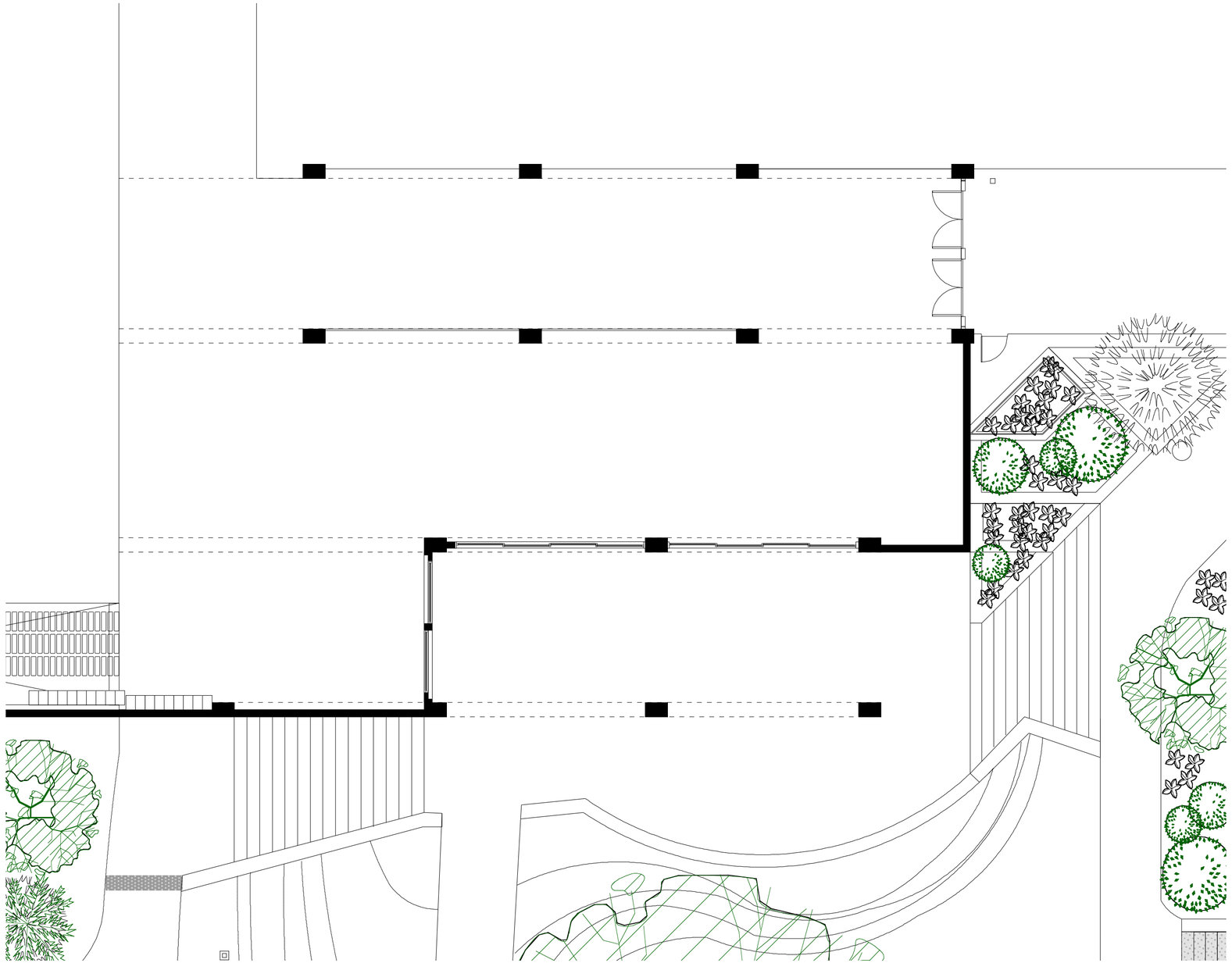


REGULAR VS. STAGGERED COLUMNS

The design process was then approached in a more site-oriented way. When aspects of the 'dance experience' were compared to those same aspects in the 'existing' site experience, ideas for how the site could be improved arose. The intention was not to completely change the site, rather to see where the current configuration was lacking and to find ways to improve it.

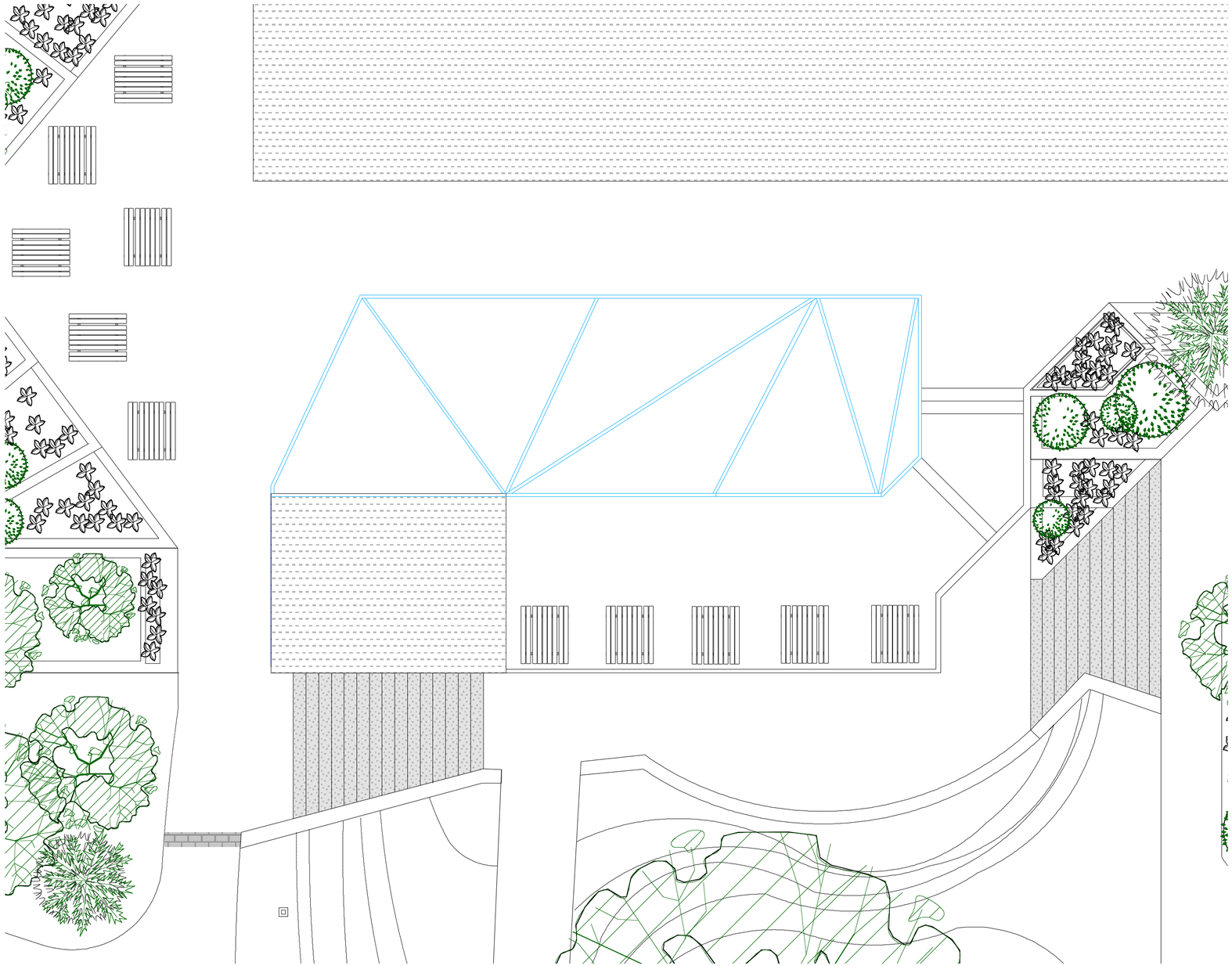
The overall form for the new design arose from studies relating to tandem movement, specifically how the left and right sides of the body work together in order to walk.

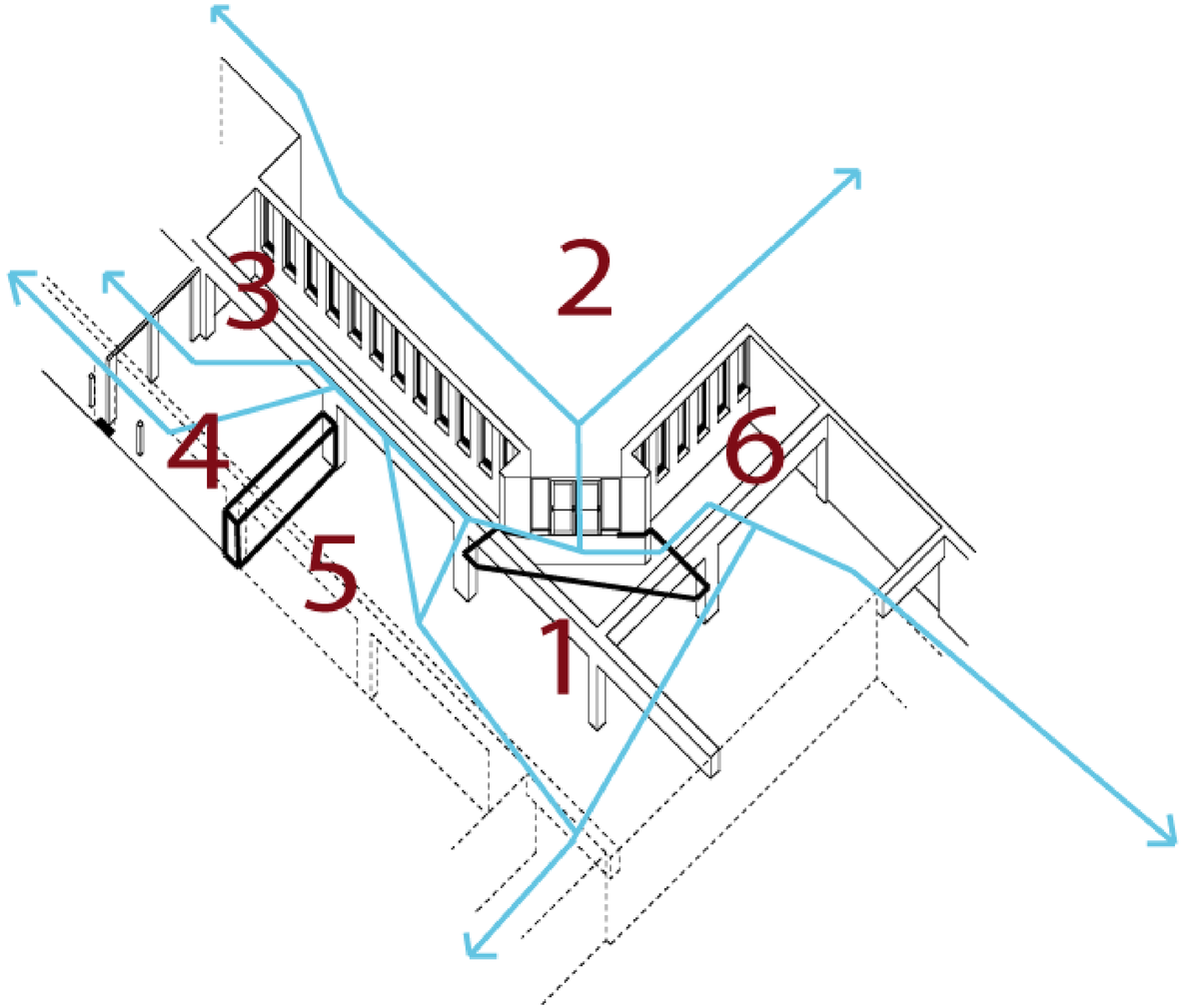
Since the interior space was quite long and relatively narrow, one of the design goals was to widen the buildilng, allowing space for additional programming. The new scheme took the existing column structure that housed the dominant path and created a second row of columns to imitate it. However, inspired by everyday walking movement, this new row of columns was to be off-set from the original. This served to create a larger interior space, allowing for more room for programas well as a covered exterior space.



RECTILINEAR VS. TRAPEZOIDAL

The trapezoidal shapes that emerged from the walk analysis also found their way in to the design of the skylight that bridges the two rows of columns. Because the new design was now double the depth as the previous one, it was necessary to find a way to for sunlight to penetrate into the interior spaces





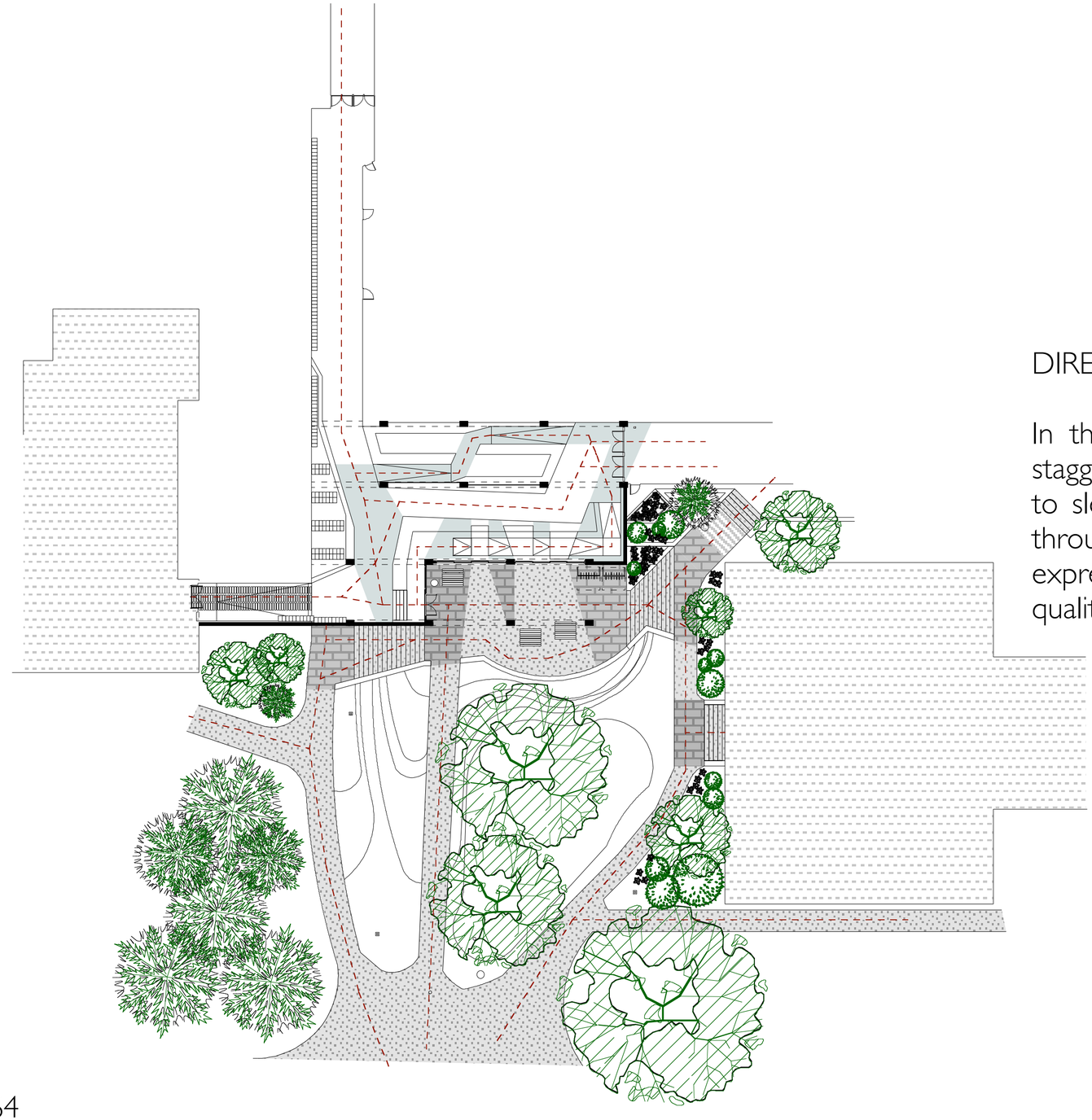
3.2 Visual Design, Dance as Path

Set no limit yet on how intensified a life may become through purposeful configuration.

Arakawa + Gins, 'Architecture: Sites of Reversible Destiny', 121

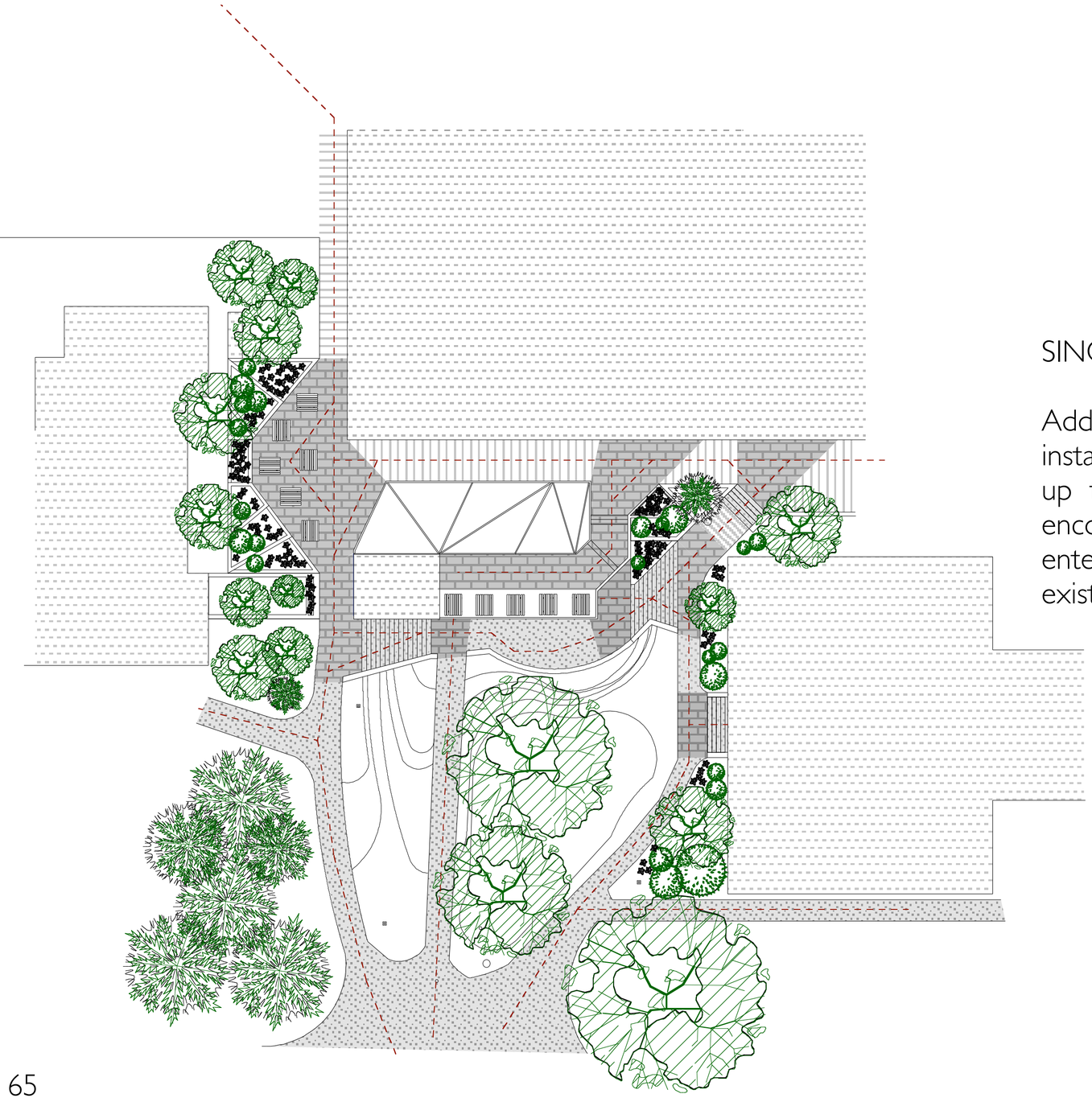
Another aspect of the Tunnel Dance that did not exist in the existing architecture was the limitless approach to movement, specifically as relating to the path of the body. The majority of people experienced the site as part of the tunnel system, merely passing through on their way somewhere else. For those who stopped to sit, study or socialize, the areas for these activities were located away from the main path. The current path was also direct and uneventful. The intent was to alter the current linear path and to create new paths in order to give people not only a new way of passing through the site but new places to go.

Early attempts at altering the path used an obstacle to divert traffic and to create nodes of activity.



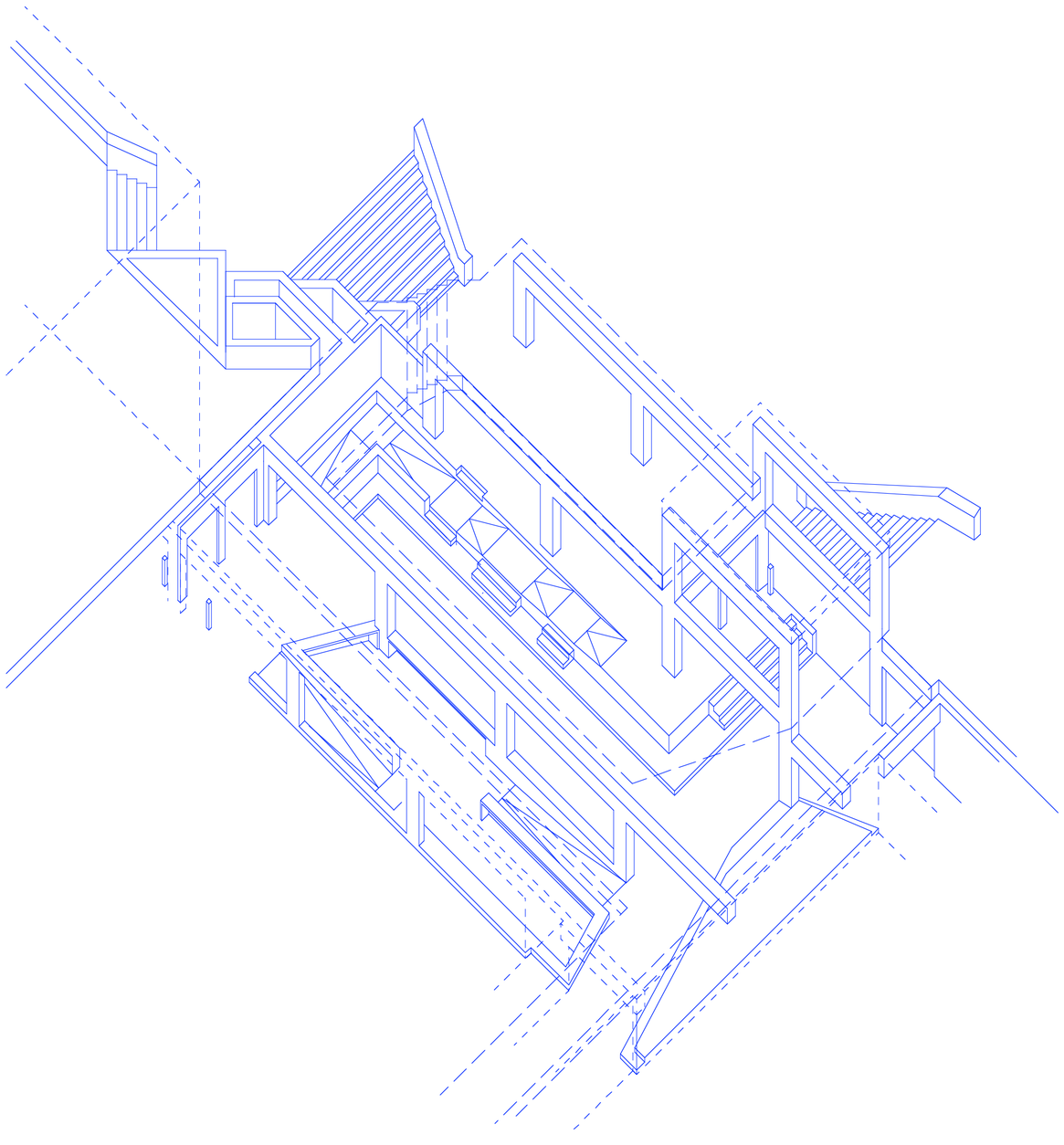
DIRECT VS. MEANDERING PATH

In the new design, the main path was redirected to the area between the staggered columns. Because the path was no longer straight, site users were lead to slow down and possibly consider staying on site instead of merely passing through. Since this area was directly below the skylight, its active nature is expressed doubly, both by the number of bodies as well as the amount and quality of light.



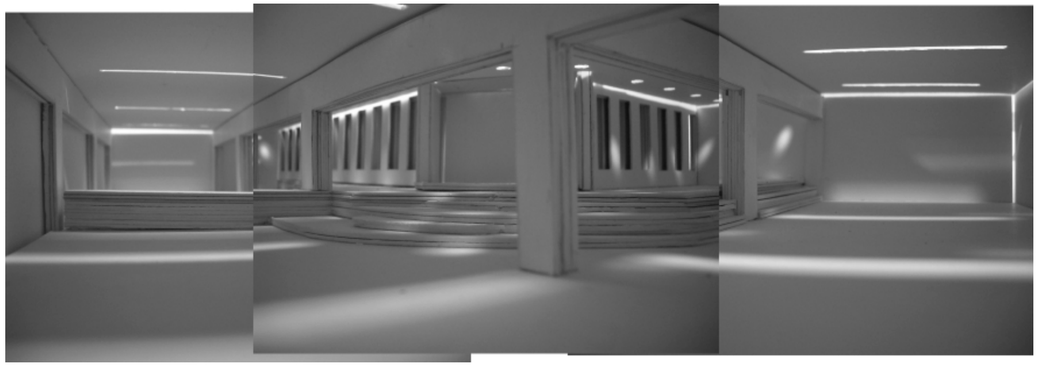
SINGULAR PATH VS. MULTIPLE PATHS

Additional paths have also been added to the exterior spaces on the site. By installing two sets of stairs, one leading up to Human Ecology and one leading up to the roof top walkway toward Buller and Machray Hall, people are encouraged to move laterally across the site. This also allowed for site users to enter the tunnel more directly from other points on the site, paths that did not exist before.

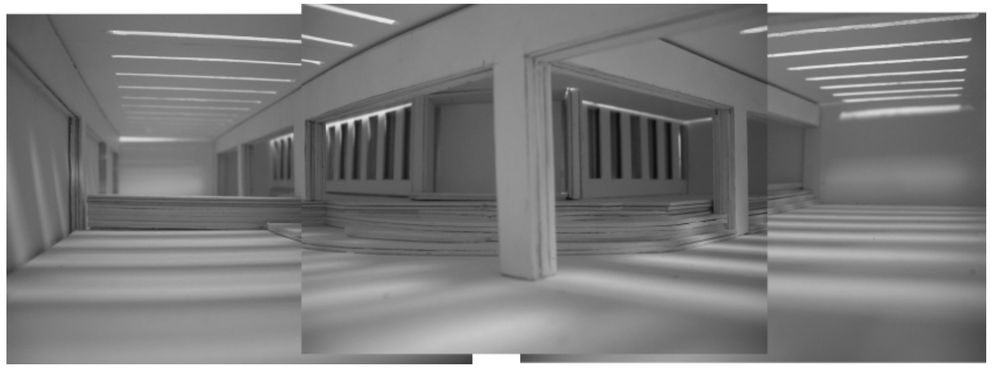


INACCESSIBLE VS. BARRIER FREE

Lastly, the existing site was not wheelchair accessible from the outside. The new scheme included both a ramp in addition to a stairs to reach the upper level leading to the outside. Since they were located at opposite ends of the site, able-bodied site users now have another option for exiting the building.



existing interior lighting

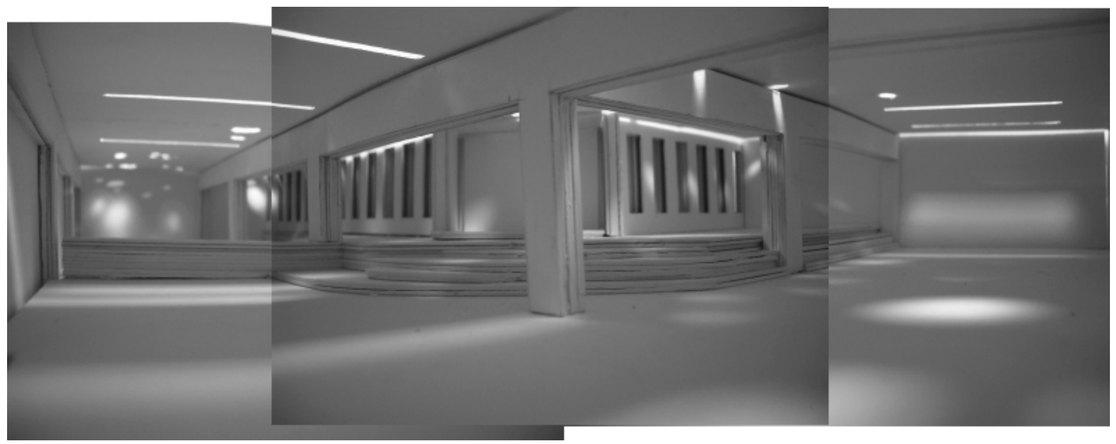


florescent lighting only

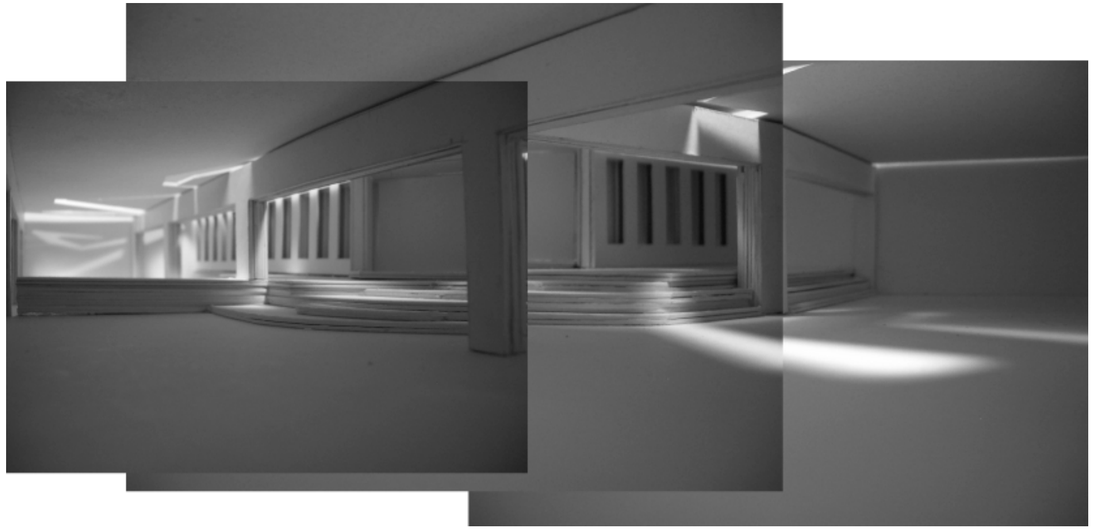
daylight only

3.3 Rhythmic Patterns, Dance as Light

Light is the single most defining quality that makes this part of the tunnel system different from the rest. Coming from Machray Hall or Duff Roblin, the natural light streaming through the windows strikes one as a surprise. However, despite this, due to lack of appropriate programming, people fail to stop and use the site more fully. Yet another goal of this project was to provide reasons for people to stop and use the site.



'pause' as spotlight

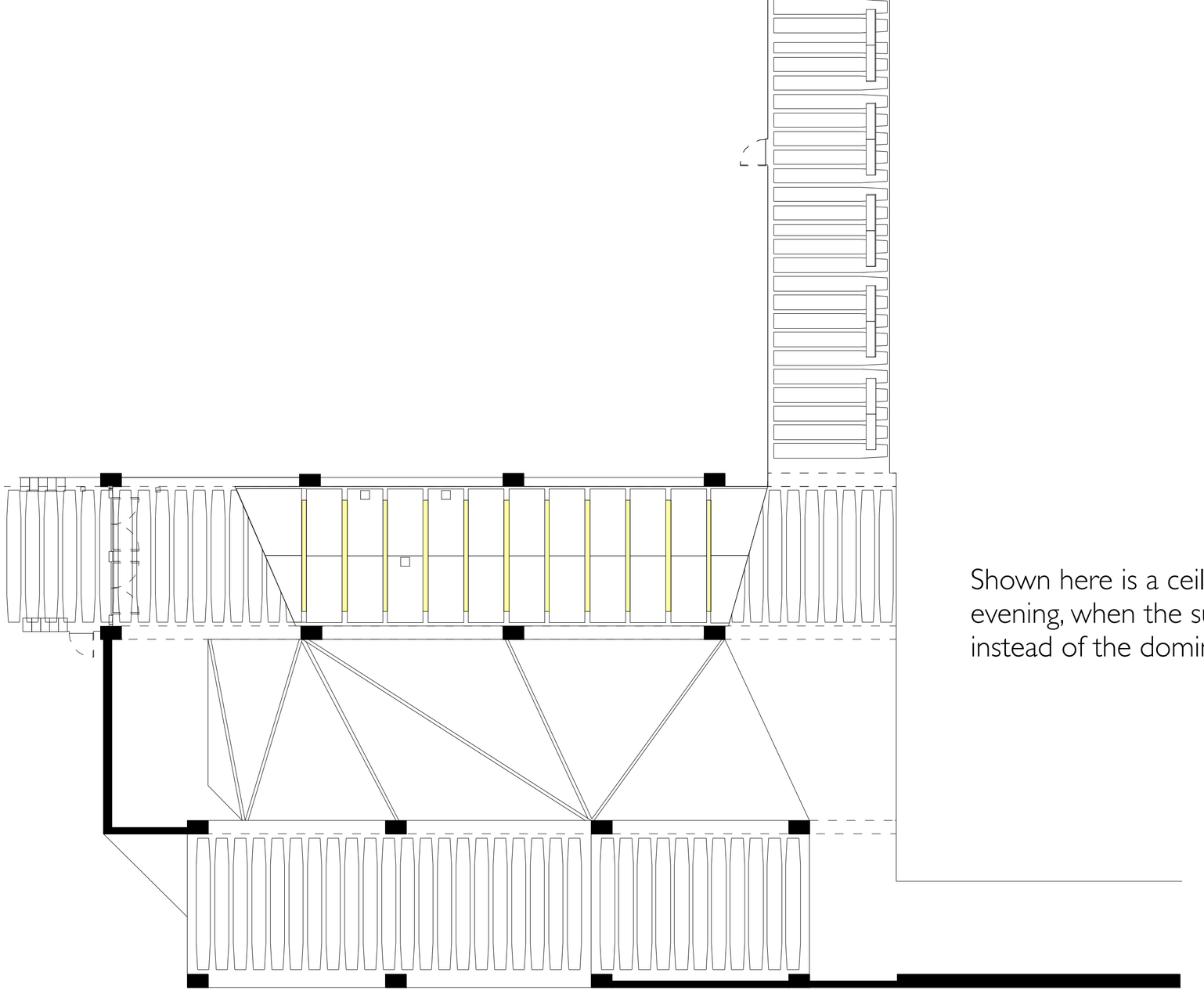


'pause' connected

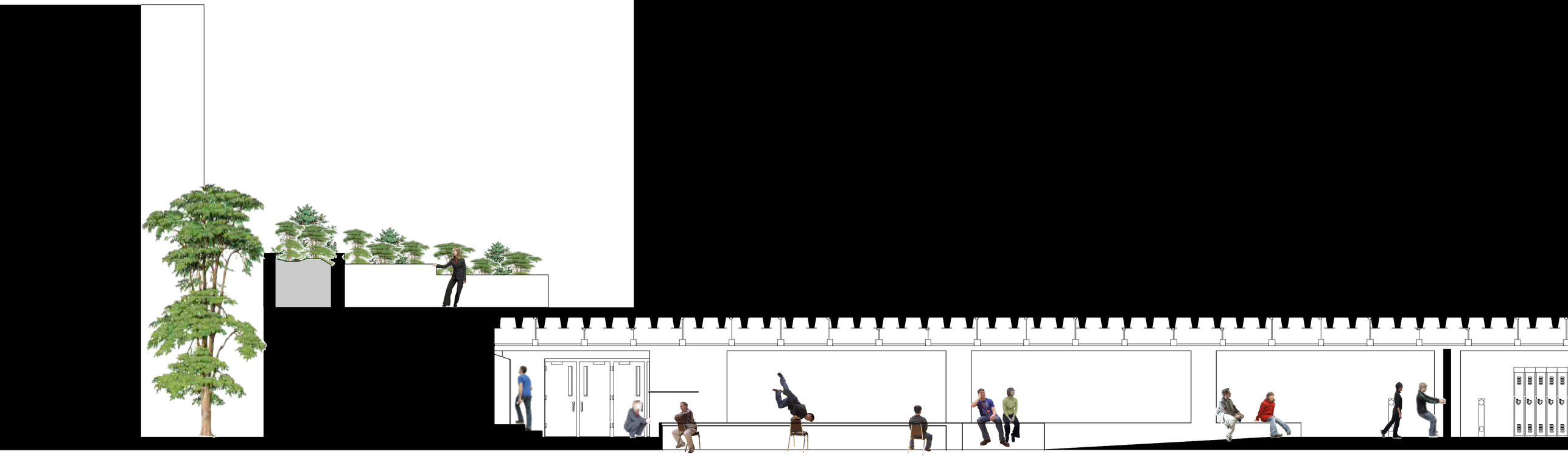
DARK VS. LIGHT

Early experiments with lightdealt with the idea that light had the potential to highlight elements, attracting attention, and make us 'pause'. The pauses from the Tunnel Dance that were annotated provided inspiration for potential lighting schemes.

In the new scheme the skylight provided the opportunity for more natural sunlight to penetrate the site. As it can be seen, the daylight that streams onto the site from above casts interesting patterns over the site.



Shown here is a ceiling plan featuring task lighting for the ‘study pit’. During the evening, when the sun has gone down attention will shift toward this lighted area instead of the dominant path.



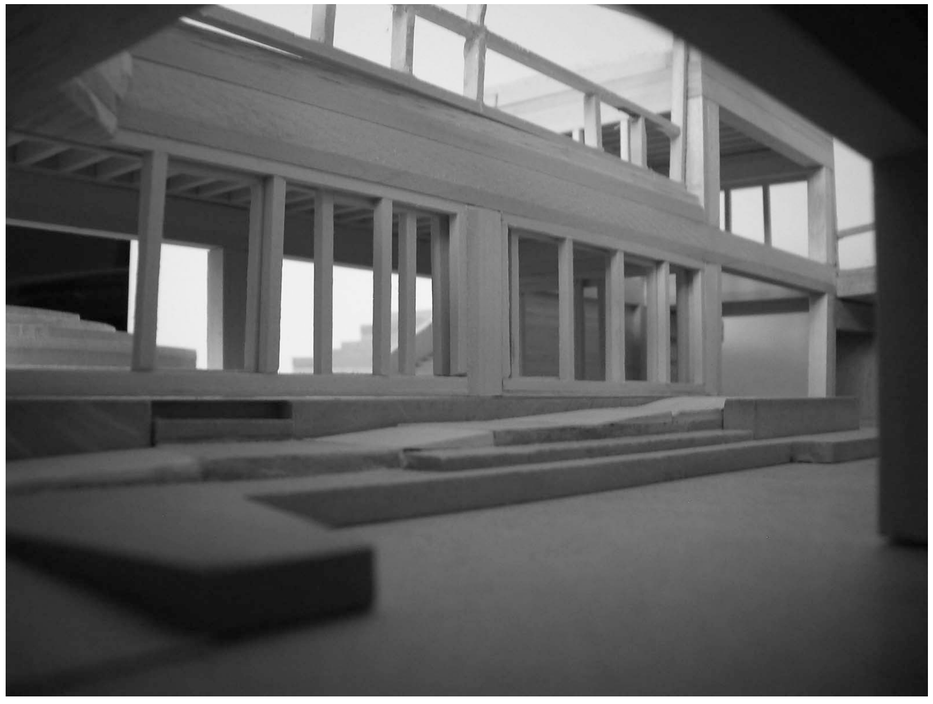
REGULAR VS. IRREGULAR (PAUSE)

Later attempts at creating ‘pause’ on the site involved including programmatic elements that would provide reasons for people to stop and stay. One such element was the ‘study pit’. On the existing site, although there was adequate sunlight during the day, there was no suitable place for students to sit and study.

In the new scheme, a sunken study area was included where the previous dominant path existed. This served the purpose of both diverting the new dominant path as well as creating the option of a slower path through the site.

DIVIDED VS. PERMEABLE

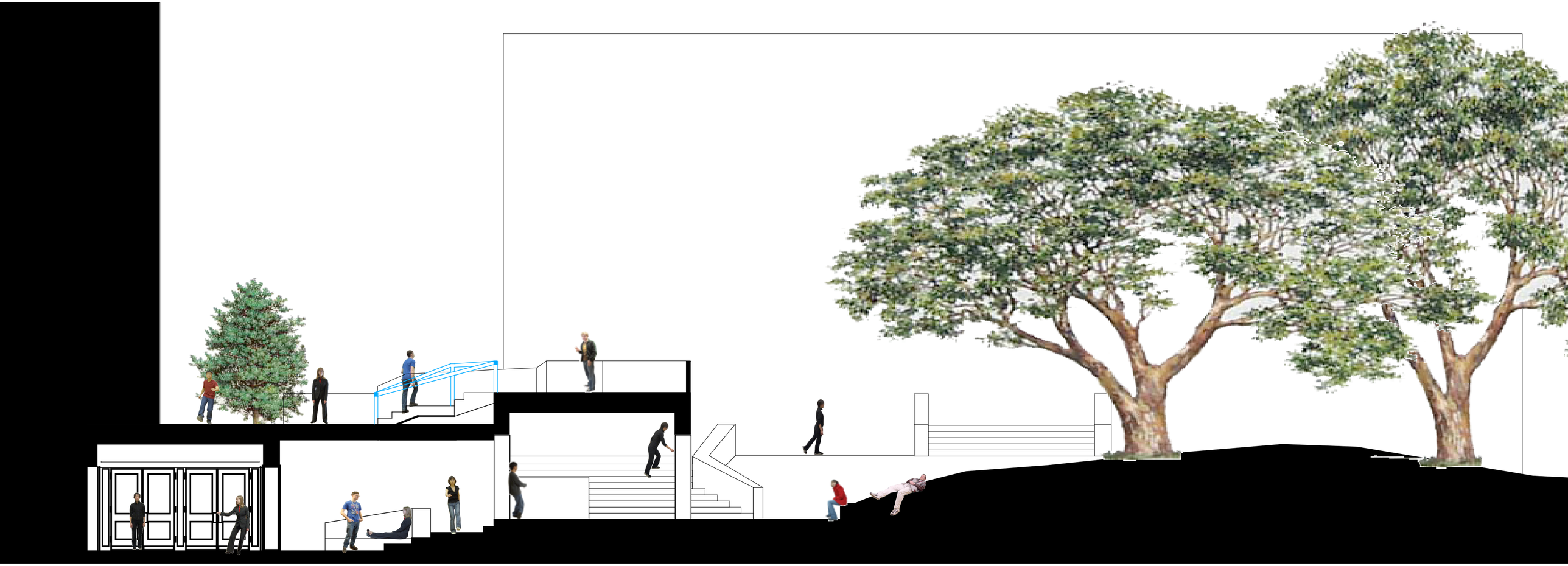
Rhythm was also dealt with through attempts at creating a site that could adapt to seasonal patterns. In the existing design the walls were thick, the windows were relatively narrow, and there was a strict divide between the inside and the outside. The new design attempted to address these issues by bringing in more natural light but utilizing less bulky fenestration and including a skylight.



As well, the windows on the south facing wall were now sliding patio door style windows that could be opened up in the warmer months to allow for fresh air to enter the site and to further dissolve the division between inside and outside.

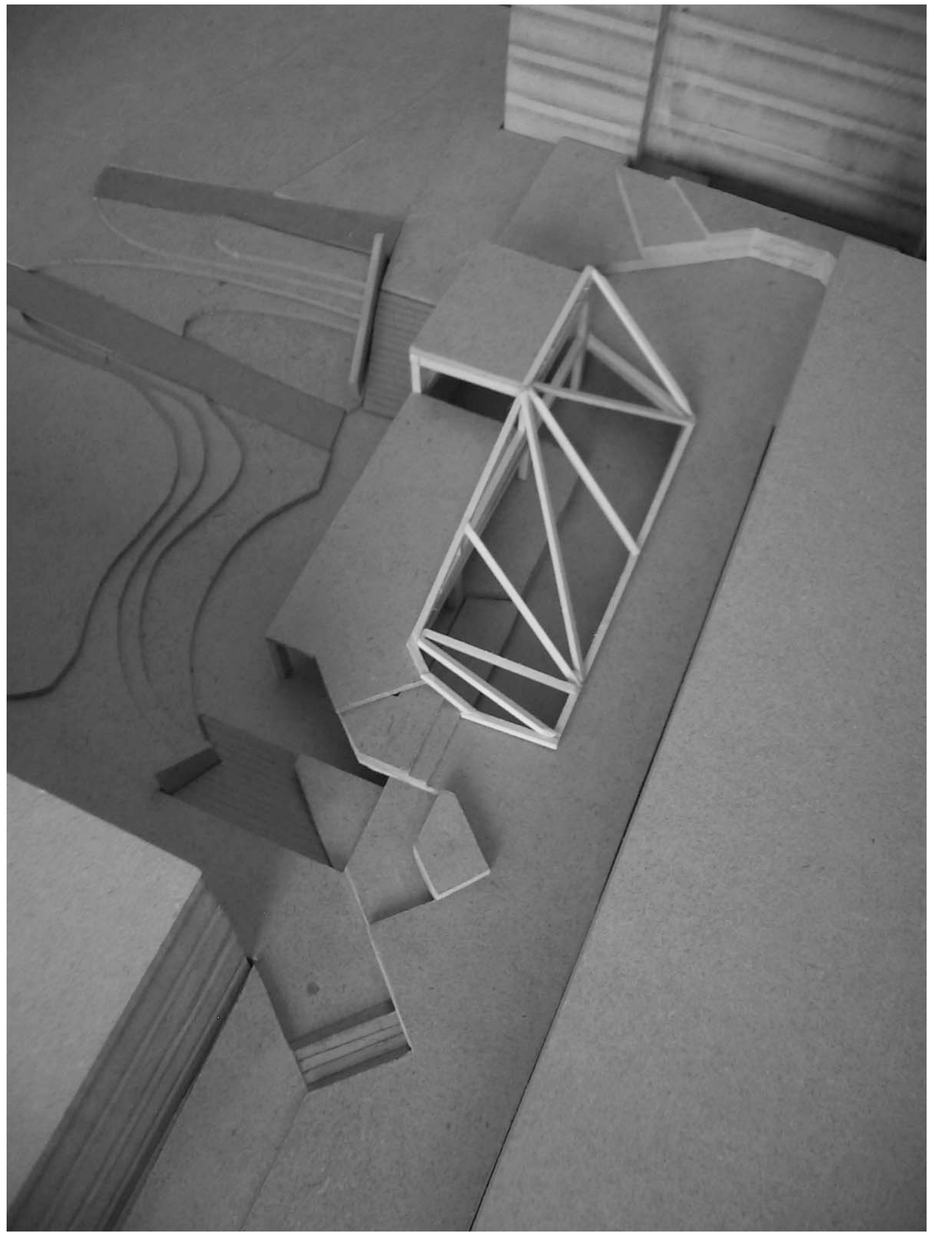
3. 4 Relationship, Dance as Connection & Material

Another interesting characteristic of the site was that it was one of the few sections of the tunnel that was not completely underground. The roof of the interior space also served as a walkway above. However, despite sharing a surface, the two spaces did not interact or connect in anyway. Walkers above had no awareness of those below.

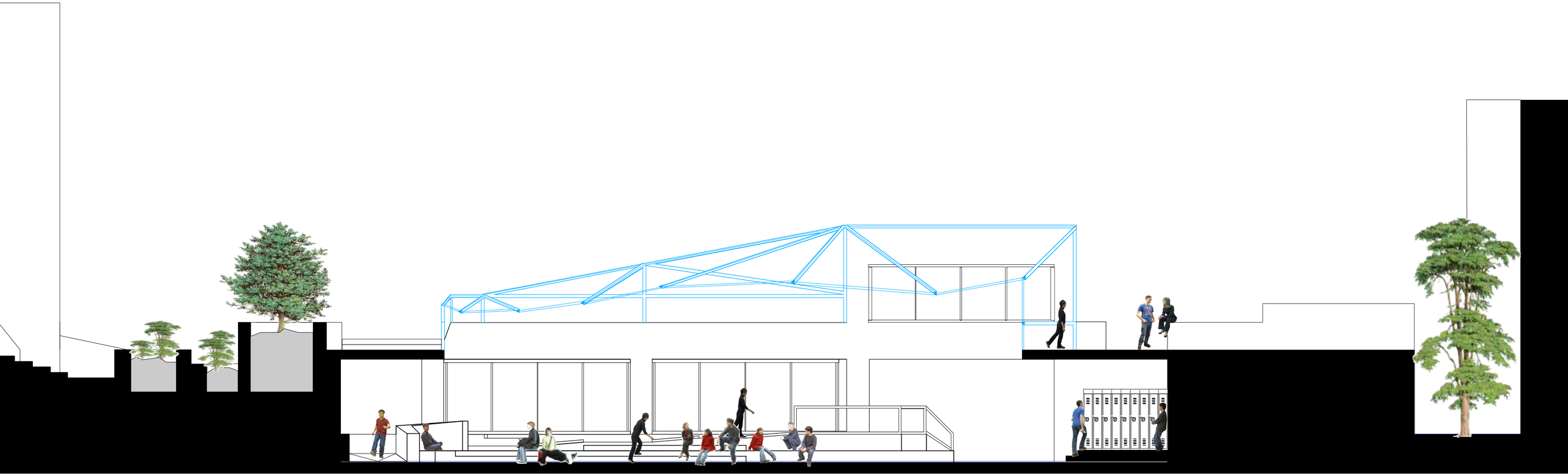


DIVIDED VS. INTEGRATED SPACES

The new design scheme attempts to open up the site and allow for greater interaction between people situated at different parts of the site. With the skylight in place, those on the walkway above could see what was going on inside. As well, as one approached the site along the path that leads up to the door, the now permeable nature of the exterior wall allows those on the outside to see what was going on inside before they enter.

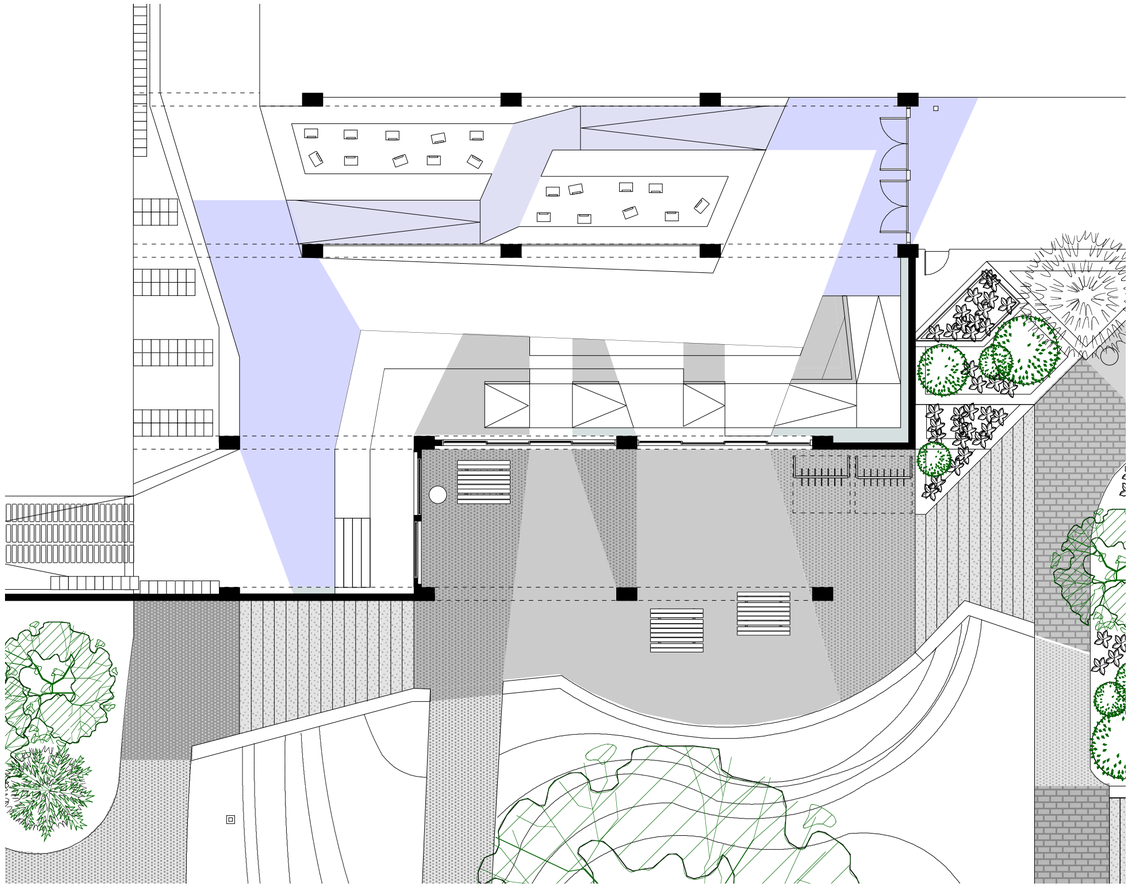


Those sitting on the rooftop on the other side of the skylight could also view down to the interior as well as to those approaching the site from all directions.



FUNCTIONAL VS. MULTI-FUNCTIONAL

Another aspect of relationship that was dealt with in the new design is that of function, specifically the potential for things to possess more than one function. In the existing scheme, seating was seating (and uncomfortable at that) and was located off to one side away from the dominant path. In the new scheme, the ramp doubles as seating and stairs. This is not only an efficient use of space, but also provides greater opportunity for people to interact.

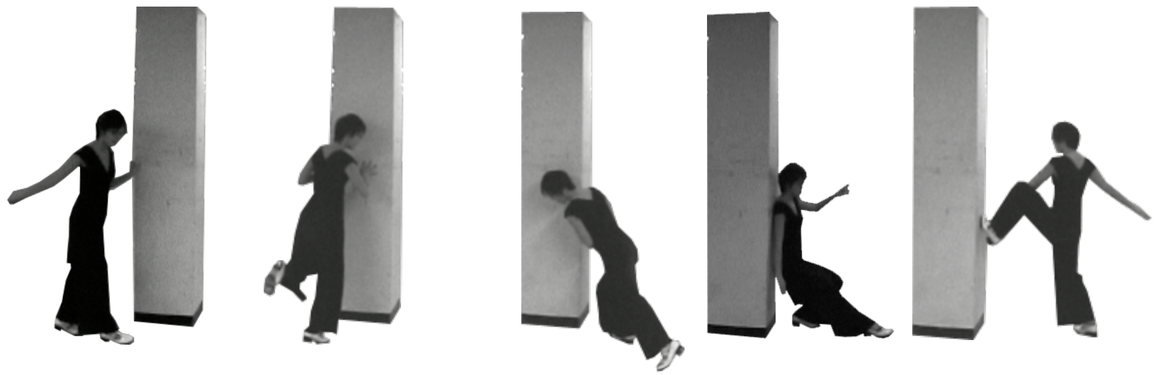


HOMOGENY VS. DIVERSITY

In the existing design the majority of surfaces were concrete. A lot of it was left undressed and grey. This material hasn't been completely hidden in the design, rather altered slightly through texture and color to highlight paths and intersections. On the exterior surfaces, a change in texture has been used to highlight the permeable nature of the patio windows and where paths cross.

In dealing with the interior spaces, the renovation also used material as an animator and signifier. Although there was some variation in the existing site (wooden benches, walls painted orange), the majority of the site was grey and many of the objects on the site were white, black, or grey (doors, lockers). This contributed little to enhancing a person's experience. In the new scheme, color was used to signify activity and excitement (reds) as well as design spaces of for relaxation and focus (blues). As well, instead of hiding structural materials such as concrete, by using texture, color, and hue, paths could be drawn or highlighted, zones of activity could be separated, and a richer experience could be had by those encountering the site. Although this project has dealt mainly with form and path and how they enhance the movement experience, materiality provided the opportunity to 'color' the experience, as it were.

FINAL STATEMENT



Living Dance is to see dance in everyday life and to bring the everyday into your dance.

In conclusion, Living Dance is NOT about creating a building that imitates dance, or even a building that makes the body perform dance. Rather, it is about applying a dance philosophy to the process of creating architecture – thinking about our bodies in a way that is about freedom and options in movement and about the everyday experience. Through this design method a site that is underused, restrictive, and uninspired has been taken and reincarnated as something that will allow bodies to dance more freely and with frequently.

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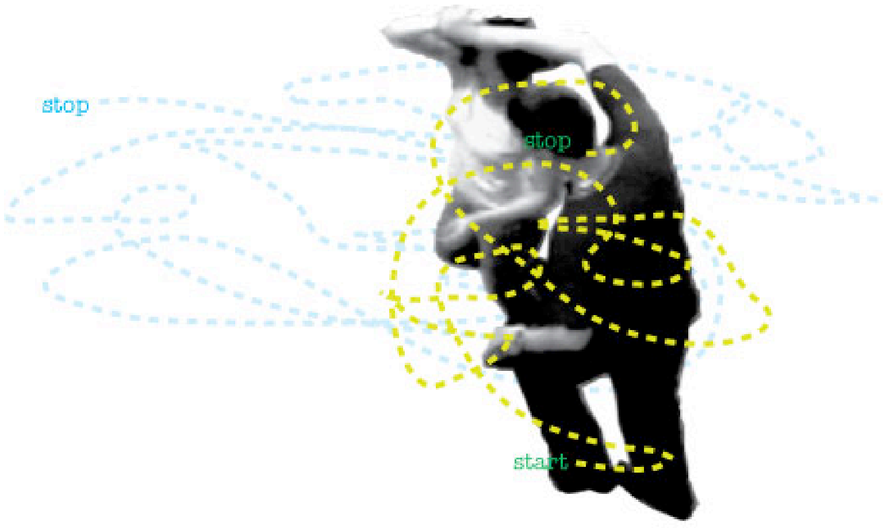
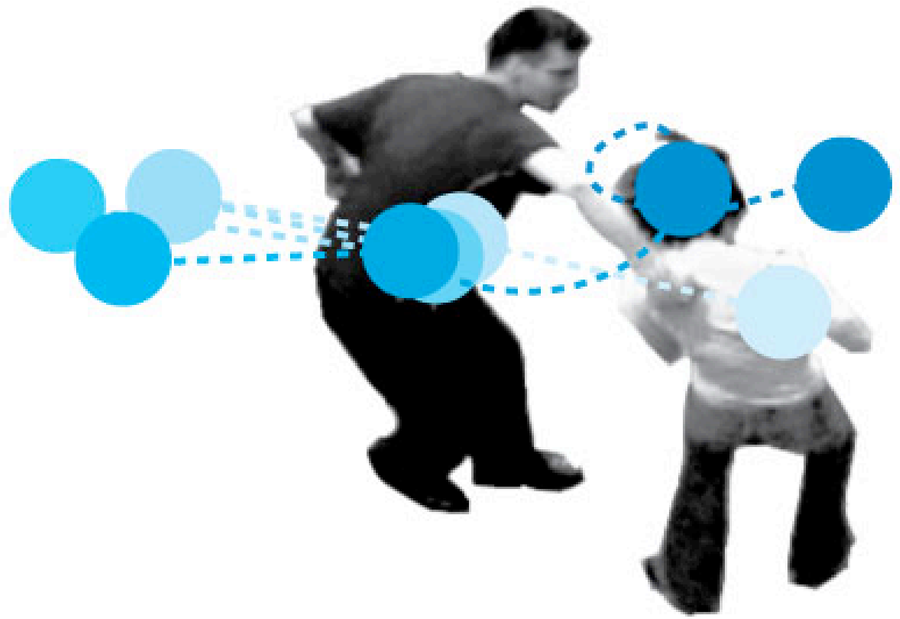
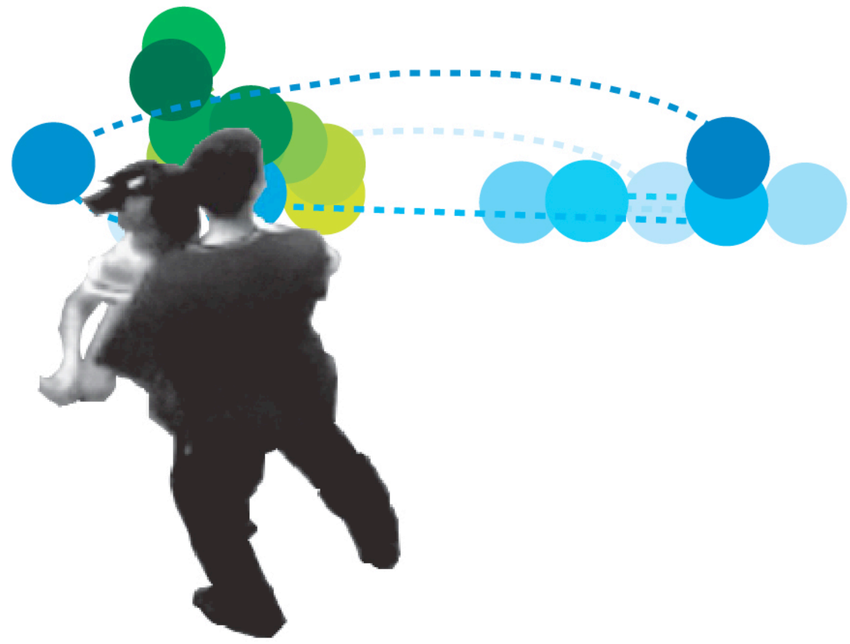
APPENDIX

A.1 Granville Dance Notation


stop
stop
start





A.2 Existing Activity Density Charts

MON. MARCH 3rd - cold winter day																								
		From Machray						From Duff Robin						DOOR										
MINUTES	TIME	10	20	30	40	50	60	10	20	30	40	50	60	10	20	30	40	50	60	NOTES				
0	2:10	1	2	1	3			3	1	3	1	1							OUT					
1	2:11			2		1			1		1	2		OUT										
2	2:12	1		2			2	1		2														
3	2:13			2	1		1	1	1	3		3					IN							
4	2:14		2						2	1	1	1	1											
5	2:15	1	2	2			1	2	2	1		3	2											
6	2:16	2	4	1		1		5	2		3		1							2 people left window seats				
7	2:17	1				2	2			3	1													
8	2:18			2		3	3	1	2		1								IN					
9	2:19	2		5	1	1			1	2	5	2	1											
10	2:20	3	2	1	1	2		2	2	3	4	2	5				IN		OUT					
11	2:21	7	1	1	2	1	4	8	1	1	2	2	6											
12	2:22			8	1	4	4	5	1	5	4	4	6											
13	2:23		3	6	5	4		4	1	1	8	5	1		IN		OUT							
14	2:24	3	6		3	2	2	5	7	5	1	2	1			2			OUT	BULLER TUNNEL				
15	2:25	2	5	5	3	4		3	6	6	1		3	IN			2O	OUT	IN	OUT				
16	2:26	1		3	6	2	5	1	5	3	7	3	6		1						BULLER TUNNEL			
17	2:27		2	1	1	3		6	1	2	2	6	1							OUT				
18	2:28	1	3	1		2	2	2	5	5	6	4	1	IN				OUT						
19	2:29	1	3		1	1				2	4		2				IN		IN					
20	2:30		1	4	1	2	1		1	1	3		3			1					BULLER TUNNEL			
21	2:31	2		1	3			2	1	3	1			IN										
22	2:32		3		2				3	1			5											
23	2:33	2	1	2			1	2	2	2			3				OUT				1	BULLER TUNNEL		
24	2:34	2	3			2	1	3					1											
25	2:35	1							2		4							1			BULLER TUNNEL			
26	2:36	1		1	1	2	3		2							1			IN		BULLER TUNNEL			
27	2:37						1			3														
28	2:38				1	2	1	2			1	1												
29	2:39	1		3	3		1			4		1	2						OUT					
30	2:40	1			1						1													

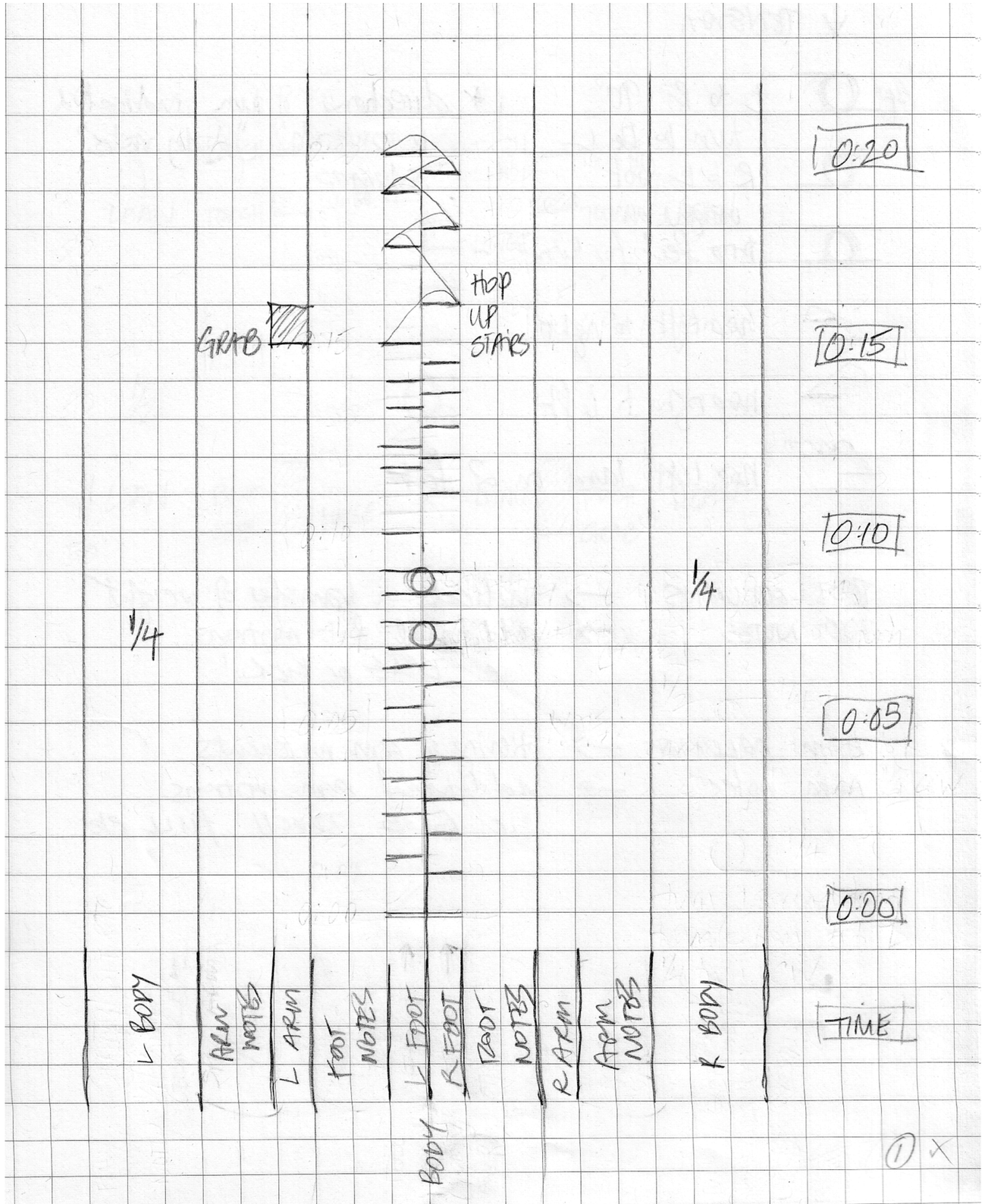
WED. JUNE 27th - cool cloudy day						
MINUTES	TIME	From Machray	From Duff Roblin	DOOR	SIT	NOTES
0	2:18					
1	2:19					
2	2:20					
3	2:21	1				
4	2:22	2				
5	2:23					
6	2:24					
7	2:25		1			
8	2:26					
9	2:27		1			
10	2:28	1				

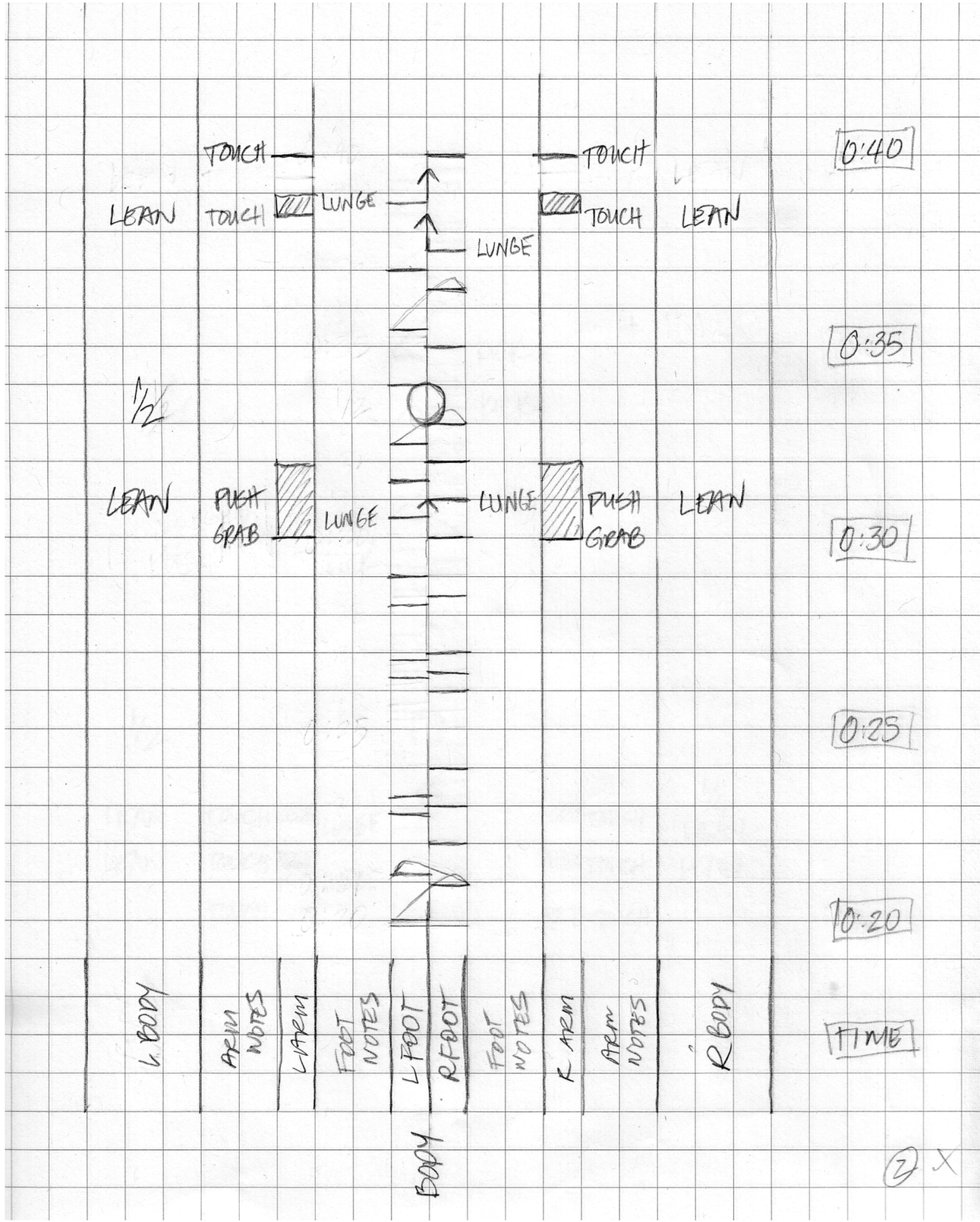
2:01-2:11PM - EXTERIOR												
FROM	TO	1	2	3	4	5	6	7	8	9	10	NOTES
Camera	Duff Roblin			1								
	Hum. Eco.								1	1		
	Machray		2	1							1	
Buller	Machray								BIKE			
	U College					1						
Duff Roblin	Buller	1					1					
	Camera				1							
	Machray										1	
Machray	Buller	1										
	Camera								1			
	Duff Roblin		1									
	U College		1	1							1	
TUNNEL	Camera			1			1					
	Hum. Eco			1`								
U College	Camera			2	1					1		
	Machray									2		

TUES. JULY 3rd - hot cloudy humid						
MINUTES	TIME	From Machray	From Duff Roblin	DOOR	SIT	NOTES
0	2:17					
1	2:18			1	1	BULLER TUNNEL
2	2:19					stayed
3	2:20	1				
4	2:21					
5	2:22	2			1	sat with other
6	2:23					person
7	2:24					
8	2:25					
9	2:26					
10	2:27	1	2			

12:00-12:10PM - EXTERIOR											
FROM	TO	1	2	3	4	5	6	7	8	9	10	NOTES
Camera	Duff Roblin		1		3							
	Machray		2	2	1	1	BIKE					
	PICNIC					1						stayed 5 min
	U College	1	1							2		
Buller	Camera			1								
	Machray						1					
Duff Roblin	Camera										1	
Hum. Eco	Machray									1		
	Camera	1			1							
Machray	Buller			1			1					
	Camera				6		1					
	Duff Roblin			1								
U College	Camera	10		1		1		VAN	2			
	Machray											

A.3 Labanotation of Tunnel Dance


0:20
0:15
0:10
0:05
0:00
TIME
GRAB
HOP UP STAIRS
1/4
1/4
L BODY
ARM NOTES
L ARM
FOOT NOTES
L FOOT
R FOOT
BODY
FOOT NOTES
R ARM
ARM NOTES
R BODY
1


TOUCH
LEAN
TOUCH
LUNGE
LUNGE
TOUCH
TOUCH
LEAN
0:40
0:35
½
LEAN
PUSH
GRAB
LUNGE
LUNGE
PUSH
GRAB
LEAN
0:30
0:25
0:20
TIME
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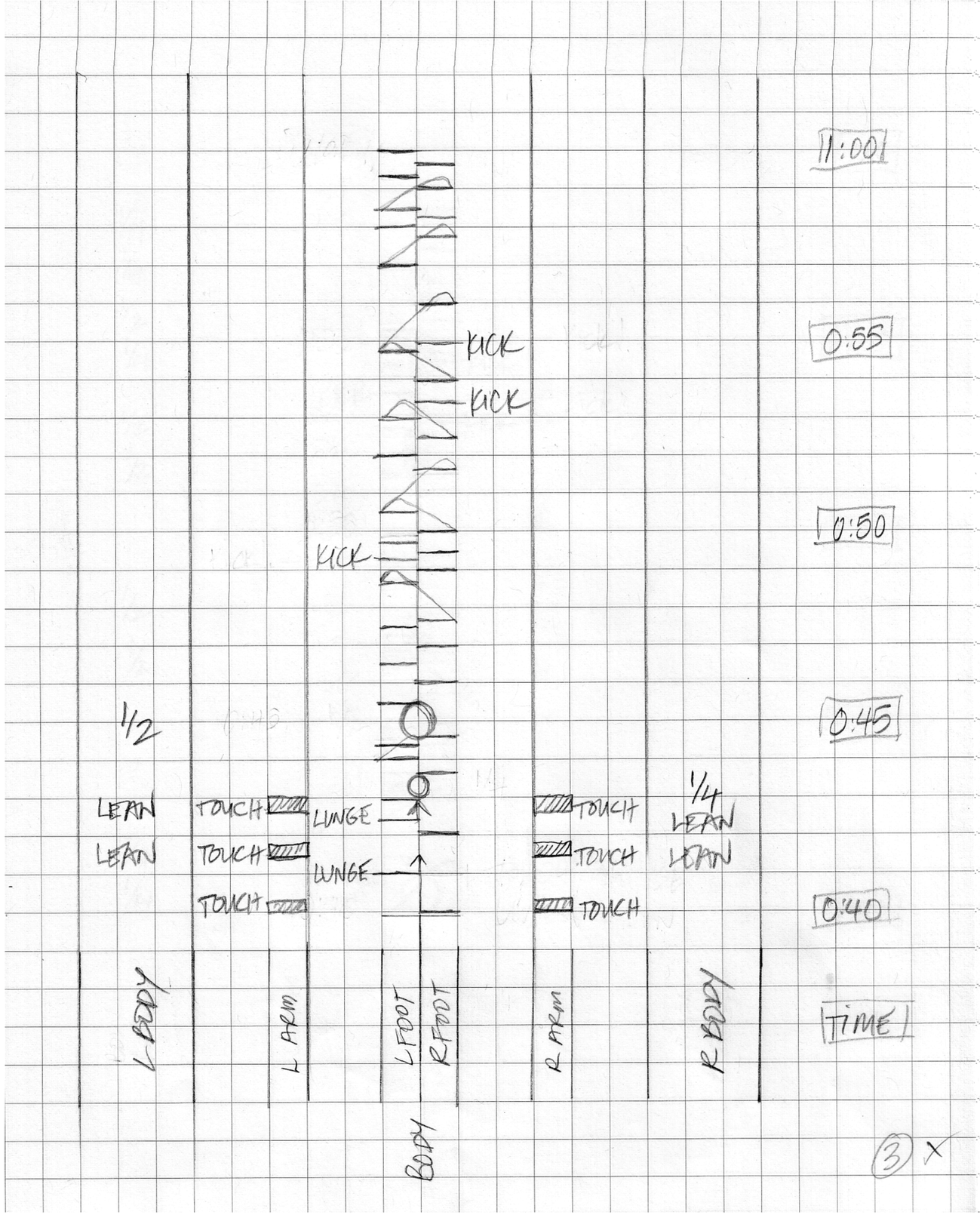
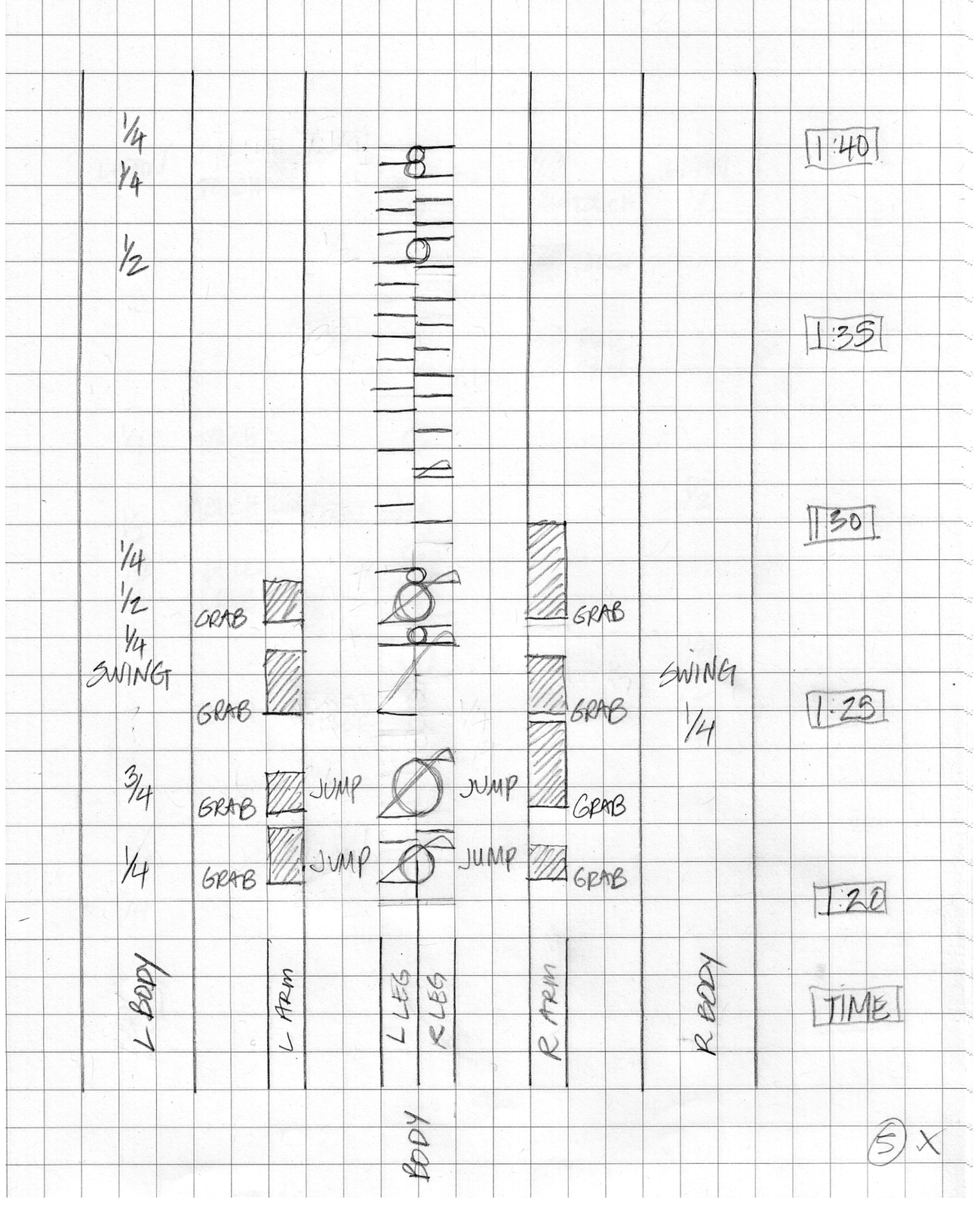
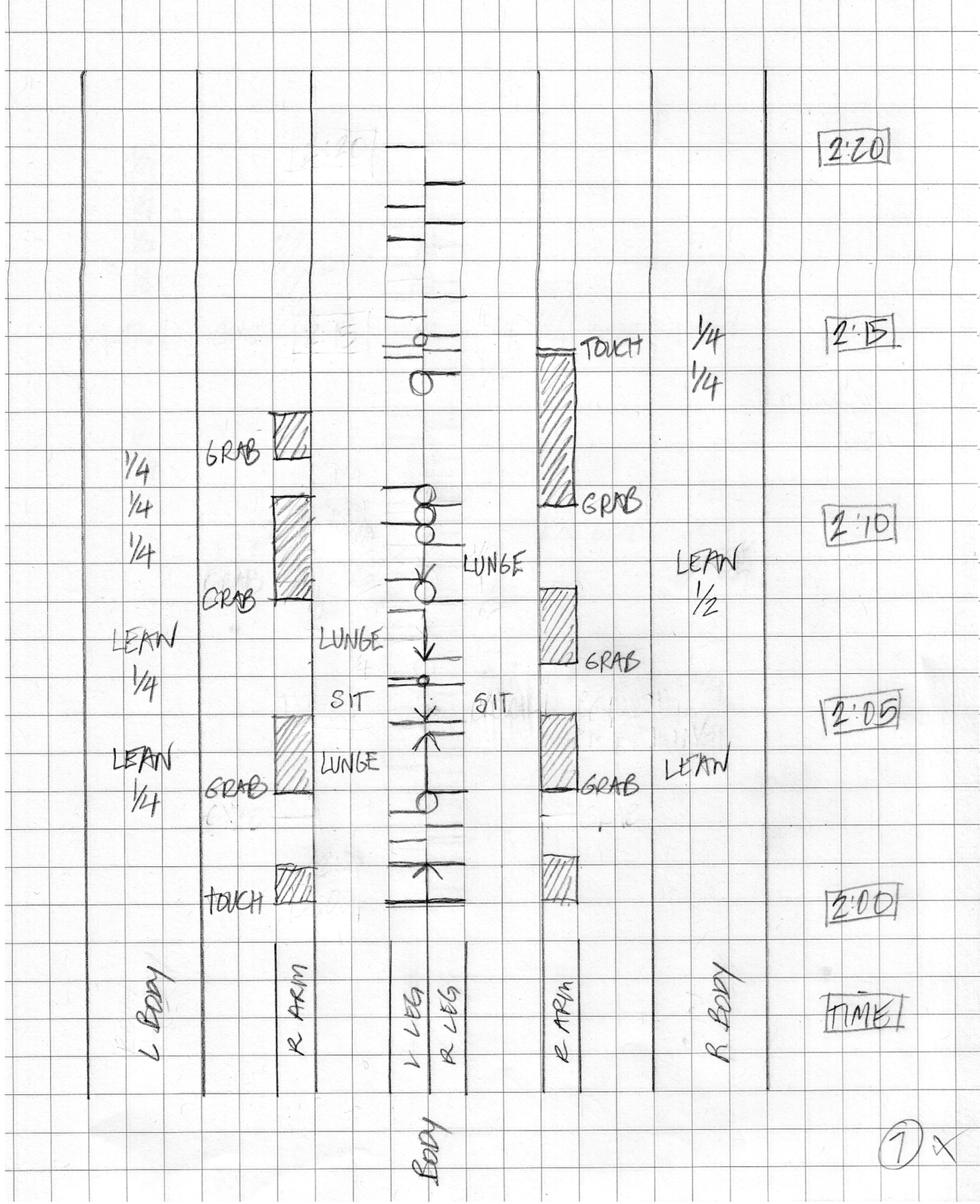
R FOOT
FOOT NOTES
R ARM
ARM NOTES
R BODY
2 X


11:00
KICK
KICK
0:55
KICK
0:50
1/2
0:45
LEAN
LEAN
TOUCH
TOUCH
TOUCH
LUNGE
LUNGE
TOUCH
TOUCH
TOUCH
1/4
LEAN
LEAN
0:40
L BODY
L ARM
L FOOT
R FOOT
R ARM
R BODY
BODY
TIME
3 X

1:20
1:15
1:10
1:05
1:00
TIME
1/4
1/4
1/2
1/4
KICK
KICK
KICK
1/2
1/2
1/2
1/2
1/4
1/4
L LEG
R LEG
L ARM
R ARM
HEAD
4 X


1/4
1/4
1/2
1/4
1/2
1/4
SWING
3/4
1/4
L BODY
GRAB
GRAB
GRAB
JUMP
JUMP
L ARM
L LEG
R LEG
BODY
GRAB
GRAB
GRAB
GRAB
R ARM
SWING
1/4
R BODY
1:40
1:35
1:30
1:25
1:20
TIME
5

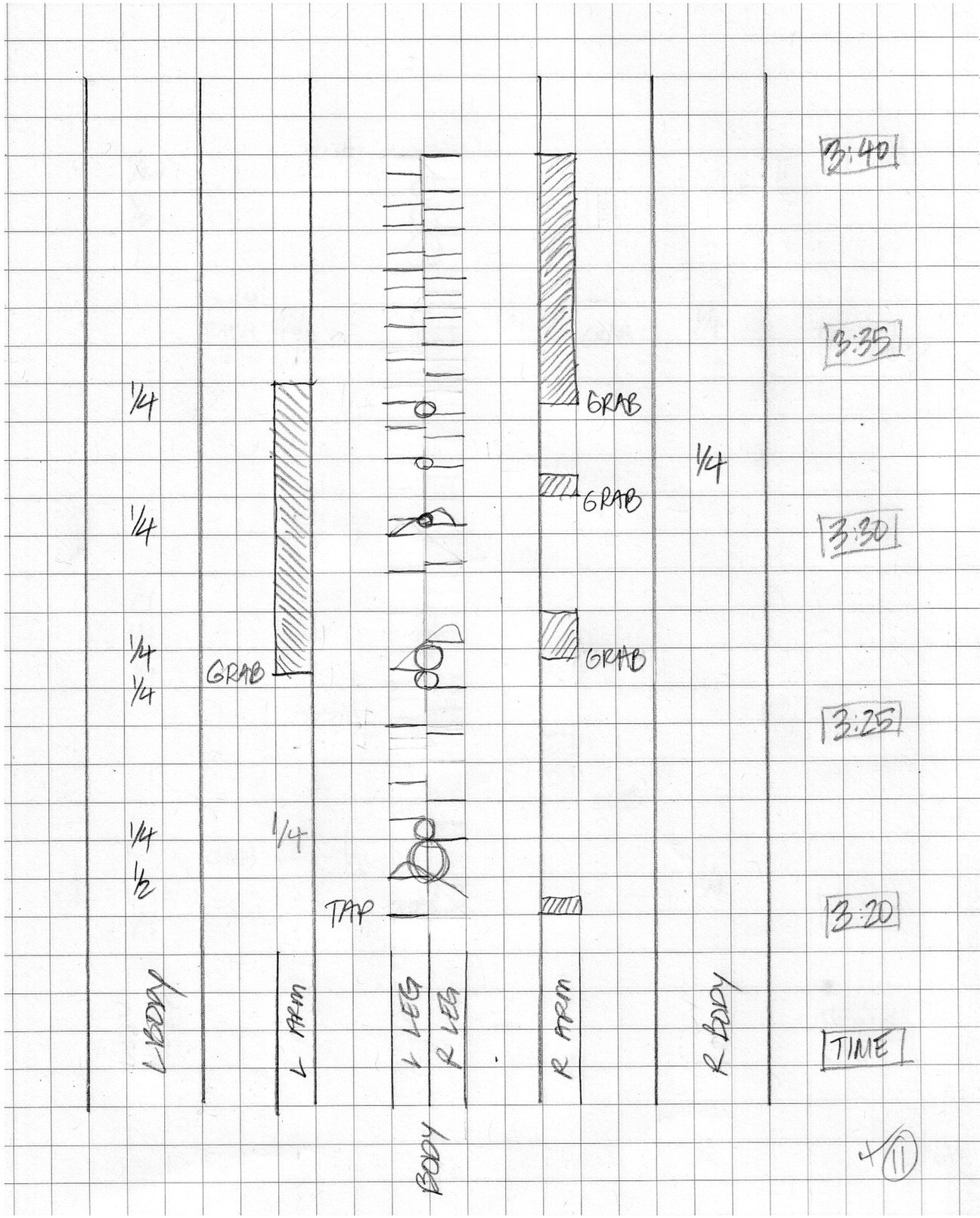
LEAN
TOUCH
1/4
TOUCH
TOUCH
1/2
1/2
PULL GRAB
TOUCH
LUNGE
1/4
1/4
L BODY
L ARM
L LEG
R LEG
BODY
TOUCH
TOUCH
PULL GRAB
TOUCH
R ARM
LEAN
1/4
1/2
1/4
1/2
1/4
R BODY
2:00
1:55
1:50
1:45
1:40
TIME
6 x


2:20
2:15
2:10
2:05
2:00
TIME
1/4
1/4
TOUCH
GRAB
1/4
1/4
1/4
GRAB
LUNGE
LEAN
1/2
LUNGE
GRAB
SIT
SIT
LEAN
1/4
LUNGE
GRAB
GRAB
LEAN
TOUCH
L BODY
R ARM
L LEG
R LEG
L ARM
R BODY
BODY

2:40
2:35
2:30
2:25
2:20
TIME
1/4
1/4
1/4
1/4
LEAN
GRAB
SIT
3/4
GRAB
GRAB
1/4
1/4
LEAN
L BODY
L ARM
L LEG
R LEG
BODY
R ARM
R BODY
8x

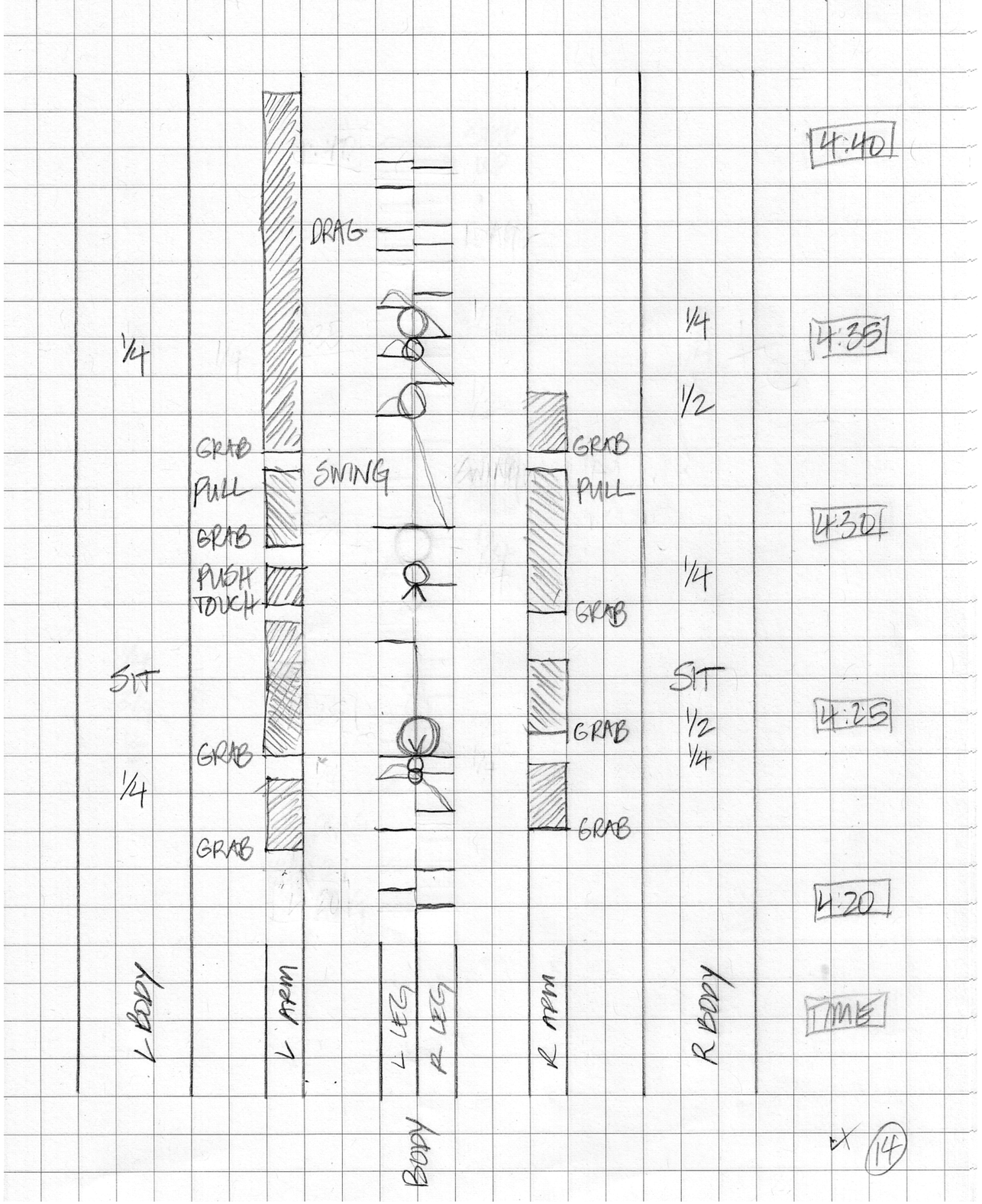
300
255
2:50
2:45
2:40
TIME
1/4
1/4
LEAN
TOUCH
TOUCH
TOUCH
1/4
TOUCH
1/4
1/4
TOUCH
1/4
LEAN
TOUCH
TOUCH
TOUCH
TOUCH
TOUCH
TOUCH
TOUCH
TOUCH
1/4
1/4
1/4
L BODY
L ARM
L LEG
R LEG
BODY
R ARM
R BODY
9

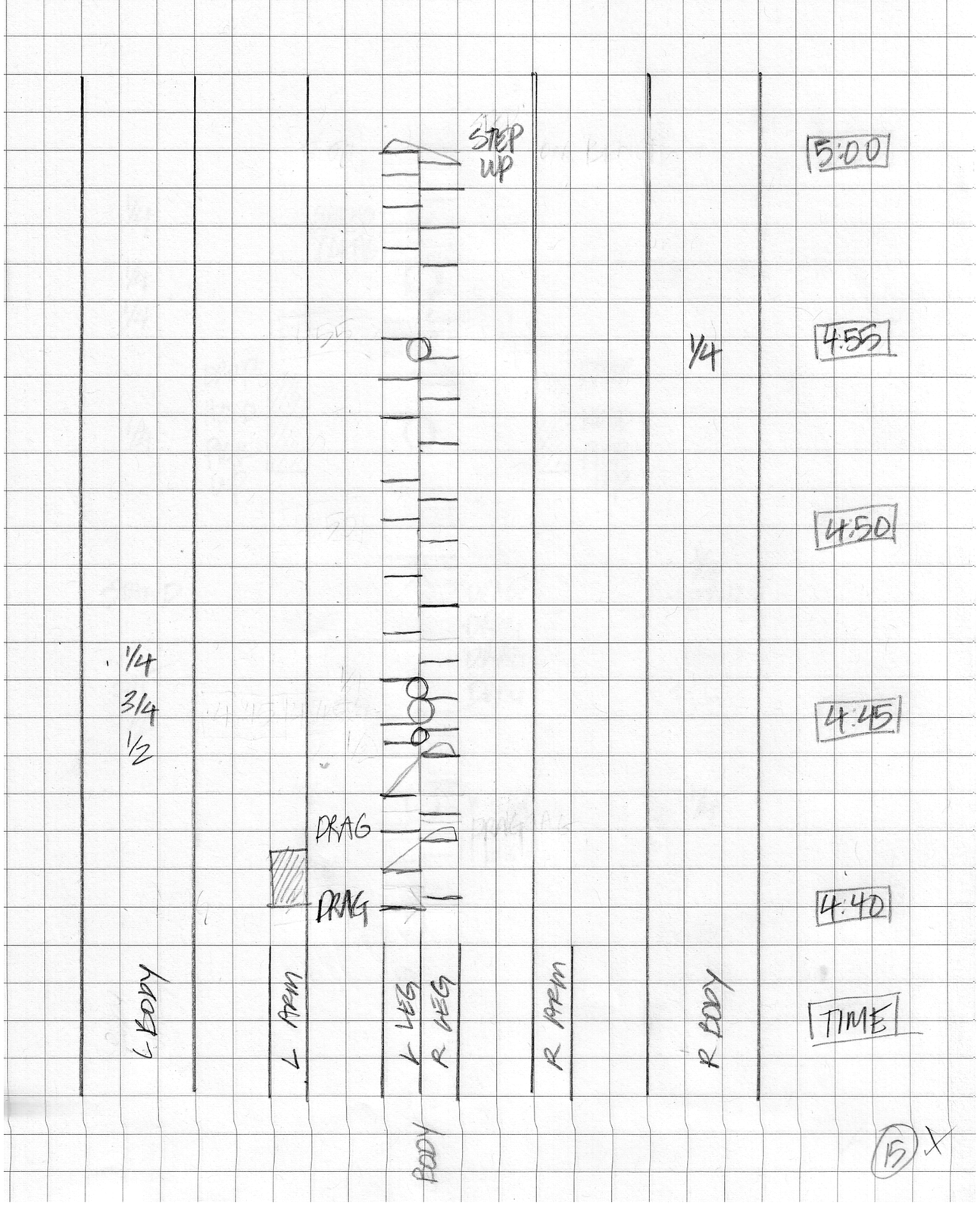
1
1/2
1/2
1/2
1/2
1/2
TOUCH
TOUCH
TOUCH
TOUCH
TOUCH
WEIGHT ON HANDS
TOUCH
SLIDE
TOUCH
L BODY
L ARM
TAP
SWEEP
TAP
TAP
L LEG
R LEG
BODY
TOUCH
TOUCH
TOUCH
TOUCH
SLIDE
TOUCH
R ARM
1/2
1/2
1/2
1/2
1/4
1/4
1/4
WEIGHT ON HANDS
1/4
WT ON R H
SLIDE
TOUCH
R BODY
3:20
3:15
3:10
3:05
3:00
TIME
X
10


3:40
3:35
3:30
3:25
3:20
TIME
1/4
1/4
GRAB
1/4
GRAB
1/4
1/4
GRAB
1/4
1/2
TAP
L BODY
L ARM
L LEG
R LEG
BODY
R ARM
R BODY
+11

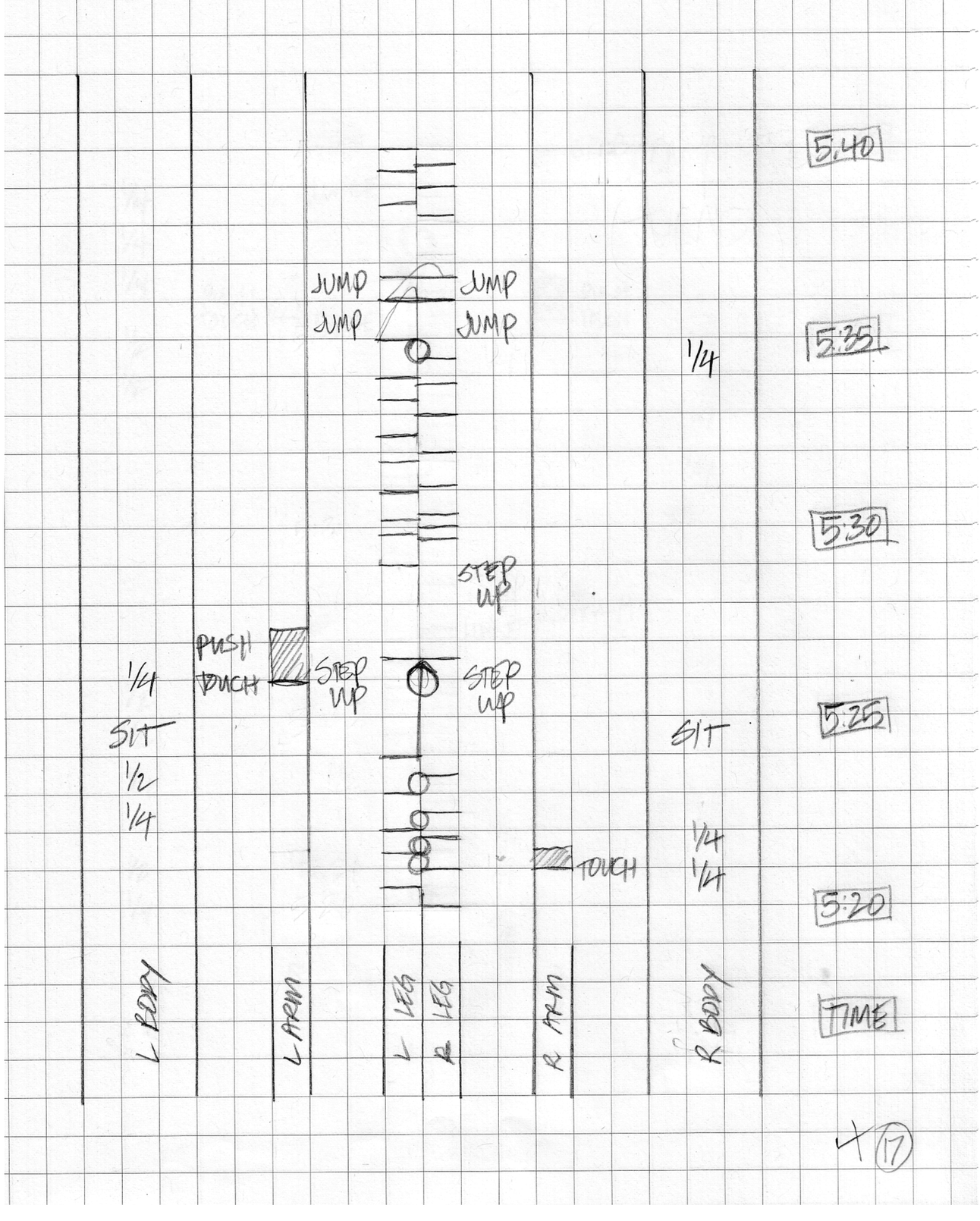
1/2
1/2
1
PUSH
TOUCH
GRAB
1/4
4:00
3:55
3:50
1/4
1/4
1/4
3:45
GRAB
1/4
GRAB
1/4
3:40
HEAD
L ARM
L LEG
R LEG
R ARM
R BODY
TIME
BODY
13

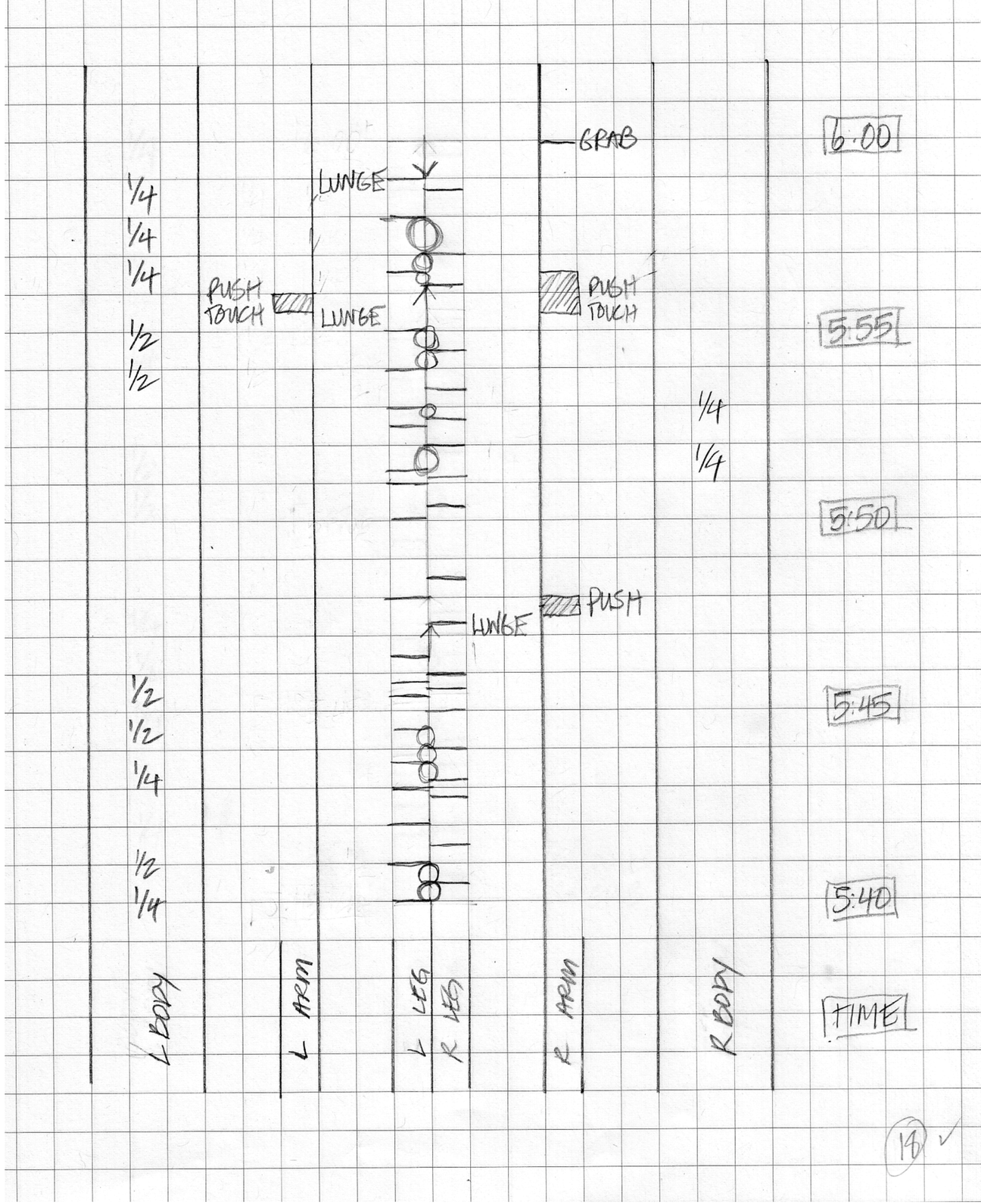
4:20
4:15
4:10
4:05
4:00
TIME
1/2
1/2
1/2
GRAB
PULL
GRAB
GRAB
GRAB
GRAB
GRAB
1/4
1/2
SLIDE
SWING
GRAB
SLIDE
1/4
SIT
SIT
1/4
1/4
GRAB
L BODY
L ARM
L LEG
R LEG
R ARM
R BODY
BODY
4 (13)

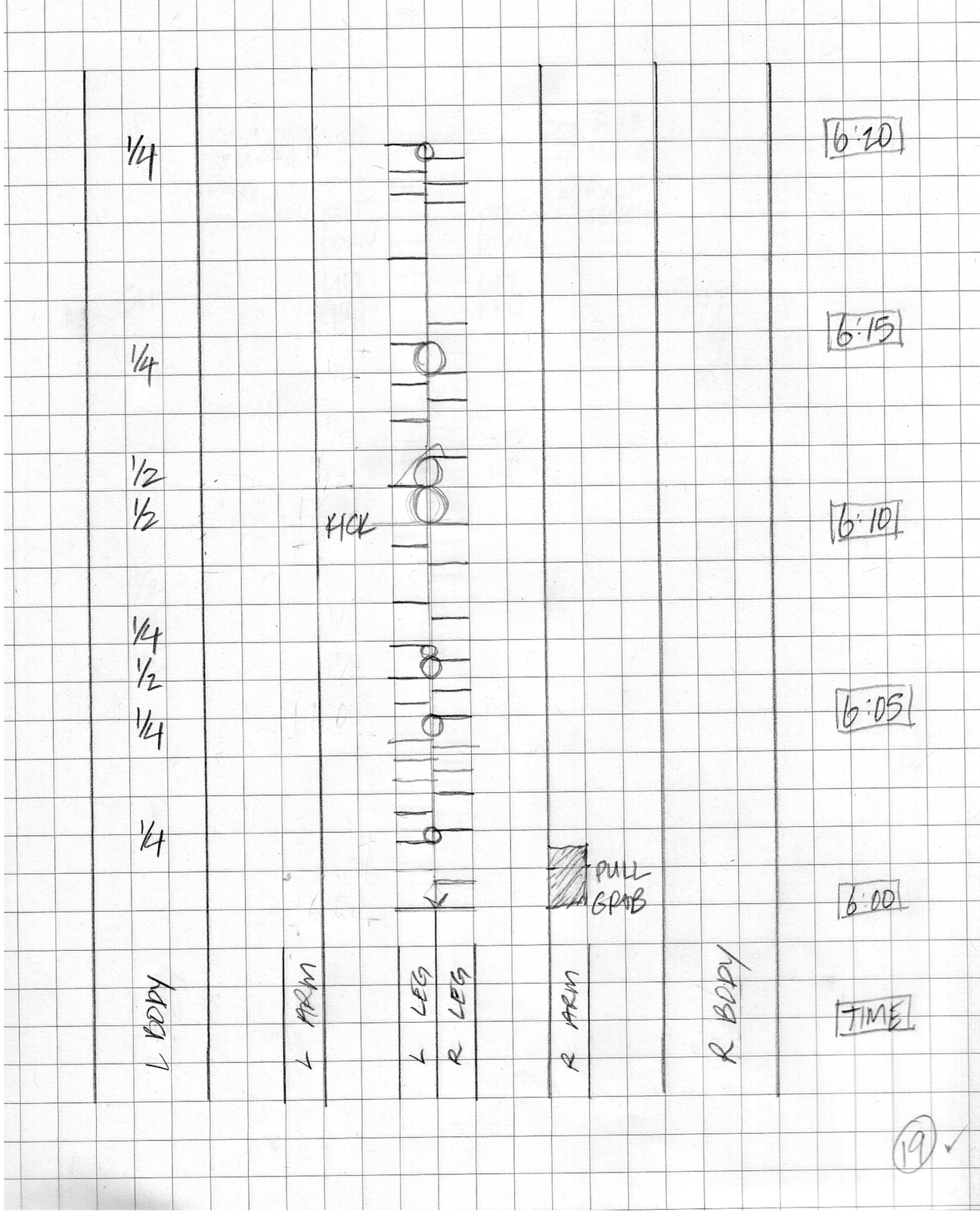

4:40
4:35
4:30
4:25
4:20
TIME
DRAG
SWING
GRAB
PULL
GRAB
PUSH
TOUCH
SIT
GRAB
GRAB
L ARM
L BODY
L LEG
R LEG
BODY
R ARM
R BODY
1/4
1/4
1/2
1/4
SIT
1/2
1/4
GRAB
PULL
GRAB
GRAB
GRAB
14

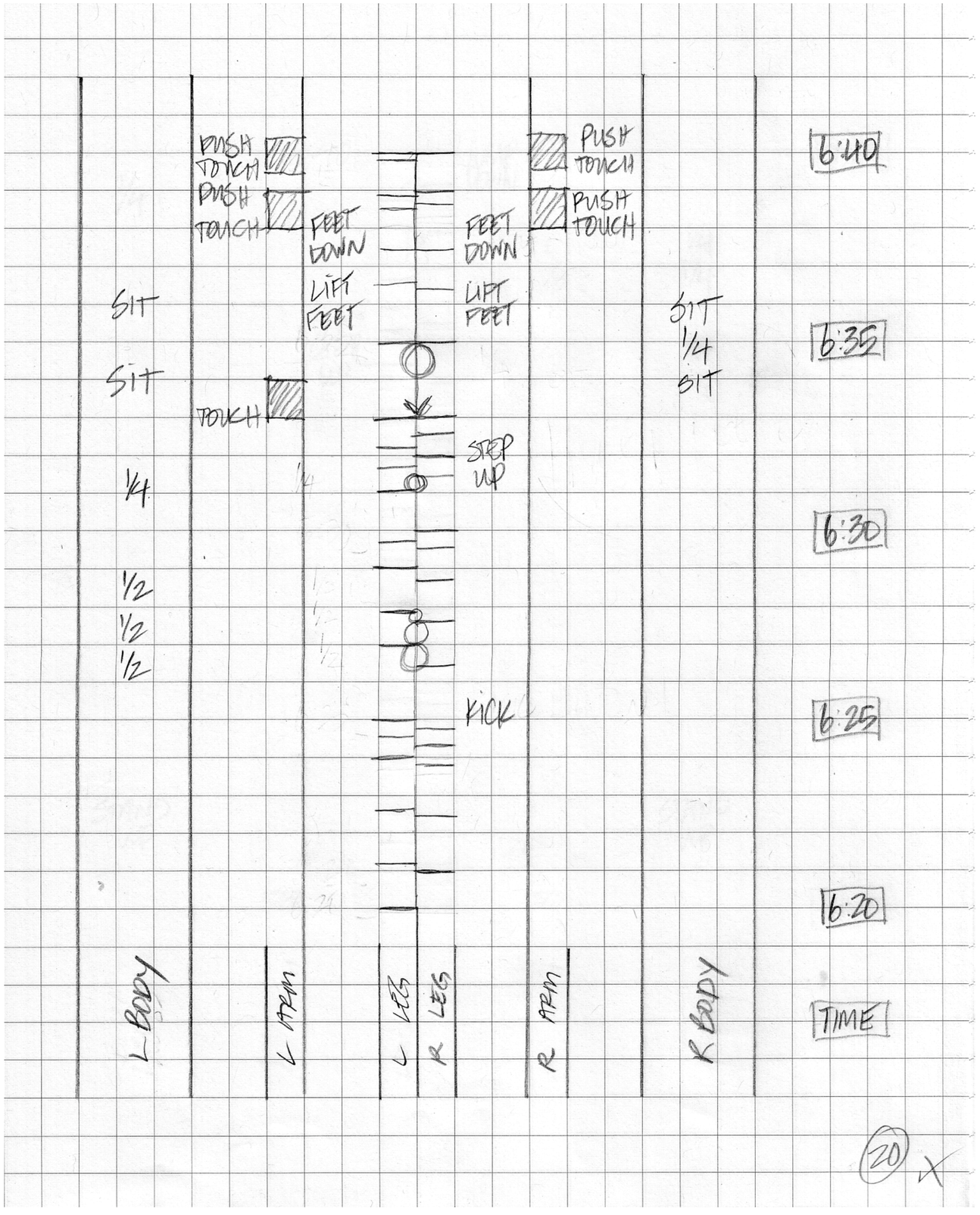

STEP UP
DRAG
DRAG
1/4
1/4
3/4
1/2
BODY
L ARM
L LEG
R LEG
BODY
R ARM
R BODY
5:00
4:55
4:50
4:45
4:40
TIME
1/4
15

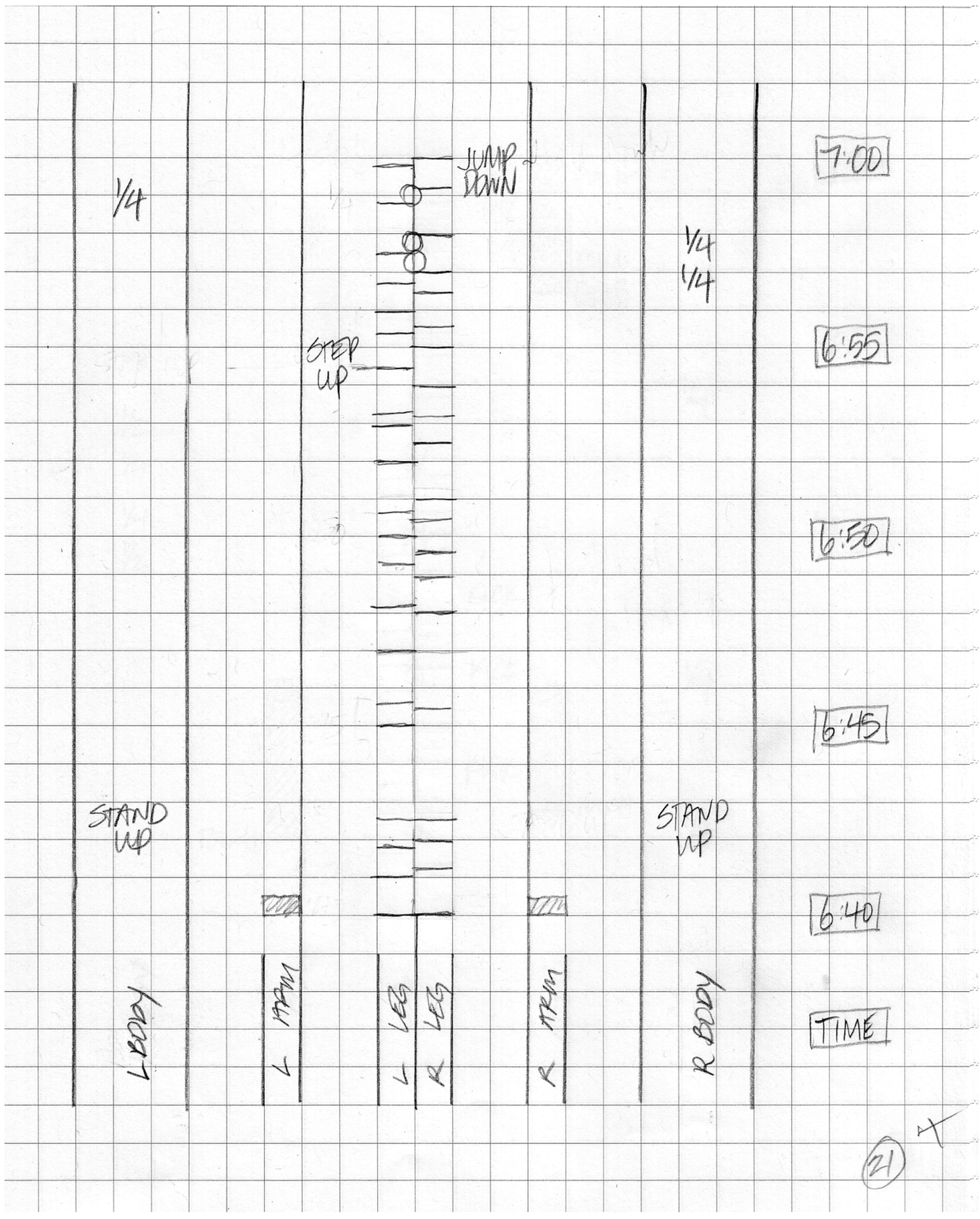
5:20
5:15
5:10
5:05
5:00
TIME
1/4
1/4
1/4
1/4
SWEEP (DRAG)
DROP
HOLD
PICK UP
DROP
HOLD
PICK UP
STAND
SIT 1/2
DRAG
DRAG
DRAG
DRAG
1/4 STAND
SIT
1/4
L ARM
L ARM
L LEG
R LEG
R ARM
R ARM
BODY
16

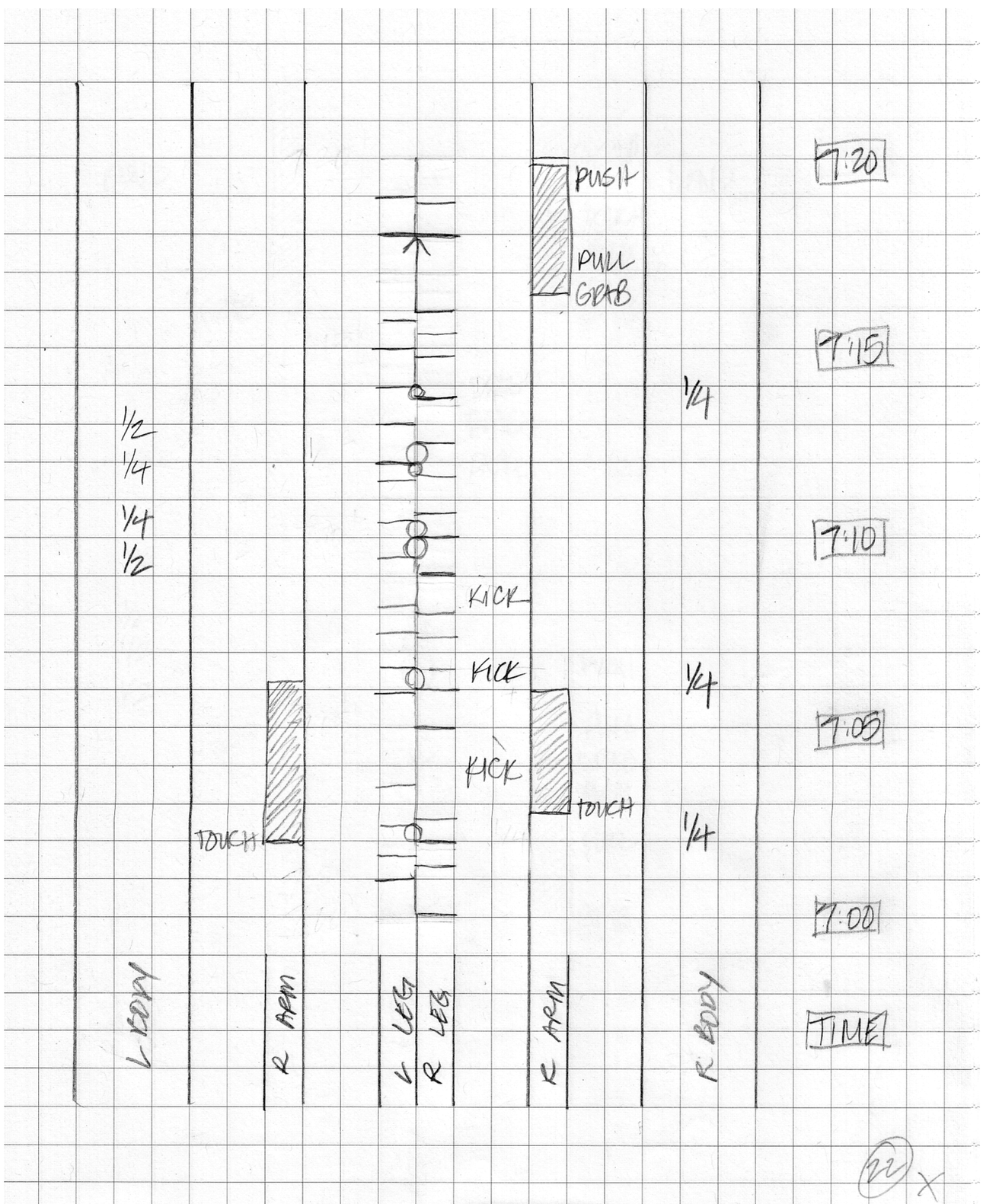

5:40
5:35
5:30
5:25
5:20
TIME
JUMP
JUMP
JUMP
JUMP
1/4
STEP UP
PUSH
TOUCH
STEP UP
STEP UP
1/4
SIT
1/2
1/4
TOUCH
SIT
1/4
1/4
L BODY
L ARM
L LEG
R LEG
R ARM
R BODY
17

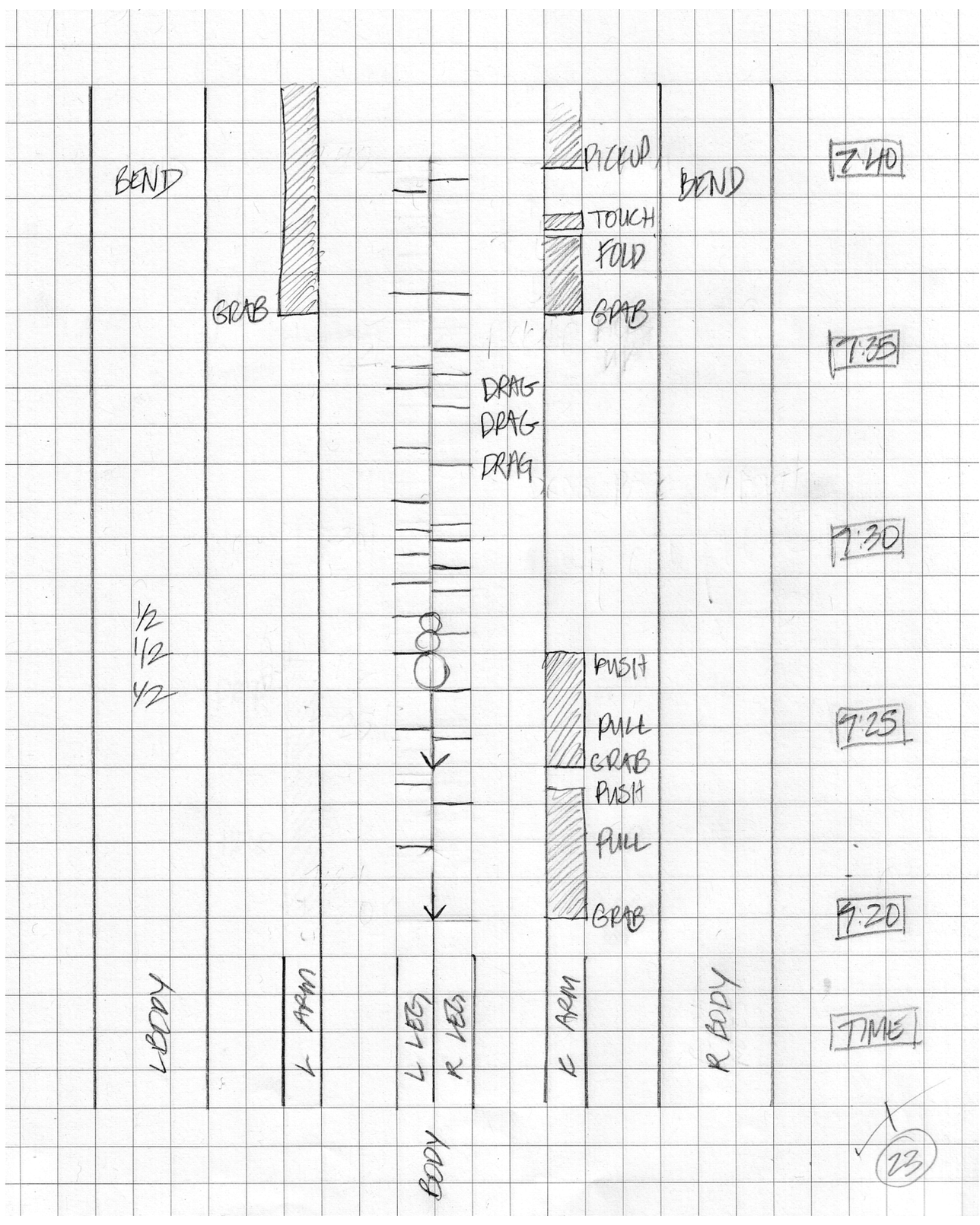

6:00
5:55
5:50
5:45
5:40
TIME
GRAB
LUNGE
PUSH TOUCH
LUNGE
PUSH TOUCH
LUNGE
PUSH
1/4
1/4
1/4
1/2
1/2
1/4
1/4
1/2
1/2
1/4
1/2
1/2
1/4
L BODY
L ARM
L LEG
R LEG
R ARM
R BODY
14

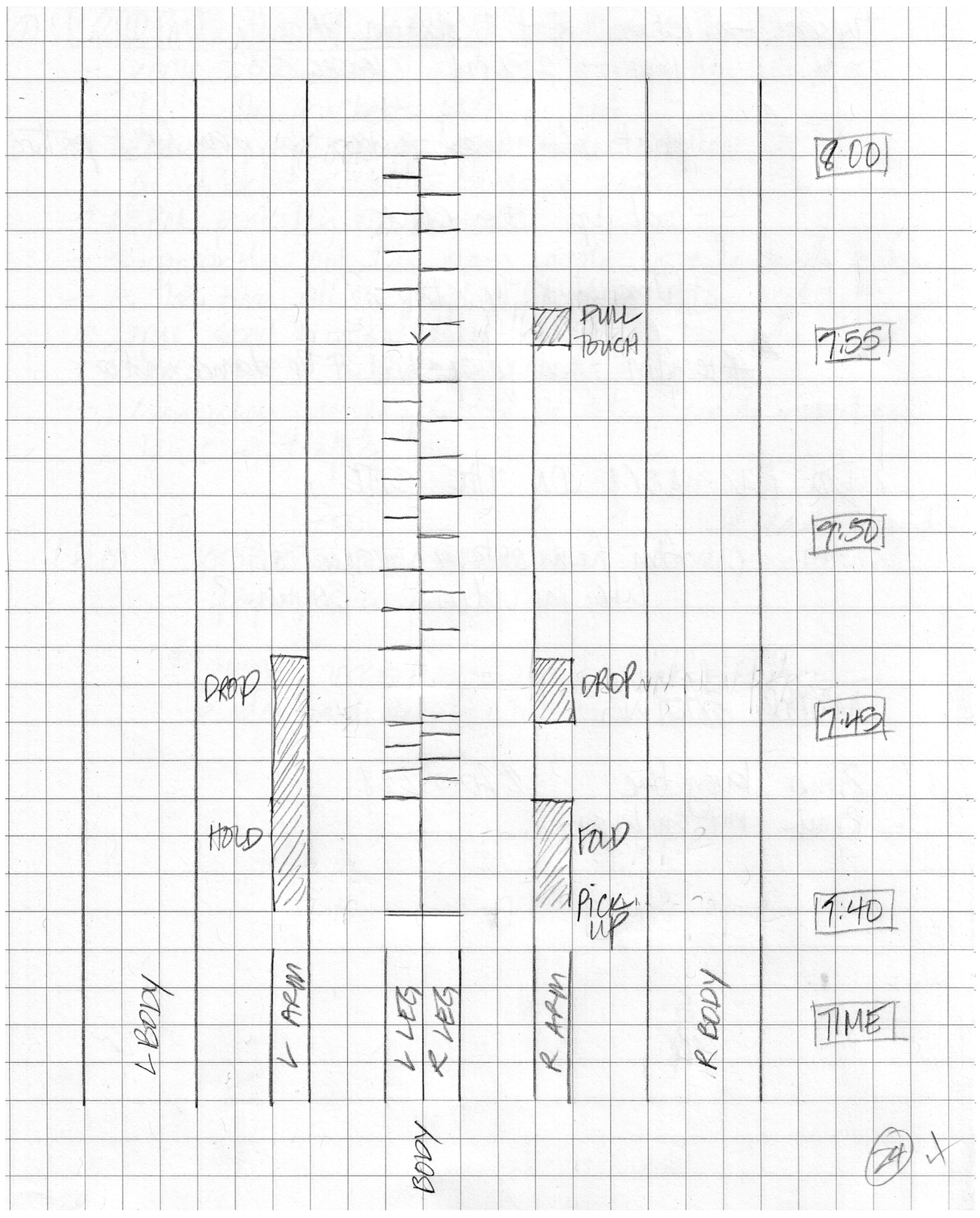

1/4
1/4
1/2
1/2
KICK
1/4
1/2
1/4
1/4
L BODY
L ARM
L LEG
R LEG
R ARM
PULL GRAB
R BODY
6:20
6:15
6:10
6:05
6:00
TIME
19


PUSH
TOUCH
PUSH
TOUCH
FEET
DOWN
LIFT
FEET
SIT
SIT
TOUCH
1/4
1/2
1/2
1/2
KICK
STEP
UP
PUSH
TOUCH
PUSH
TOUCH
FEET
DOWN
LIFT
FEET
SIT
1/4
SIT
6:40
6:35
6:30
6:25
6:20
TIME
L BODY
L ARM
L LEG
R LEG
R ARM
R BODY
20


1/4
JUMP DOWN
1/4
1/4
7:00
STEP UP
6:55
6:50
6:45
STAND UP
STAND UP
6:40
L BODY
L ARM
L LEG
R LEG
R ARM
R BODY
TIME
21


PUSH
PULL
GRAB
7:20
7:15
7:10
7:05
7:00
TIME
1/2
1/4
1/4
1/2
1/4
1/4
KICK
KICK
TOUCH
TOUCH
L ARM
R ARM
L LEG
R LEG
R ARM
R ARM
22


BEND
GRAB
PICKUP
TOUCH
FOLD
GRAB
BEND
7:40
7:35
7:30
7:25
7:20
TIME
DRAG
DRAG
DRAG
1/2
1/2
1/2
PUSH
PULL
GRAB
PUSH
PULL
GRAB
L BODY
L ARM
L LEG
R LEG
BODY
L ARM
R BODY
23


8.00
7.55
7.50
7.45
7.40
TIME
PULL TOUCH
DROP
HOLD
DROP
FALL
PICK UP
L BODY
L ARM
L LEG
R LEG
BODY
R ARM
R BODY

A.4 Models