



**(Re)discovering the Slow(er) City in Sneakers:**  
**Running as a tool for guiding design in the virtual sonic age**

Noelle Higgins, pla, asla, leed ap  
Elizabeth Umbanhowar, pla, asla, leed ap

*Washington Chapter, American Society of Landscape Architects*  
April 21, 2017

Still from Orson Wells, *The Third Man*, 1949

# In loving memoriam

**For Nathan Brightbill**

*runner, landscape architect, friend*



Ragnar Relay, Washington, 2010

# Our trajectory... a running history I course.

## I. Who runs, how and why?

Typologies, mechanics, evolution, health and inspiration

## II. How do we *imagine* running in the city?


Representing movement and how storytelling and imagination can create compelling reasons to run

## III. When do design and running intersect?

Trends, standards, opportunities, examples, speculations

# PART I. Who runs, how and why?

Typologies, mechanics, evolution, health and inspiration



"Running: If there's any happier activity, more exhilarating, more nourishing to the imagination, I can't think what it might be."

~ Joyce Carol Oates, quoted in John Bale "Running: Running as Working"

# The Community of Runners



## The Competitive Runner

Mo Farah leaves his Kenyan 10,000m rivals trailing in his wake on the final lap to win gold at the world championships in Beijing. **SOURCE:** Adam Davy/PA



## The Occasional Runner



## The Committed Runner



# The Community of Runners



With a population of 319 million, the US has approximately 38 million people who run for exercise and personal well-being

## The Urgency to Move

**"Sedentary time** (time being still except for sleeping) is rapidly growing in Holland for all ages up to 64 both during work and free time. Together **with increased food intake** this trend can be seen as a cause for the **rise of obesity** in the Netherlands. **Two-thirds of people over 15 years in the EU are not physically active** at recommended levels by the World Health Organization (WHO). Approximately **20% of children are overweight** with a third of this figure declared obese."

~ From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MsC Thesis, Wageningen University and Research Centre, Netherlands, 2016

# The Urgency to Run

Running makes us human

"You were **born to run**. Maybe **not that fast**, maybe **not that far**, maybe **not as efficiently** as others.

But to **get up and move**, to fire up that entire energy-producing, oxygen-delivering, bone-strengthening process we call running."

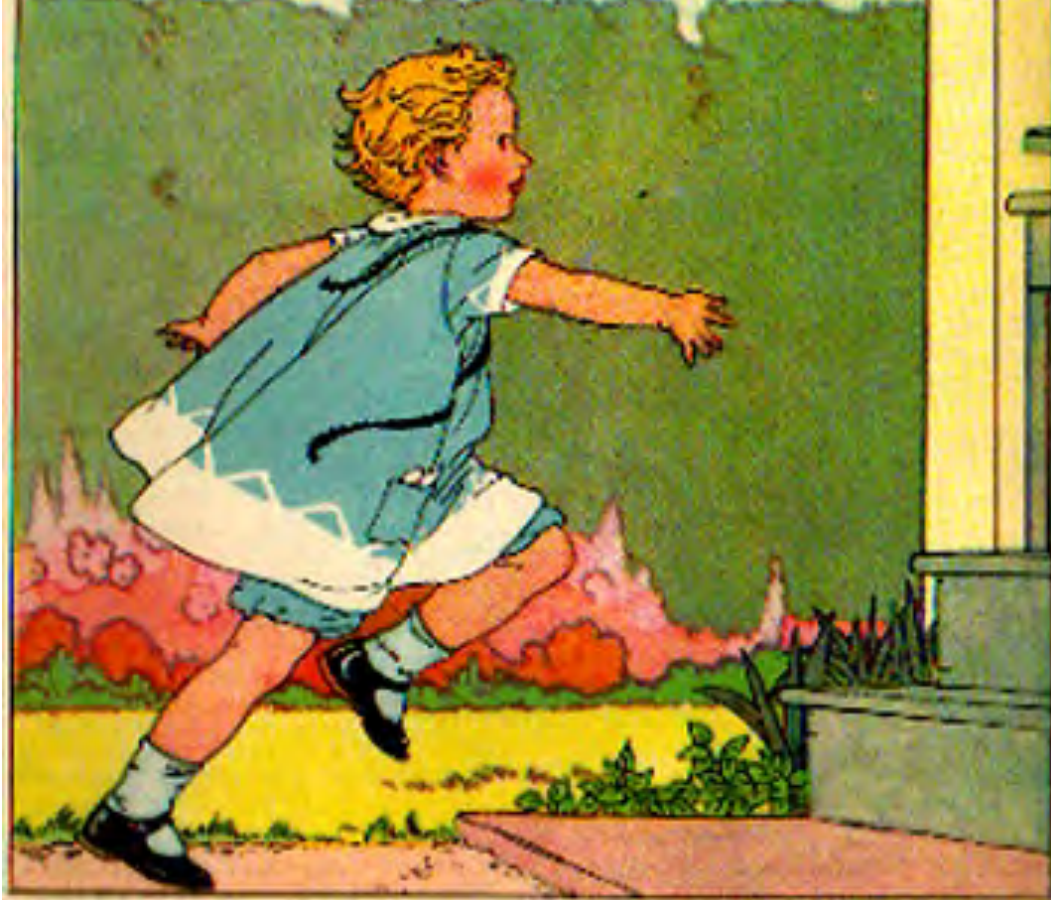
~ Florence Griffith Joyner





# The Mechanics of Movement

## First Steps



**Jane**

**See Jane.**

**See Jane run.**

**Run, Jane, run!**

**The Mechanics of  
Movement**  
First Steps



**SEE  
JANE  
RUN**

One secret will  
change everything...

**HANNAH  
JAYNE**

# The Mechanics of Movement

## First Steps



See Jane run.

See Dick run.

“Stop!” said Earth.

“See me dying.

What the f\*#@?

Everyone is running around,  
pretending there’s not a problem.

I need your help.”

# The Mechanics of Movement

## Walking versus Running

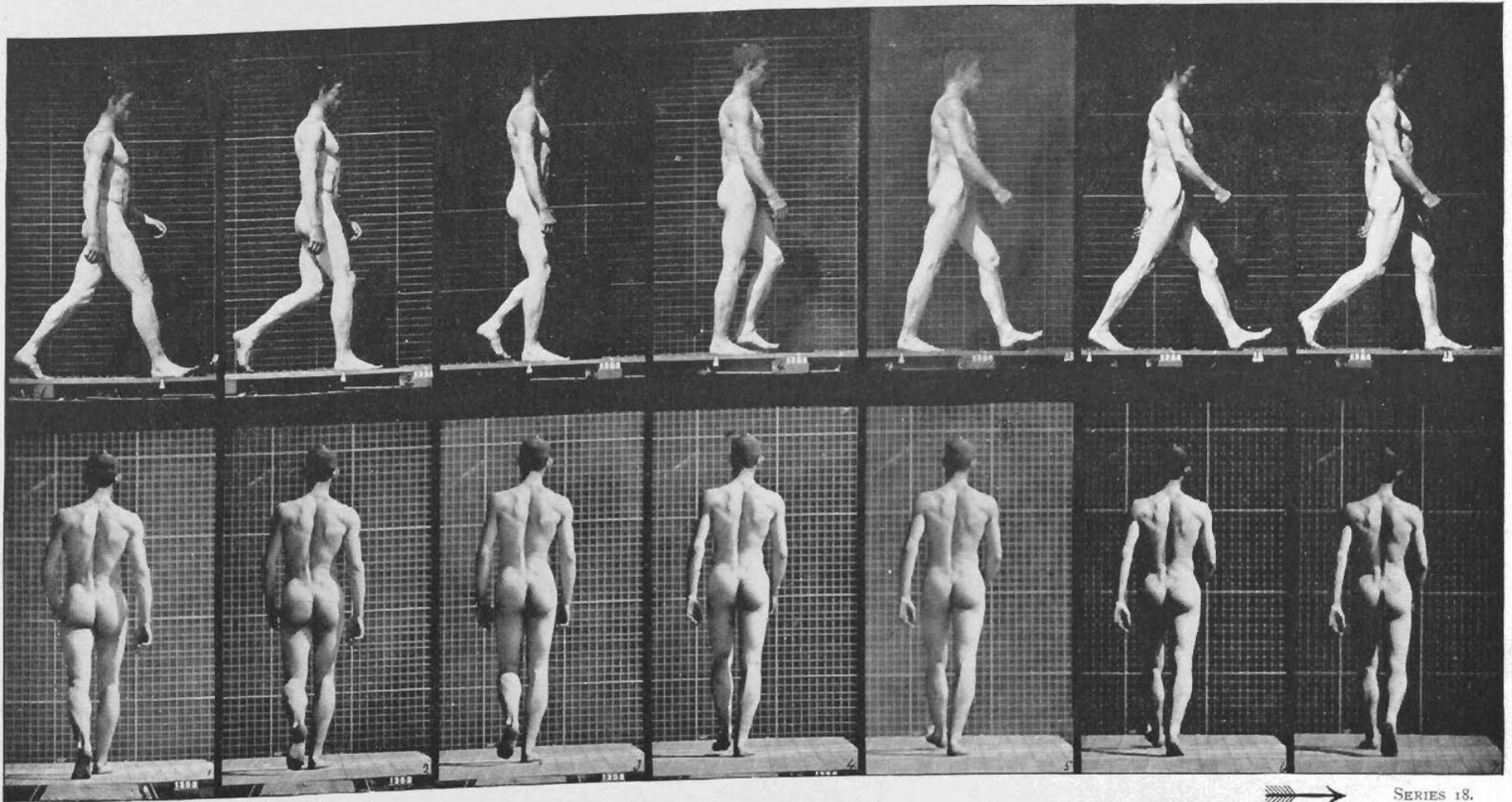
**Walking** is generally distinguished from running in that only **one foot at a time leaves contact with the ground**: for humans and other bipeds **running begins when both feet are off the ground with each step**. (This distinction has the status of a formal requirement in competitive walking events, often resulting in disqualification even at the Olympic level.)"

~ Rebecca Solnit, *Wanderlust*

# The Mechanics of Movement

## Walking versus Running

THE WALK.



SERIES 18.

Copyright, 1887, by Eadweard Muybridge.

A HALF-STRIDE, PHOTOGRAPHED SYNCHRONOUSLY FROM TWO POINTS OF VIEW.

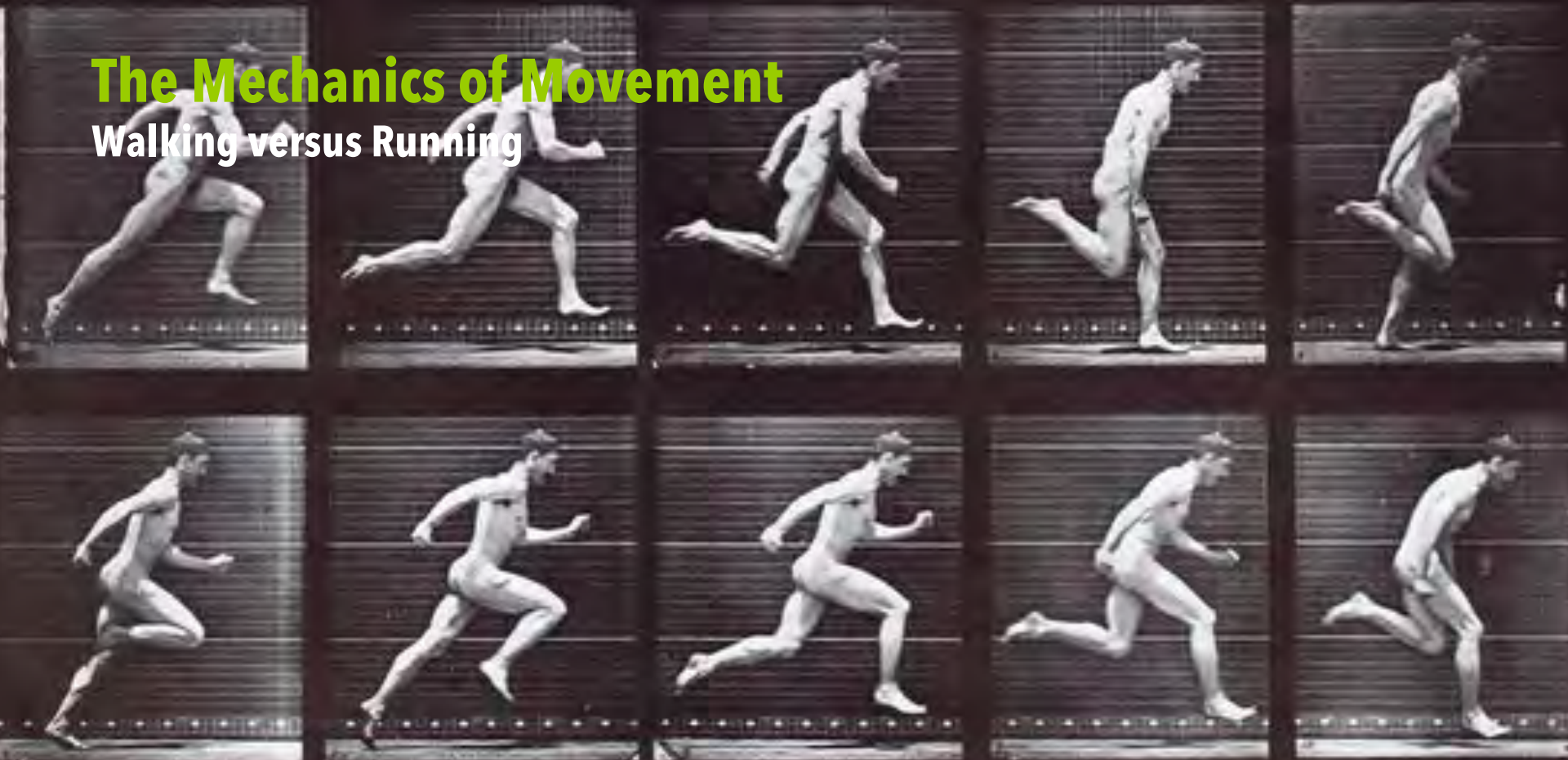
Eadweard Muybridge, Man Walking, 1887

*Man (Athlète).*

ON THE MECHANICS OF MOVEMENT  
CONCERNING THE CONSECUTIVE ACTION OF THE LIMBS IN THE PRIMITIVE METHOD OF TERRESTRIAL PROGRESSIVE MOTION

# The Mechanics of Movement

## Walking versus Running



Eadward Muybridge, Man Running at Full Speed, 1887

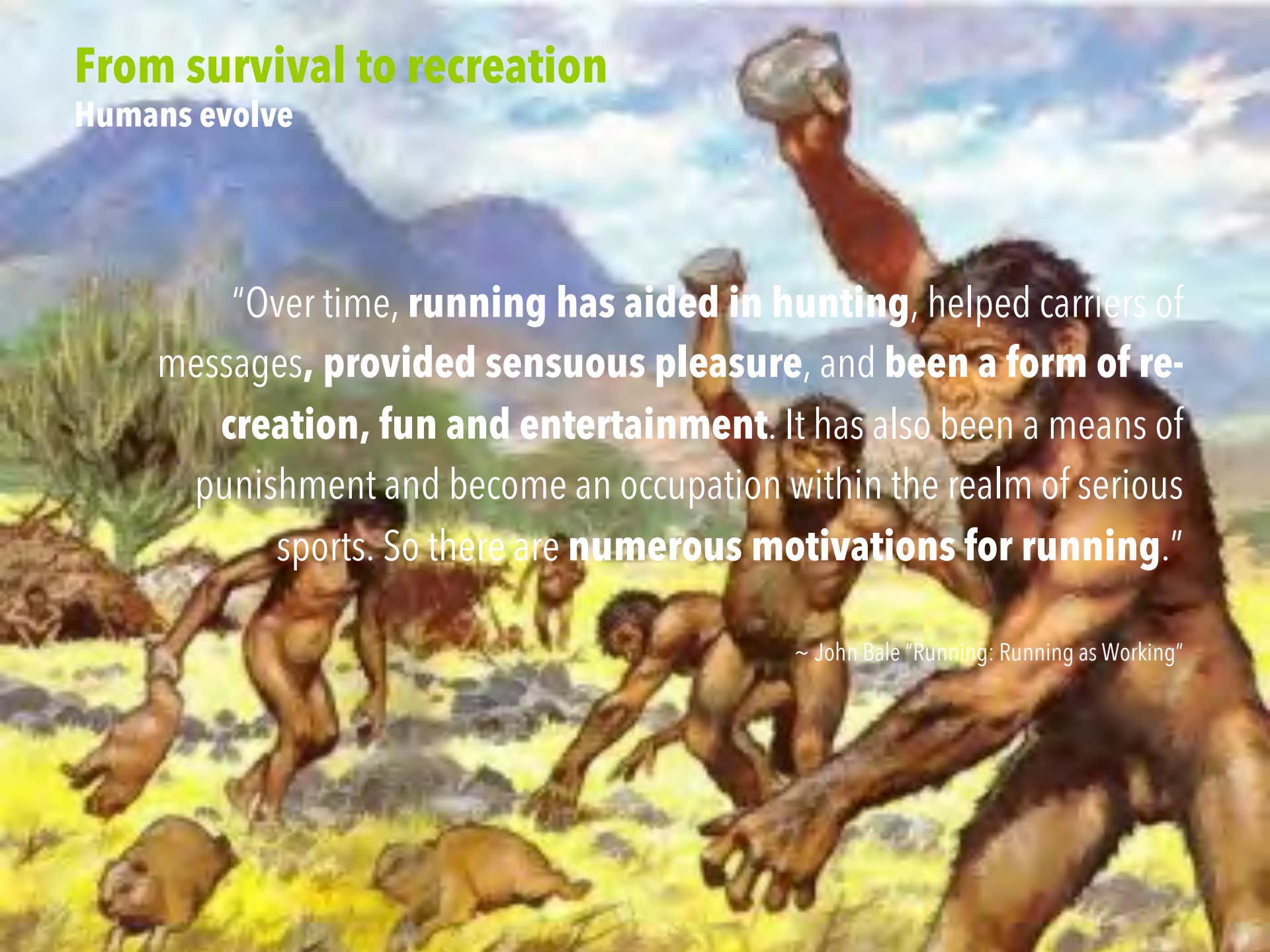


# From survival to recreation

Humans evolve

"Over time, **running has aided in hunting**, helped carriers of messages, **provided sensuous pleasure**, and **been a form of recreation, fun and entertainment**. It has also been a means of punishment and become an occupation within the realm of serious sports. So there are **numerous motivations for running.**"

~ John Bale "Running: Running as Working"



# From survival to recreation

Humans evolve



SOURCE: Big Butts, Loose Shoulders and Other Runner Adaptations, Smithsonian Channel



# The Human Body Is Built for Distance

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By TARA PARKER-POPE OCT. 26, 2009

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SOURCE: New York Times

# From survival to sport

## Greek competitions



Attributed to the Euphiletos Painter, Terracotta Panathenaic prize amphora, ca. 530 BCE Source: Metropolitan Museum of Art

# From survival to sport

## Irish religious ceremonies



Tailteann Games, Army Officers with wolfhounds (above), 1924 SOURCE: Irish Museum of Art [http://imma.gallery-access.com/intl/en/tour.php?a\\_id=2](http://imma.gallery-access.com/intl/en/tour.php?a_id=2)



Program, Aonac Tailteann Games, 1924 SOURCE: Irish Museum of Art [http://imma.gallery-access.com/intl/en/tour.php?a\\_id=2](http://imma.gallery-access.com/intl/en/tour.php?a_id=2)

# From survival to sport

18<sup>th</sup> and 19<sup>th</sup> centuries



Racing for wagers was popular in the 18th Century, **Source** *Illustrated London News*

"According to Shearman, training meant 'diet'. In the late nineteenth century, two pints of beer a day had been recommended as the liquid input of a runner in training."

~ John Bale "Running: Running as Working"

# From survival to sport

## 20<sup>th</sup> century competition

From the **RUNNERS' WORLD** Evolution of Running series

### THE EVOLUTION OF RUNNING SHOES

**1920**  
Severe-tissue Boston Marathon winner Clarence DeMar and others run the roads in thin shoes with crepe rubber soles and leather uppers. The Finchings Company makes custom-fitted models that weigh less than 10 ounces.



**1940s**  
Most top runners race track and cross country, so spikes are better than road shoes. A company in Wimbeldon, England is among those making custom-fitted spikes.



**1951**  
Japan's Shigeki Basaki wins Boston Marathon in split-toe shoe with separate compartment for big toe.



**1960**  
Running hero, Abebe Bikila of Ethiopia wins Olympic Marathon in world record. Four years later, he wins Olympic Marathon in world record with shoes that combine Bikila in really good!



**1960**  
New Balance Trackster is one of the first mass produced running shoes. Not with heavy uppers, advertised to help prevent shin splints. At just under \$100, shoe retails for \$55.



**1967**  
First shoe tester appears in *Runner's World*, precursor to *Runner's World*.



**1972**  
Athletic Footwear and Athletic shoe chain opens. Running-oriented stores make runners have tooping options beyond sporting goods store or mail order.



**1972**  
Shoe GOO adhesive hits market. Originally assembled for repair of tennis shoes, shoe applied to tennis because way for budget-conscious consumers to extend shoe life. Product produces bond, firm force sensor, and tends to fall off in the rain.



**1974**  
First Nike Waffle Trainer released, two years after first Nike "Moon shoe" distributed to runners at Olympic Trials.



**1976**  
Companies begin to release women's running shoes, cut on a narrower last.



**1977**  
Brooks Vantage first mass-market running shoe with an EVA midsole and "varus wedge" said to control pronation, heralding modern running shoe's emphasis on cushioning and motion control.



**1977**  
Jim Fixx's red Onitruka Tiger racing flats grace cover of his #1 bestseller, *The Complete Book of Running*.



**Late 1970s**  
Almost all running shoe manufacturing moves overseas. New Balance only major company to retain some U.S. production, with five factories in Maine and Massachusetts.



**1979**  
First Nike Air shoe. Tailwind, released. Soon most companies have proprietary cushioning systems.



**1982**  
New Balance 990 first \$100 running shoe. Company takes out ads celebrating milestone, with emphasis on shoe's plushness and luxury features.



**1986**  
Adidas Micropacer features electronic pedometer stitched into the tongue. First attempt to meld electronics with running shoes.



**1991**  
Reebok releases Pump running shoe, with air chambers on upper said to allow customized fit.



**1995**  
Kenyan Christopher Kropfel wins world steeplechase title with nothing on feet except tape on a few toes. It's the most recent senior world or Olympic title won barefoot.



**2009**  
First Hoka One One maximally cushioned shoe released, sign that minimalist backlash isn't far away.



**2013**  
New Balance introduces customized, 3D-printed spike plate; company says it hopes to extend process to everyday shoes.



**2014**  
Companies compete to introduce lightest road racing flat on market, with some models in smaller sizes weighing less than 3 ounces.



**2044**  
What will runners wear 30 years from now? One possibility: shoes made from protocols, or synthetic materials that have properties of organic matter, including self-repair.



Explore the entire Evolution of Running series at: [runnersworld.com/evolution](http://runnersworld.com/evolution)

**RUNNERS' WORLD**

Dan Fuehrer, text by Scott Douglas, *A Brief History of the Running Shoe* **Source:** *Runners' World* <http://www.runnersworld.com/running-shoes/a-brief-history-of-the-running-shoe>

# From survival to sport

## 20<sup>th</sup> century competition



Frank Shorter running through streets of Munich during the 1972 Olympic **Source:** Associated Press

# From survival to sport

## 20<sup>th</sup> century popularization

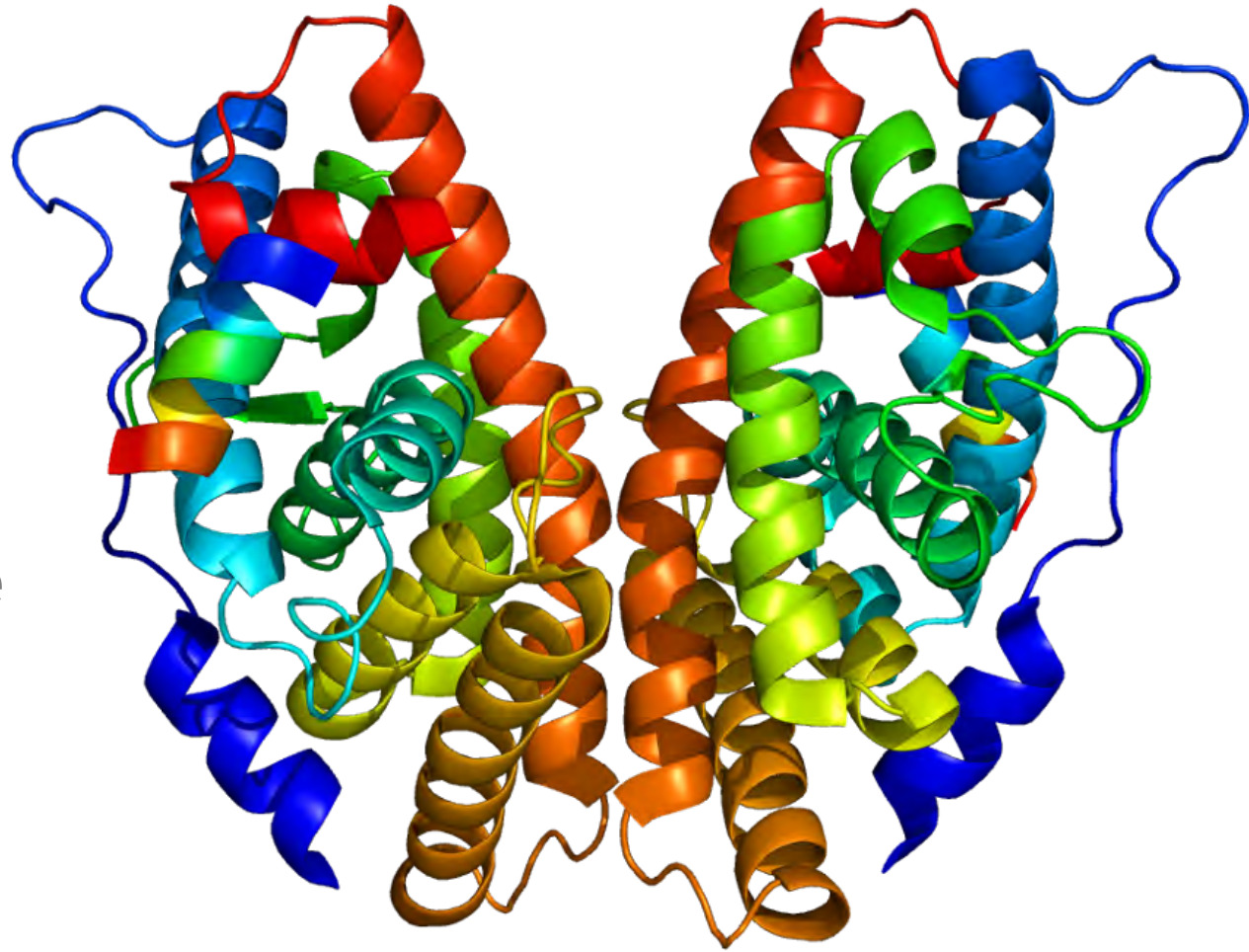
President Jimmy Carter running on a track in Prairie du Chen, Wisconsin with secret service agent, 1979 **Source:** Sports Illustrated/CNN



# Human health

## Physical well-being

Improved brain function, learning and memory through estrogen-related receptor gamma ( $ERR\gamma$ ), found in high levels in the brains of long-distance runners\*



Rendering of the structure of the ESRRG protein. Based on PyMOL rendering of PDB 1kv6.  
**Source:** Emw, Wikimedia Creative Commons

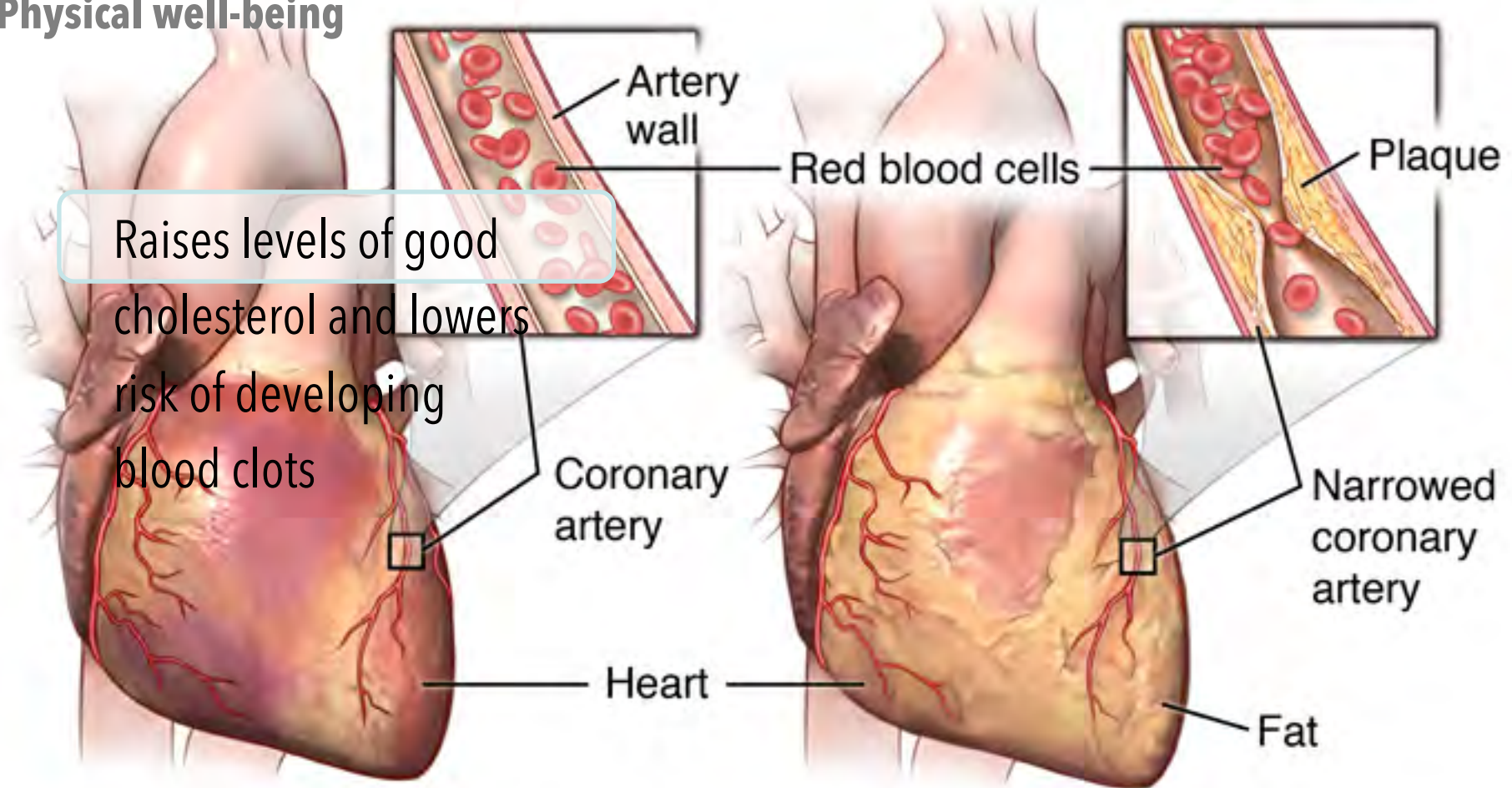
\* Mark Prigg, "Are Marathon Runners Smarter?" Daily Mail, April 2015

<http://www.dailymail.co.uk/sciencetech/article-3029287/Are-marathon-runners-smarter-Study-finds-process-makes-running-long-distance-easy-boosts-memory-learning.html>.



# Human health

## Physical well-being



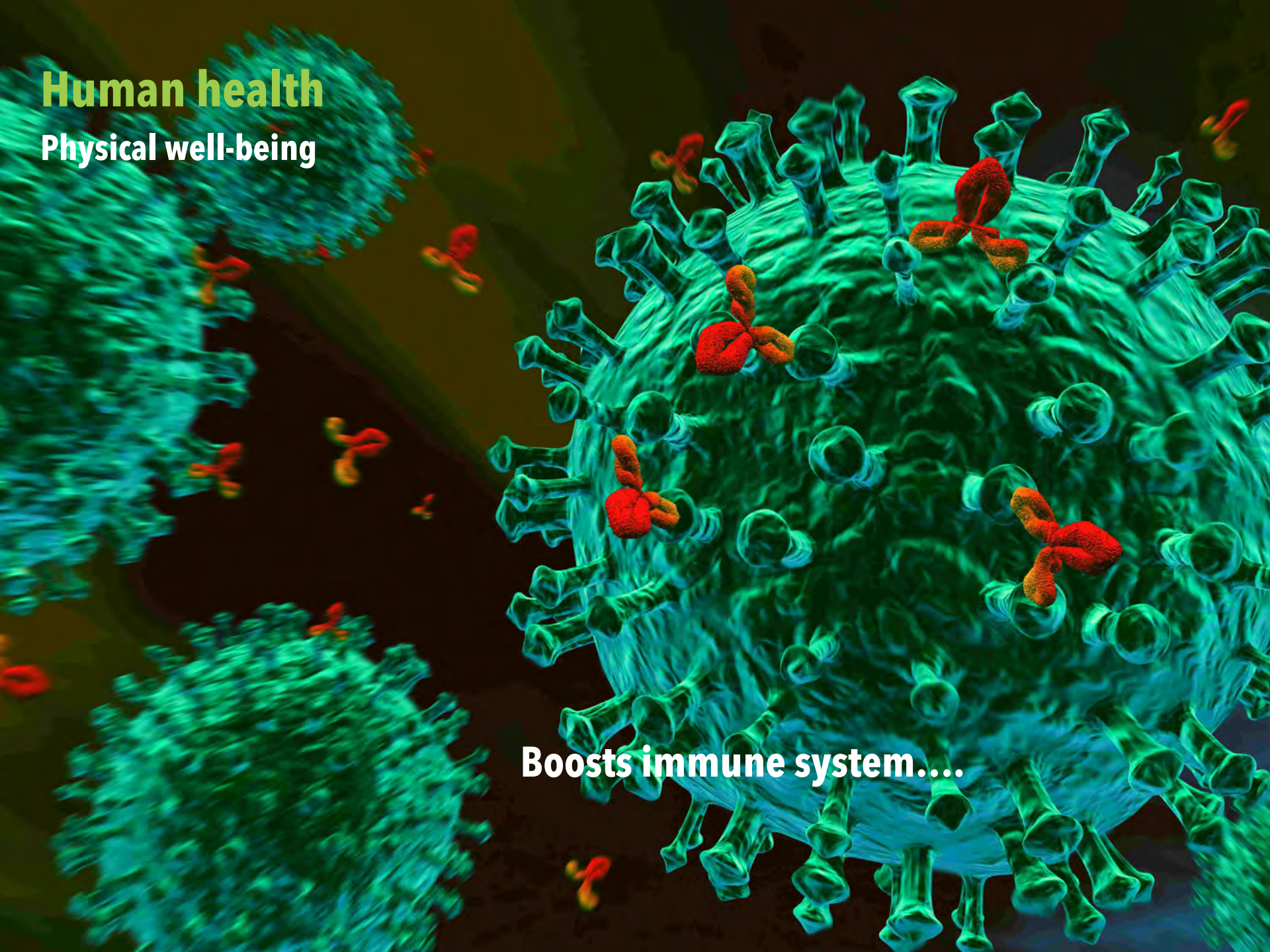
**Normal heart and artery**

**Artery with plaque buildup**

**Human health**

**Physical well-being**

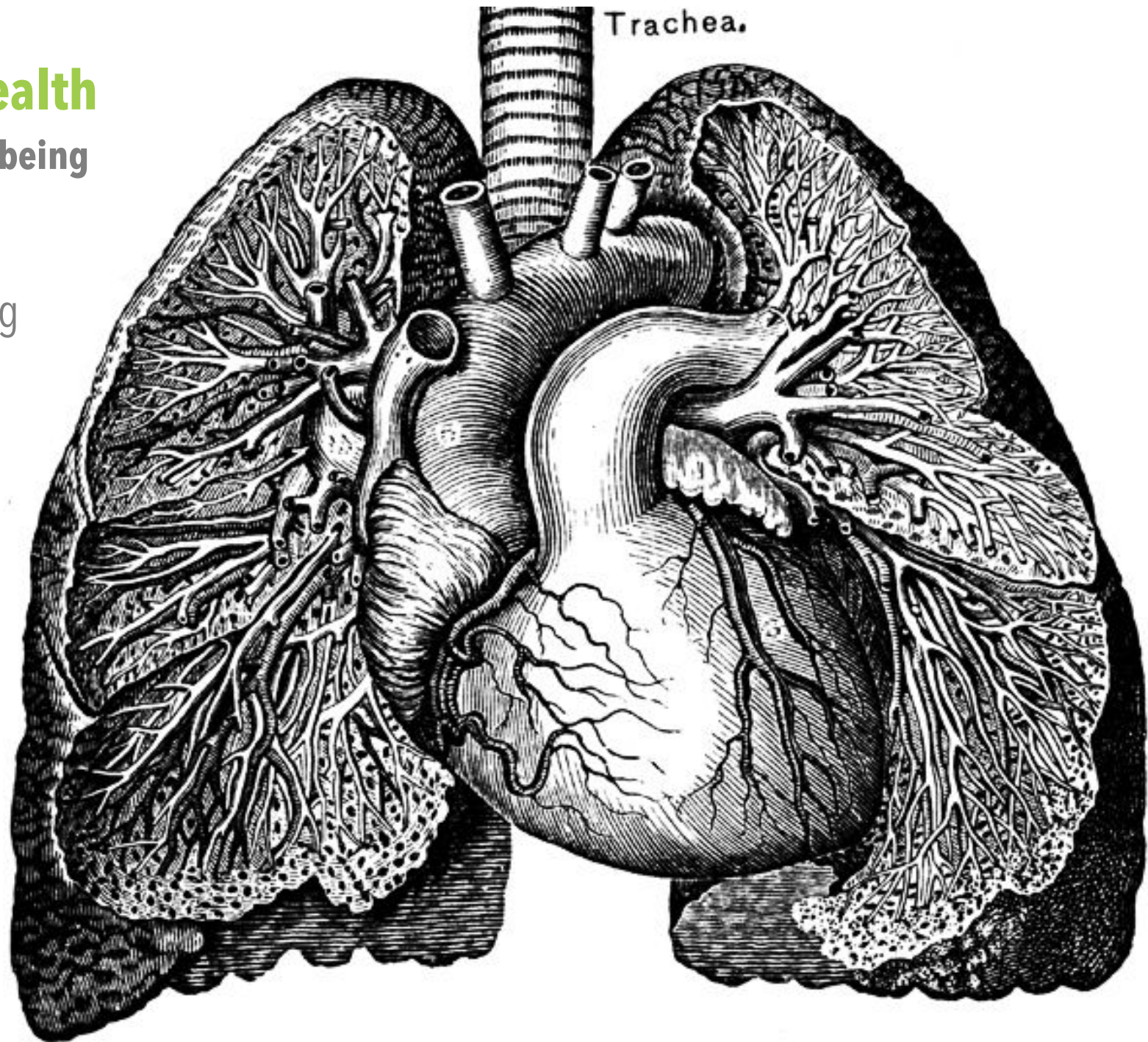
**Boosts immune system....**



# Human health

Physical well-being

Increases lung  
function....



# Human health

## Physical well-being

- 2009 publication by Finnish scientists on running and health
- Study lasted 17 years for 2,560 middle age men.
- Ran for 30 minutes a day
- Exhibited **50% reduction in the risk of death from cancer.**

~Sudhir Kurl, medical director of the School of Public Health and Clinical Nutrition at the University of Kuopio

# Human health

Physical well-being



6%

Improves hearing  
at high and low frequencies

# Human health

## Emotional and cognitive well-being



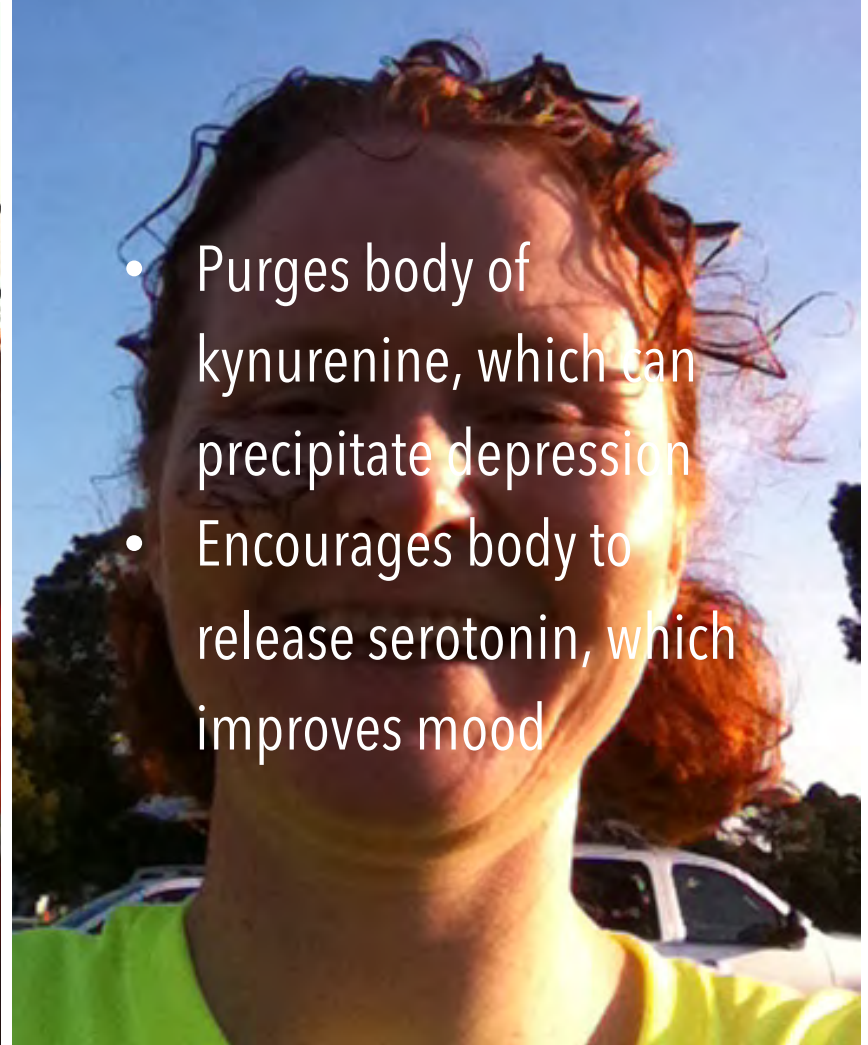
### ALAN TURING

- ▲ Born in England in 1912
- ▲ Ultra-maga-super MATH GENIUS

Marathon time: Alan Turing 2 hours and 45 min

# Human health

## Emotional and cognitive well-being



- Purges body of kynurenine, which can precipitate depression
- Encourages body to release serotonin, which improves mood

## PART II. How do we *imagine* running in the city?

Representing movement and how storytelling and imagination can create compelling reasons to run

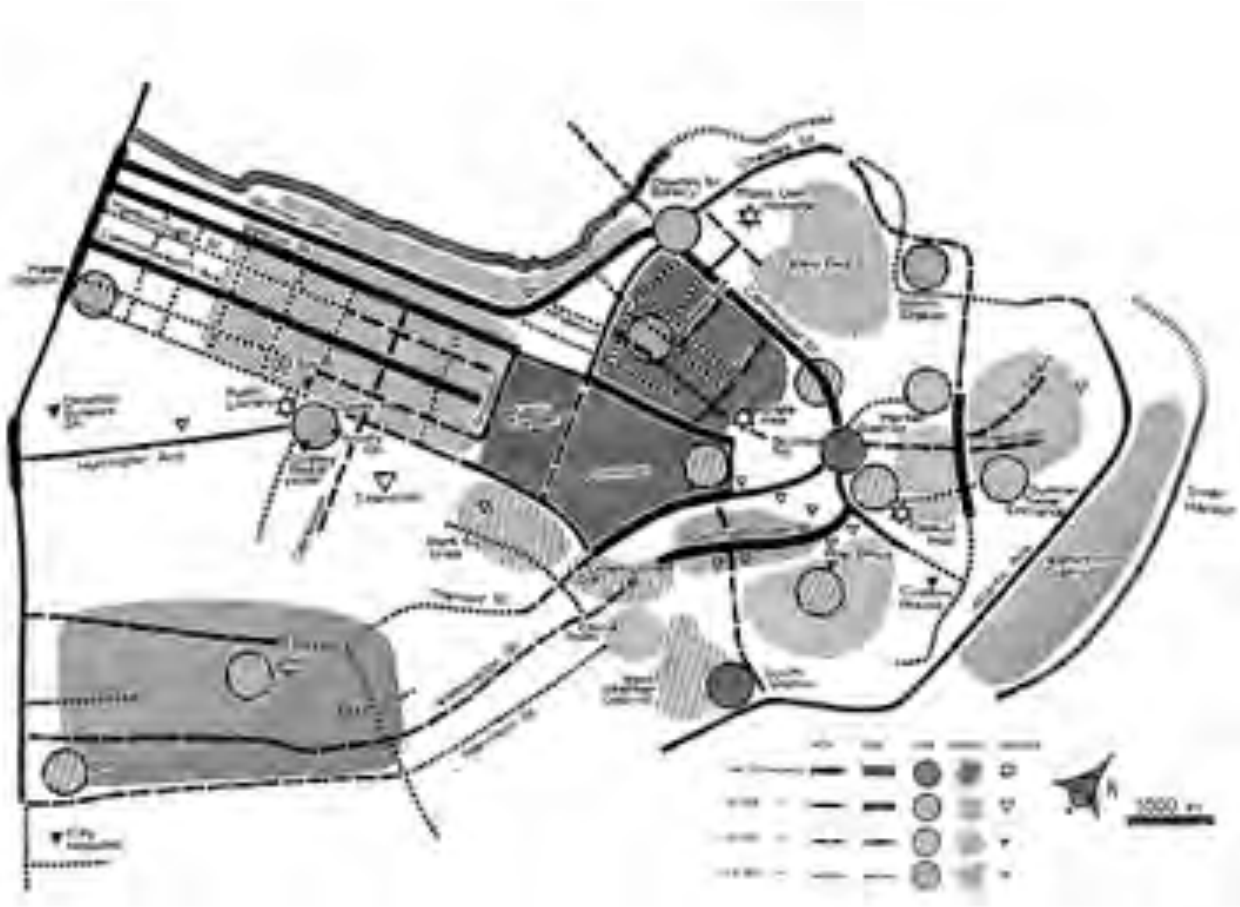


SOURCE: <http://www.chipandco.com/nyork-city-runner-dreams-true-disney-princess-marathon-victory-208092/>



# Experiencing Movement

## Mental Mapping, Imagining and Exploring the City



"Moving elements in a city, and in particular people and their activities, are as important as the stationary physical parts. We are **not simply observers of this spectacle**, but ourselves part of it, on the stage with other participants."

~Kevin Lynch *The Image of the City*

# Experiencing Movement

Psychogeography: "drifting", discovering, defying

"Cities have a **psychogeographical relief, with constant currents, fixed points and vortexes** which strongly discourage entry into or exit from certain zones."

~Guy Debord, Introduction to a *Critique of Urban Geography*, 1955

# Experiencing Movement

Psychogeography: "drifting", discovering, defying



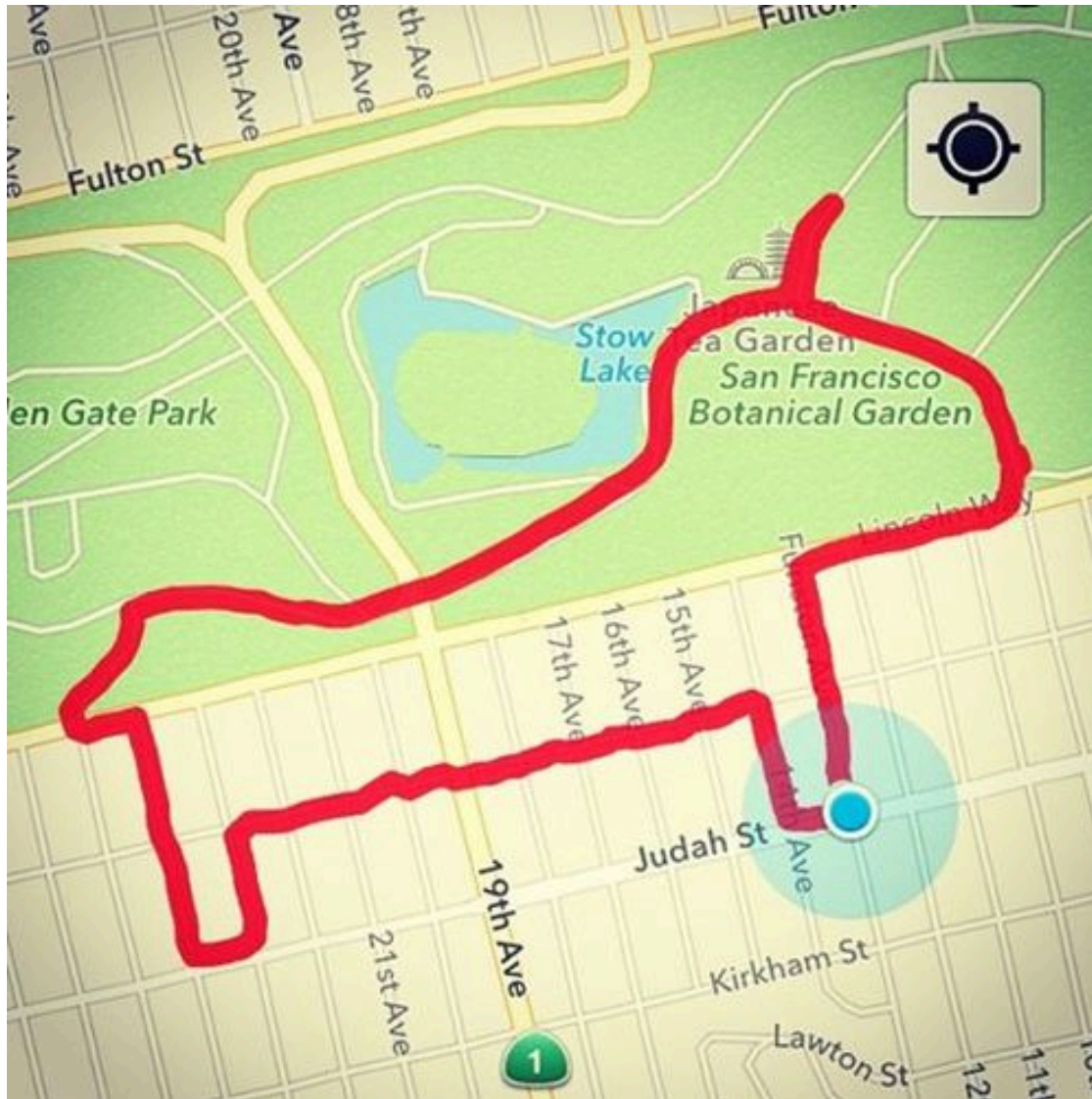
Guy Debord, *Guide to the Psychogeography of Paris*, 1957

"...the study of the precise laws and specific effects of the geographical environment, consciously organized or not, on the emotions and behavior of individuals."

~ Guy Debord

# Experiencing Movement

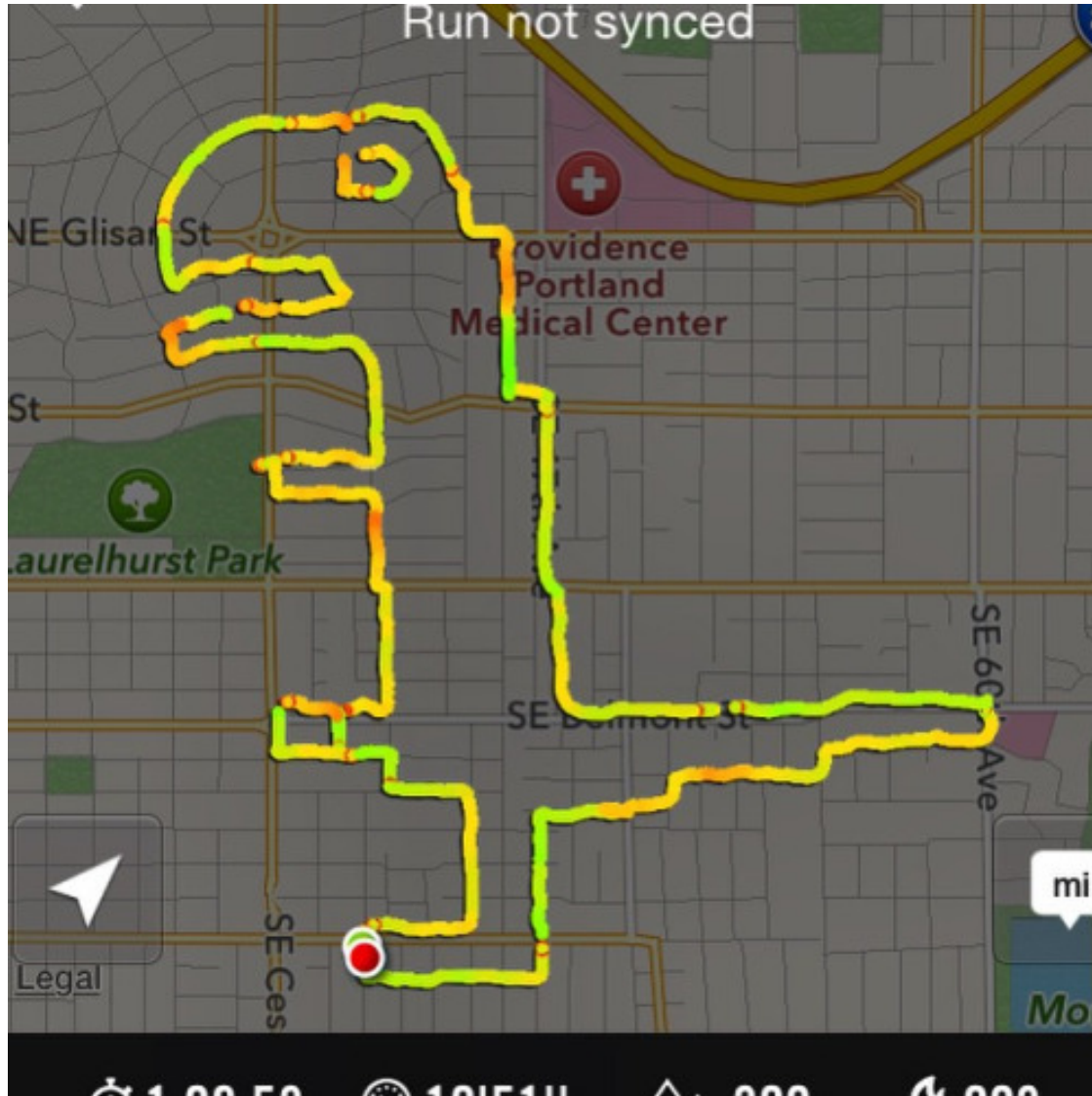
Psychogeography: "drifting", discovering, defying



Claire Wyckoff "run drawing" on GPS SOURCE: <http://www.cbc.ca/radio/asithappens/thursday-iraq-isis-jog-route-gps-drawings-short-radio-songs-and-more-1.2903199/she-draws-things-when-she-runs-including-penises-1.2903205>

# Experiencing Movement

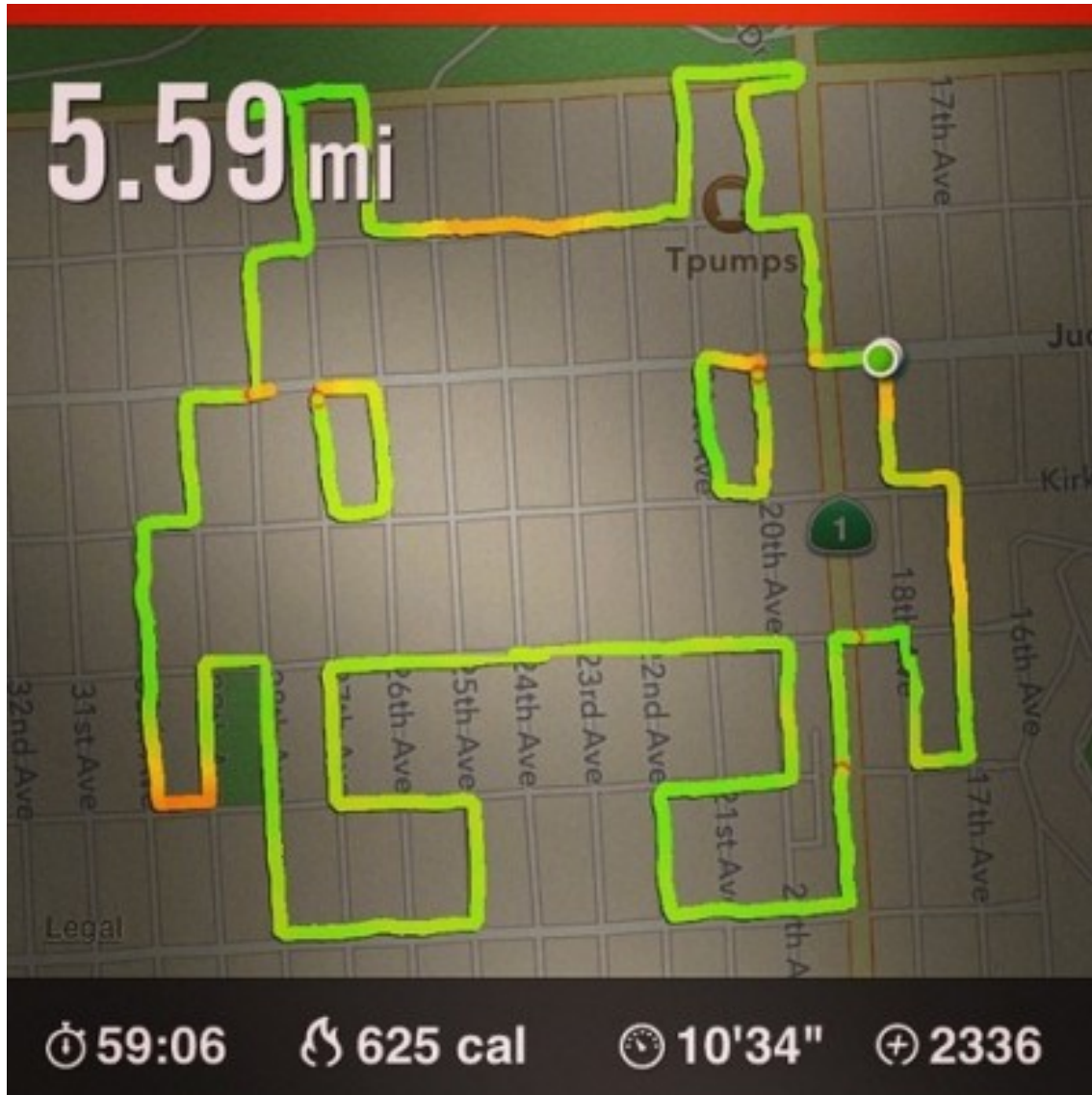
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# Experiencing Movement

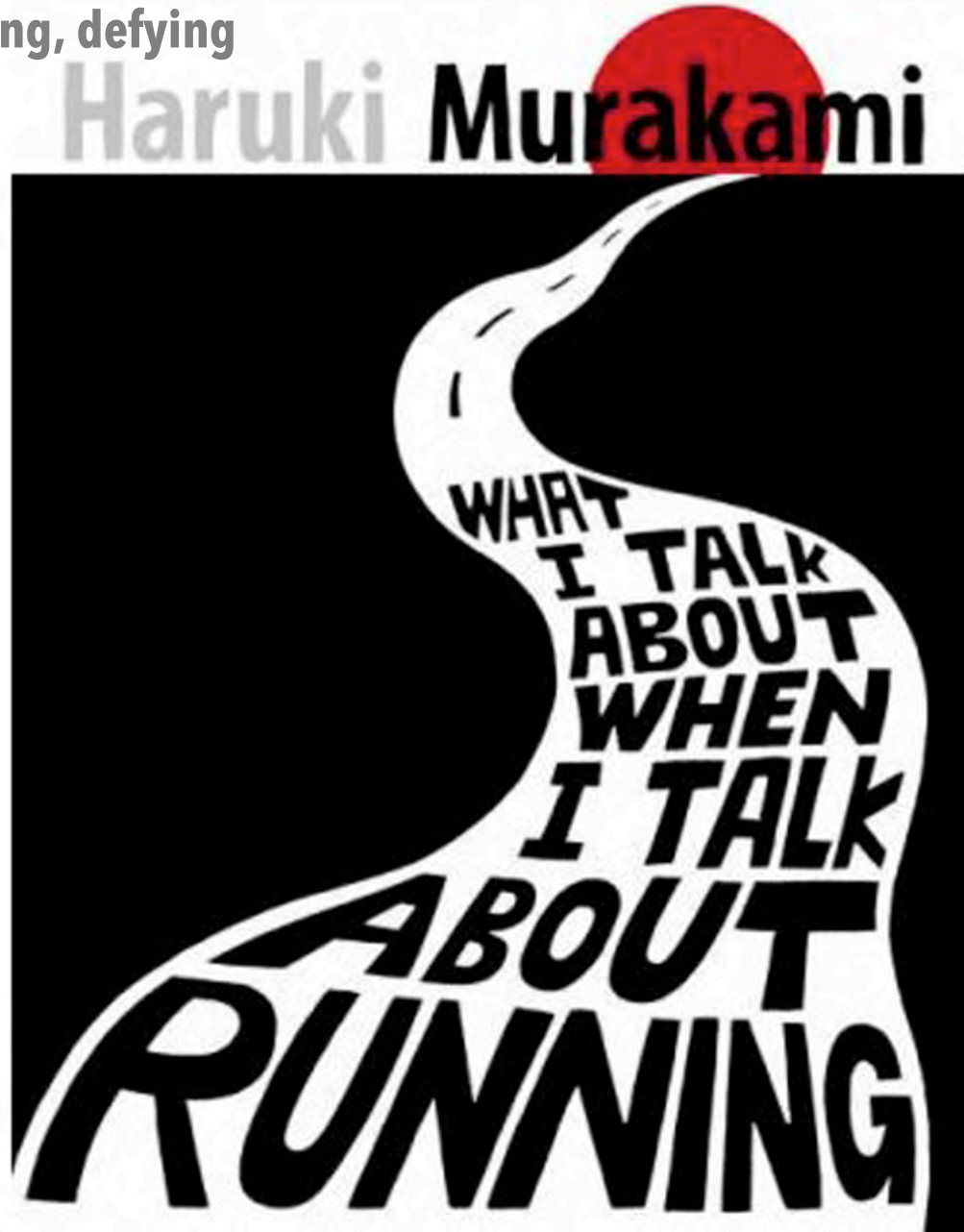
Psychogeography: "drifting", discovering, defying

Haruki Murakami

"When I'm running I don't have to talk to anybody and don't have to listen to anybody. This is a part of my day I can't do without."

~ Haruki Murakami

*What I Talk About When I Talk About Running*





# Experiencing Movement

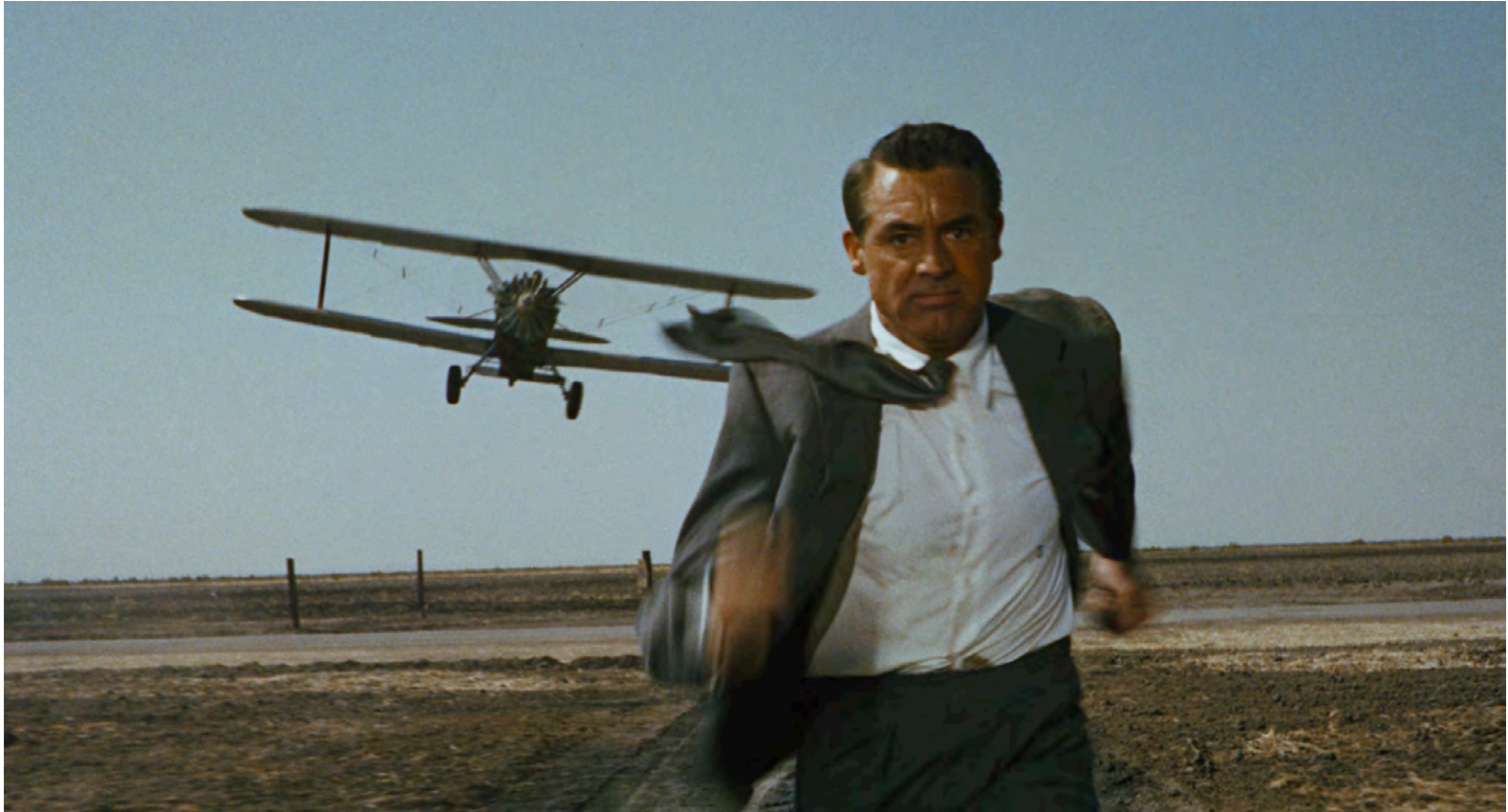
## Psychogeography: "drifting", discovering, defying

"People sometimes sneer at those who run every day, claiming they'll go to any length to live longer. But don't think that's the reason most people run. Most runners run not because they want to live longer, but **because they want to live life to the fullest**.... Exerting yourself to the fullest within your individual limits: that's the essence of running, and a metaphor for life – and for me, for writing as whole. I believe many runners would agree."

~ Haruki Murakami, *What I Talk About When I Talk About Running*

# Experiencing Movement

Psychogeography: "drifting", discovering, defying



Cary Grant in Alfred Hitchcock's *North by Northwest*, 1959

"...avoid the consumeristic mood, by **running away from it**, along side of it—run unmediated—immediately in any direction—towards the free solicitation of desire."

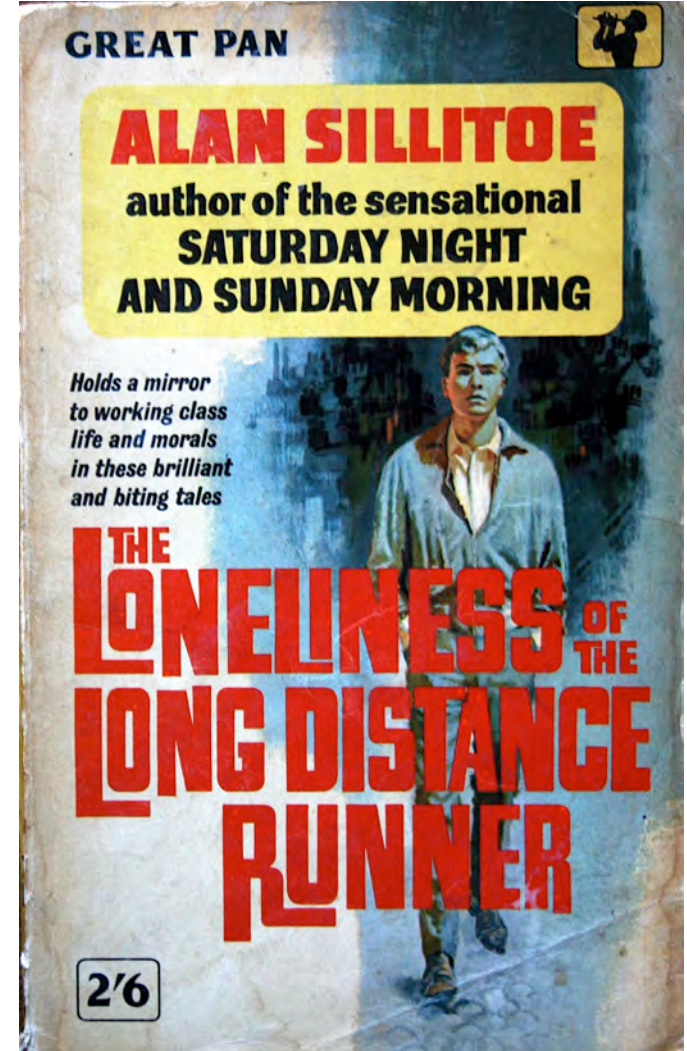
~ Guy Debord, *Situationist Internationale*

# Experiencing Movement

Psychogeography: "drifting", discovering, defying



Tom Courtenay in Tony Richardson's *The Loneliness of the Long Distance Runner*, 1962



Alan Sillitoe, *The Loneliness of the Long Distance Runner*, 1959

# A serious subject in popular culture

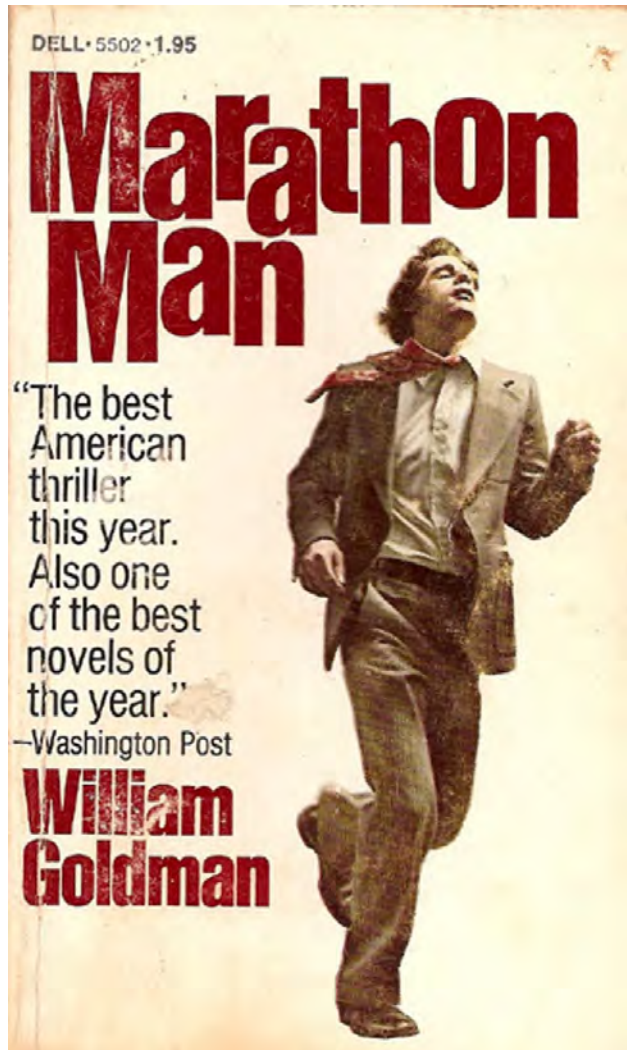
## The Loneliness of the Long Distance Runner



Tom Courtenay in Tony Richardson's *The Loneliness of the Long Distance Runner*, 1962

# A serious subject in popular culture

## Marathon Man



Dustin Hoffman in John Schlesinger's *Marathon Man*, 1976

# A serious subject in popular culture

## Chariots of Fire



Ben Cross and Nigel Havers in Hugh Hudson's *Chariots of Fire*, 1981



# As well as the object of parody

## The many iterations of "Chariots of Fire" on YouTube

The screenshot shows a web browser window with the address bar displaying [https://www.youtube.com/results?search\\_query=parodies+of+chariots+of+fire](https://www.youtube.com/results?search_query=parodies+of+chariots+of+fire). The YouTube interface includes a search bar with the text "parodies of chariots of fire" and a search icon. On the left, there is a navigation menu with options: Home, My Channel, Trending, Subscriptions, History, Watch Later, and a SUBSCRIPTIONS section with "Add channels" and categories like Popular on YouTube, Music, Sports, and Gaming. Below that are "Browse channels", "Manage subscriptions", and "YouTube Red".

The main content area displays a list of search results:

- Chariots of Fire Parody**  
Christ the King: The Cell Church  
5 months ago • 214 views  
Parody video for our upcoming Olympics during our Family Camp October 16-18th. find out more at [www.thecellchurch.com](http://www.thecellchurch.com).  
Video duration: 3:33
- Fenton in Chariots of Fire Parody**  
ThisisViral2  
4 years ago • 4,113 views  
Benton / Fenton in this chariots of fire parody. Be sure to watch the original "Jesus Christ in Richmond Park" video first to ...  
Video duration: 0:51
- Chariots of Fire**  
From \$2.99  
1981  
Winner of four Academy Awards(R) including Best Picture! The Inspiring true story of British athletes competing in the 1924 ...  
Video duration: 2:04:04
- Chariots of Carlsbad (Chariots of Fire Parody 30th Anniversary Tribute)**  
Malcolm Shaw  
4 years ago • 1,310 views  
North County Adventure group's weekly beach run in Carlsbad, CA. We ran from Mcgee Park to Buchaneer Beach. We've run as ...  
Video duration: 3:23
- Chariots of Fire Parody**  
Sophie Park  
1 year ago • 131 views  
Santa Monica and Malibu, CA, August 2014.  
Video duration: 1:15
- Chariots of Fire Parody**  
Farisha Angullia  
9 months ago • 52 views  
Video duration: 4:05

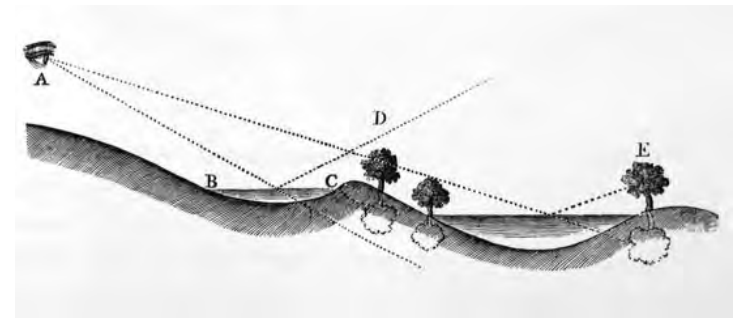
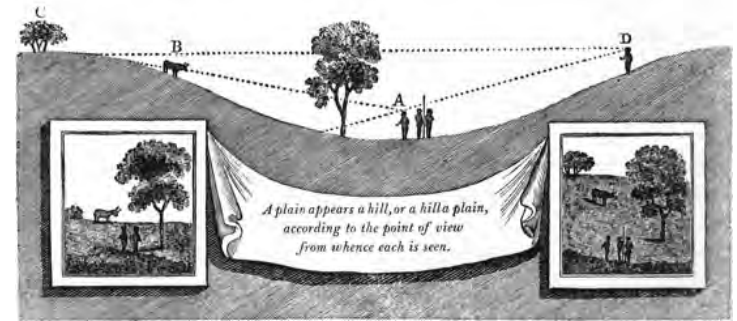


# Experiencing Movement

## Vision and Landscape

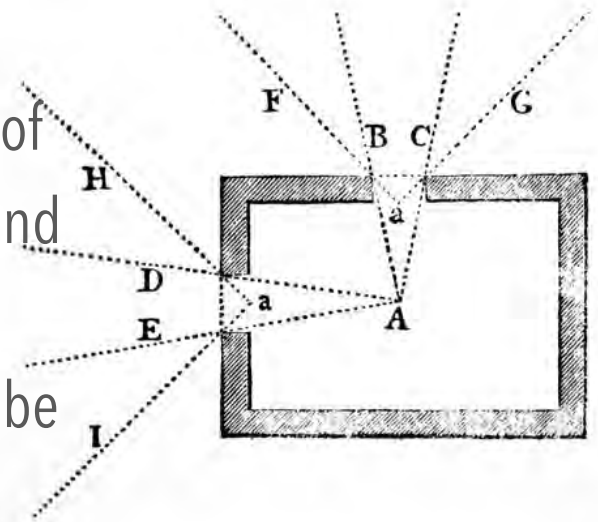


From Humphry Repton



"A well chosen Prospect: which I will call the Royalties of Sight. . . . There is Lordship likewise of the Eye (as of the feet) which being a raunging and Imperious, and (I might say) an usurping Sense; can indure no narrow circumscription; but must be fedde, both with extent and varieties."

—Sir Henry Wotton, *Elements of Architecture* (London, 1624)



# Experiencing Movement

## Vision and Landscape



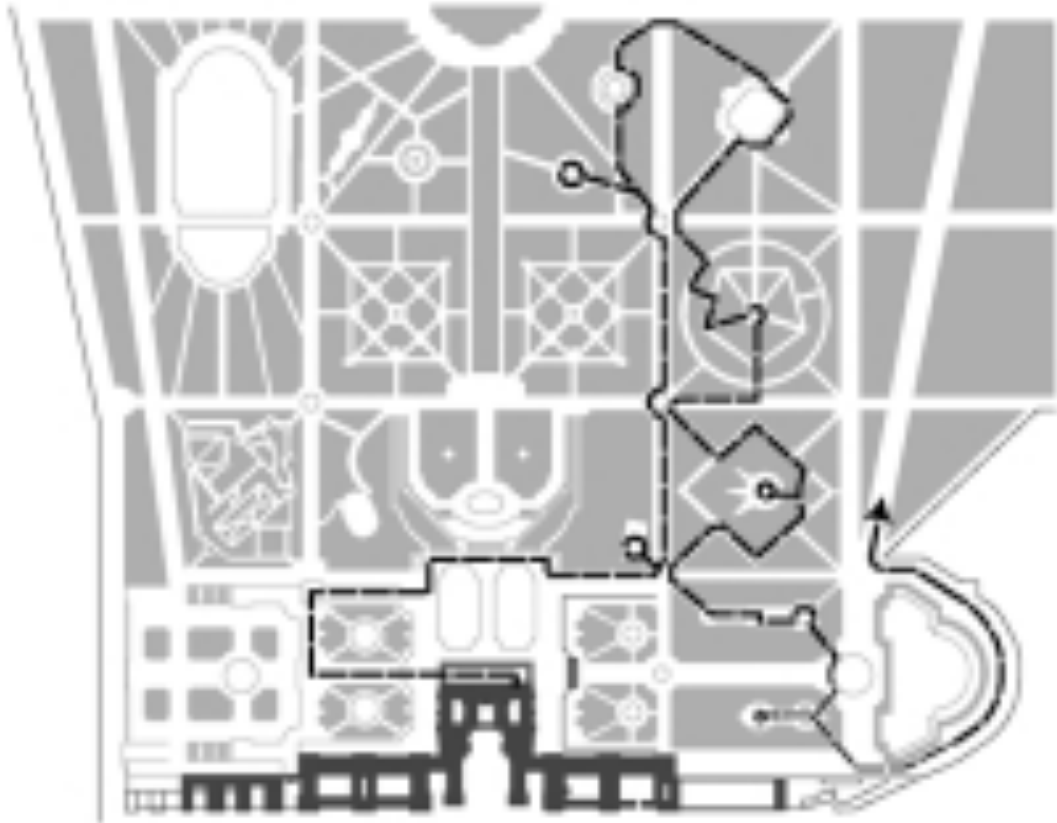
William Gilpin, aquatint engraving from *Remarks on Forest Scenery*, 1791



Frederick Law Olmsted, *Prospect Park*, New York, 1867

# Experiencing Movement

## Vision and Landscape



Route maps of Versailles in Louis XIV's guidebooks: 1689 (left), 1691 and 1695 (center), and 1702 to 1704 (right); redrawn by Soon-Hui Long (from *Manière de montrer les jardins de Versailles*, with introduction and commentary by Simone Hoog [Paris, 1992], 68-69)

# Experiencing Movement Typologies

## The procession or ritual

"...[R]itual movement that follows both a preordained path and purpose, which is, on account of its prescription, repeatable on innumerable occasions; indeed, such reiteration is expected... Undertaken collectively by a group of visitors who follow an orderly succession of moves and do so on special occasions, whether designated festivals or ad hoc fêtes. [Entails a...] **specific route with designated paths and even activities**, with socially constructed and endorsed purposes and with **some higher objective than the mere performance of the rite** and with a wider reference than the site of the ritual itself."

~ from John Dixon Hunt, "Lordship of the Feet": Toward a Poetics of Movement in the Garden"

# Experiencing Movement

## Typologies

### The stroll

"Involves undertaking or **giving of oneself to movement** [but] implies **an ultimate purpose within the site and a sense of destination...** and deliberation, as suggested in the word *saunter*, which **implies self-conscious activity and even some anticipation of being watched by others**. Strolling also implies a defined route between whatever incidents punctuate and give rhythm to the movement. As a pastime, it tends to be a small group activity, but individuals may also engage in it."

~ from John Dixon Hunt, "Lordship of the Feet": Toward a Poetics of Movement in the Garden"

# Experiencing Movement

## Typologies

### The ramble

"[Also]...involves undertaking or giving of oneself to movement [but]... entail[s] **movement with no external prompt**; they are promoted largely by **the will or curiosity of an individual** enjoying the leisure to wander. Rambles are for **the pleasures of movement itself, without definite or preordained routes or destinations**; a ramble implies impulse, spontaneity, a disconnected wandering, and therefore it is more likely that a ramble is solitary, since one person's disconnections would distract from another's ramble."

~ from John Dixon Hunt, "Lordship of the Feet": Toward a Poetics of Movement in the Garden"

# III. When do design and running intersect?

Trends, standards, opportunities, examples, speculations

# Designing movement

## Choreographing | Connecting the City

"Designed environments which are thought out, formalized, and complete are usually 'lifeless' and unapproachable because a) they do not invite interaction and modification to suit immediate human needs; b) they are unable to grow, develop and become extended through human use.... Oddly enough, **many environments which 'work' well for people meet few, if any, aesthetic criteria ordinarily employed by designers.**"

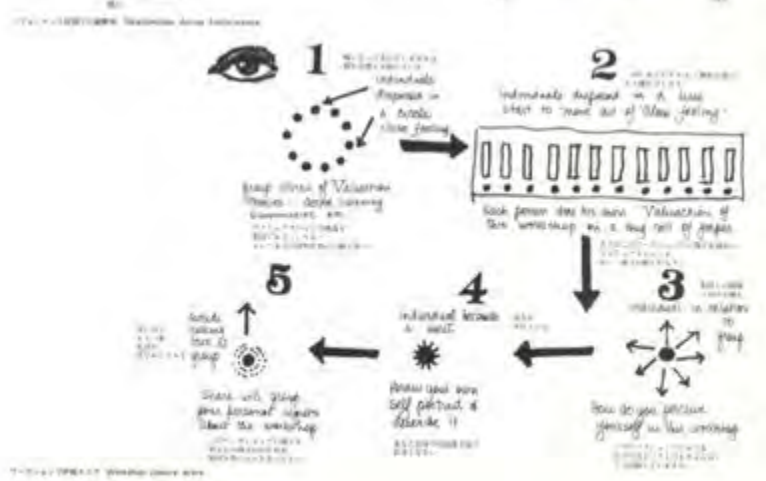
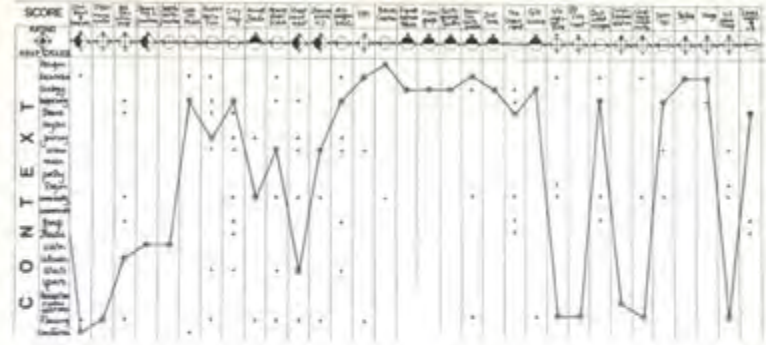
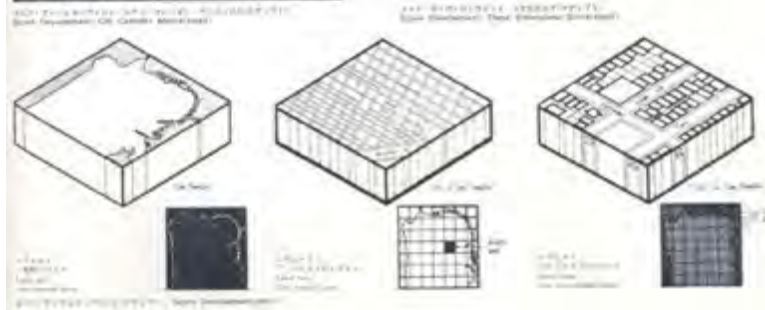
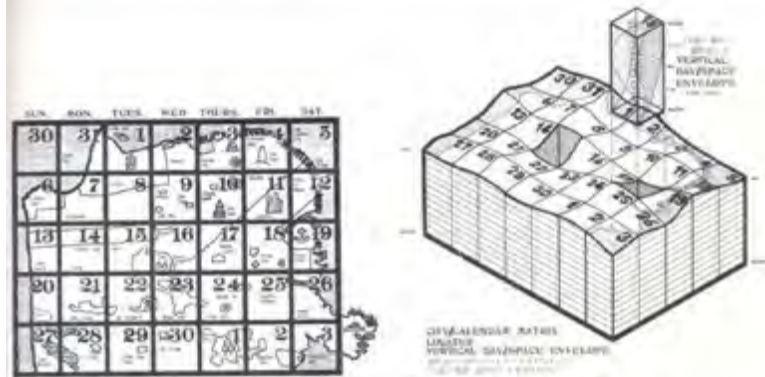
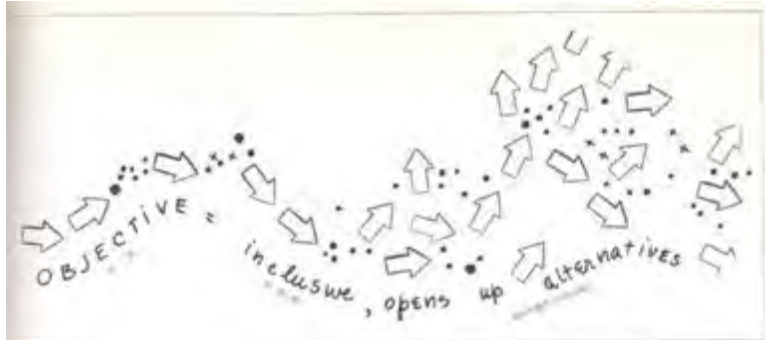
~Lawrence Halprin, 1968





# Designing movement

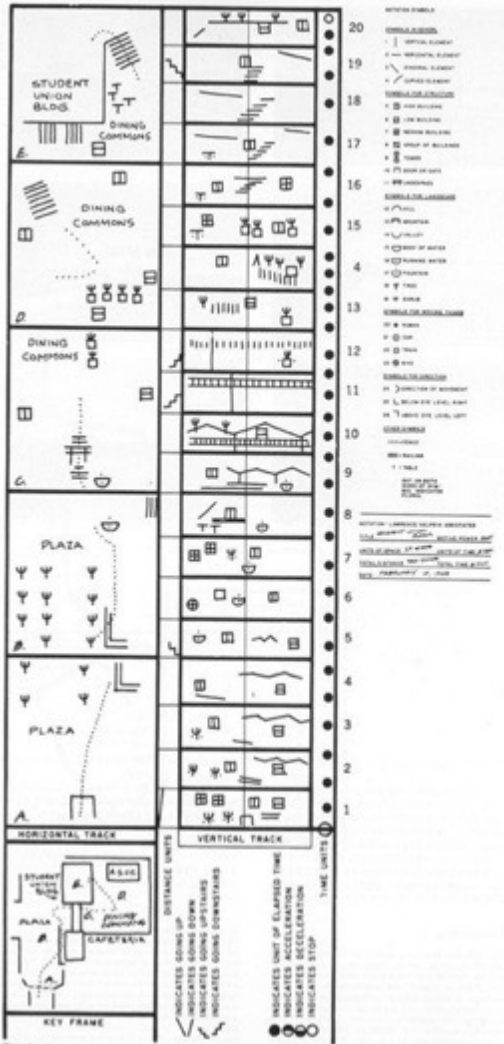
## Choreographing | Connecting the City



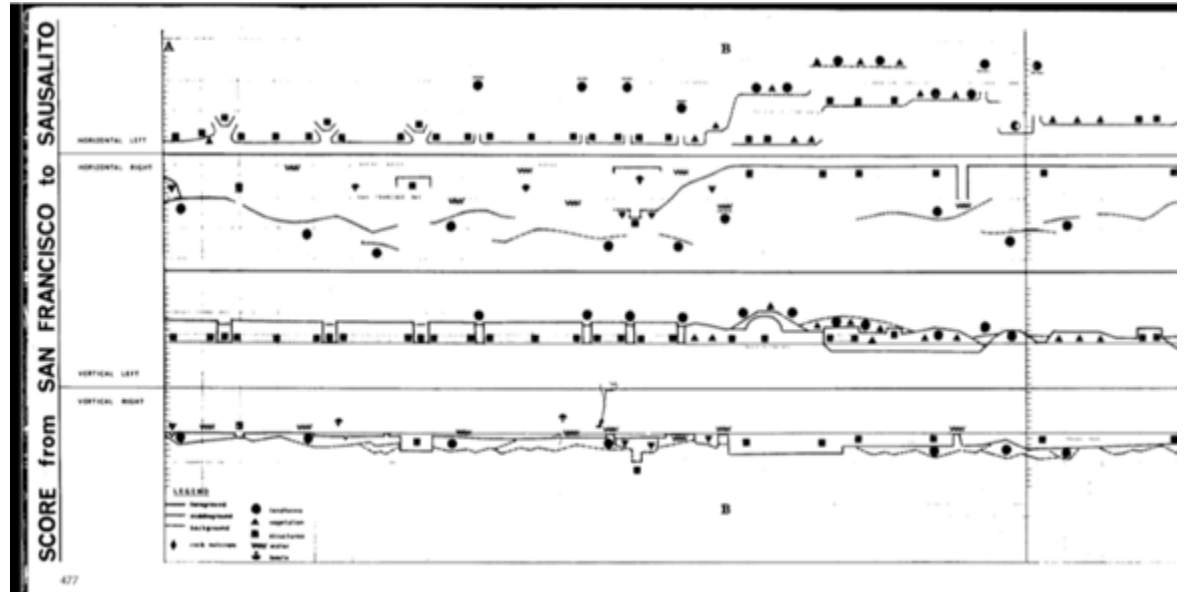
Lawrence and Anna Halprin, *RSVP Cycles (Resources, Score, Valuation, Performance)*, 1969

# Designing movement

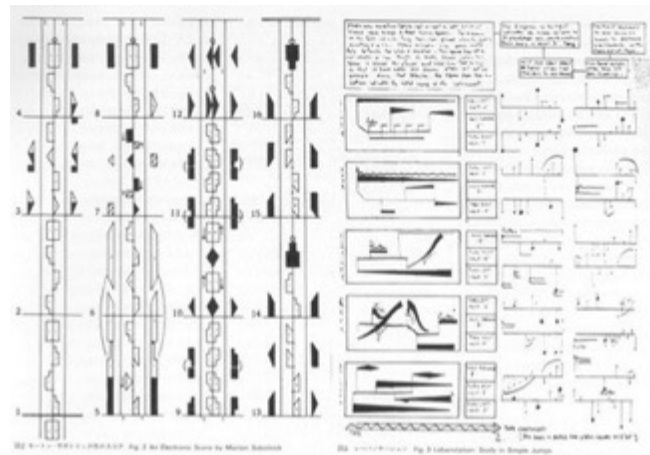
## Choreographing | Connecting the City



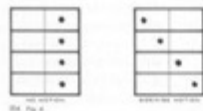
2012 Fig. 14



477



2012 Fig. 15



2012 Fig. 16

- HUMAN
- CAR
- ☁ CLOUD
- ⌒ HILL
- ⊙ MOUNTAIN
- ⊖ DOME
- ⌒ WALL
- ⊙ TALL BLDG
- ⊖ TOWER

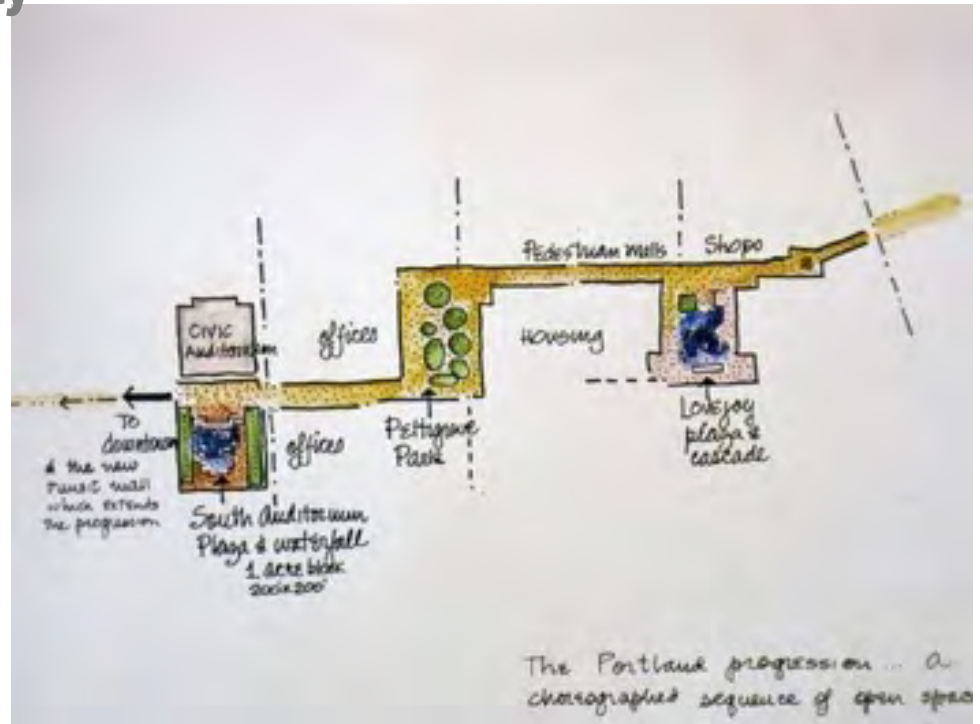
2012 Fig. 17

# Designing movement

## Choreographing | Connecting the City

"In Portland I attempted to do two things: the first of these was to develop a long eight block sequence of open spaces, promenades, nodes of plazas and parks with a mix of public space and private space interwoven.... The space is **choreographed for movement with nodes for quiet and contemplation, action and inaction**, hard and soft, yin and yang. ... [T]hese places were for the first time **designed to be used to be participatory** - NOT just to look at - they say COME IN, not stay off."

~ Lawrence Halprin



Lawrence Halprin, *Open Space Sequence South Auditorium District*, Portland OR 1965

# Designing movement

## Choreographing | Connecting the City



Lawrence Halprin, *The Source*, Portland OR, 1965



Lawrence Halprin, *Lovejoy Fountain*, Portland OR, 1966



Lawrence Halprin, *Pettygrove Park*, Portland OR, 1966



Lawrence Halprin, *Ira Keller Fountain*, Portland OR, 1965

# Designing movement

## Choreographing | Connecting the City

**“Walkers are 'practitioners of the city,'** for the city is made to be walked. A city is a language, a repository of possibilities, **and walking is the act of speaking that language, of selecting from those possibilities.** Just as language limits what can be said, architecture limits where one can walk, but **the walker invents other ways to go.”**

~ Rebecca Solnit *Wanderlust: A History of Walking*, 2000

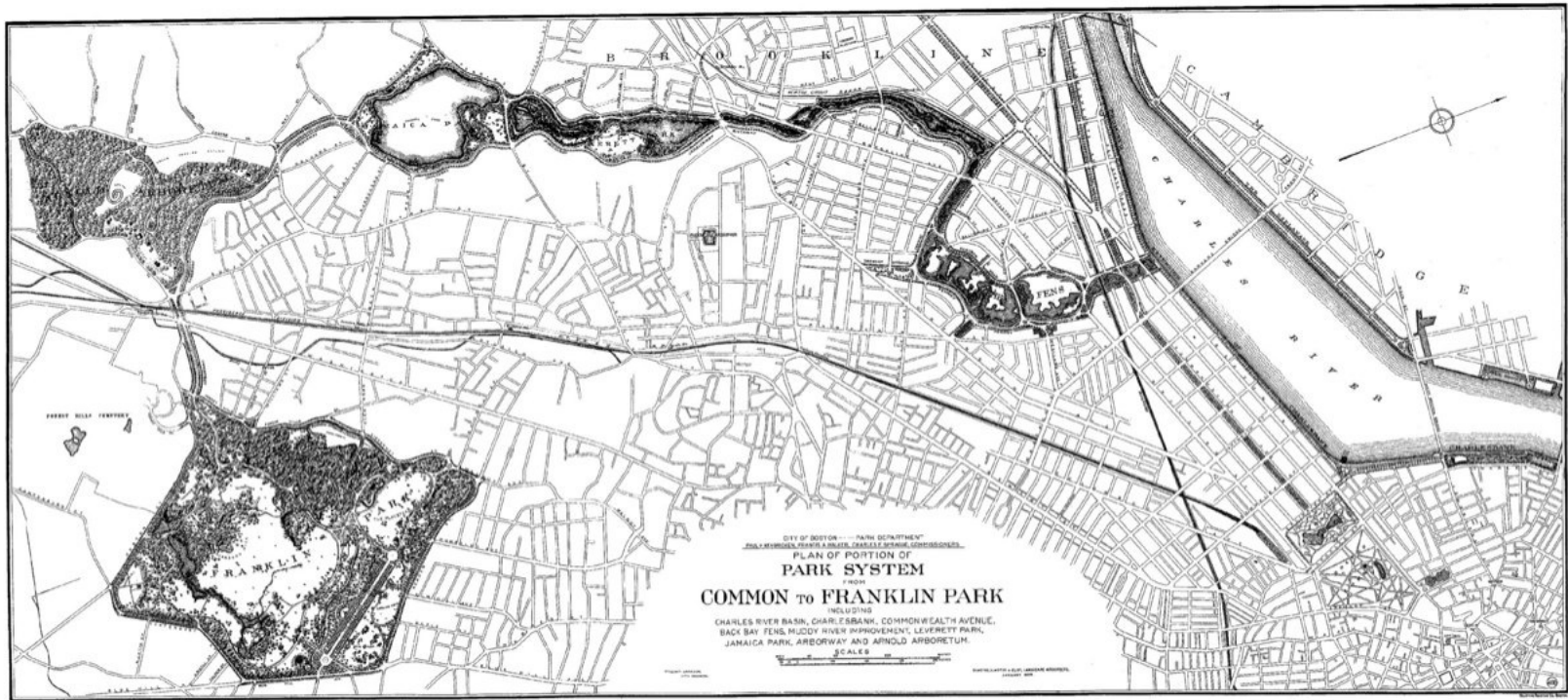
# Designing movement

## Choreographing | Connecting the City



# Designing movement

## Choreographing | Connecting the City



National Park Service Frederick Law Olmsted National Historic Site

OLMSTED ARCHIVES

99 Warren Street Brookline, Massachusetts 02146

Frederick Law Olmsted and Charles Eliot, *Back Bay Fens* with proposal to connect Jamaica Pond to Fens for "Emerald Necklace," Boston MA 1879

"A connected system of parks and parkways is manifestly far more complete and useful than a series of isolated parks."

~ Frederick Law Olmsted Sr. *Report to the Portland [OR] Park Board*, 1903

# Designing movement

## Choreographing | Connecting the City

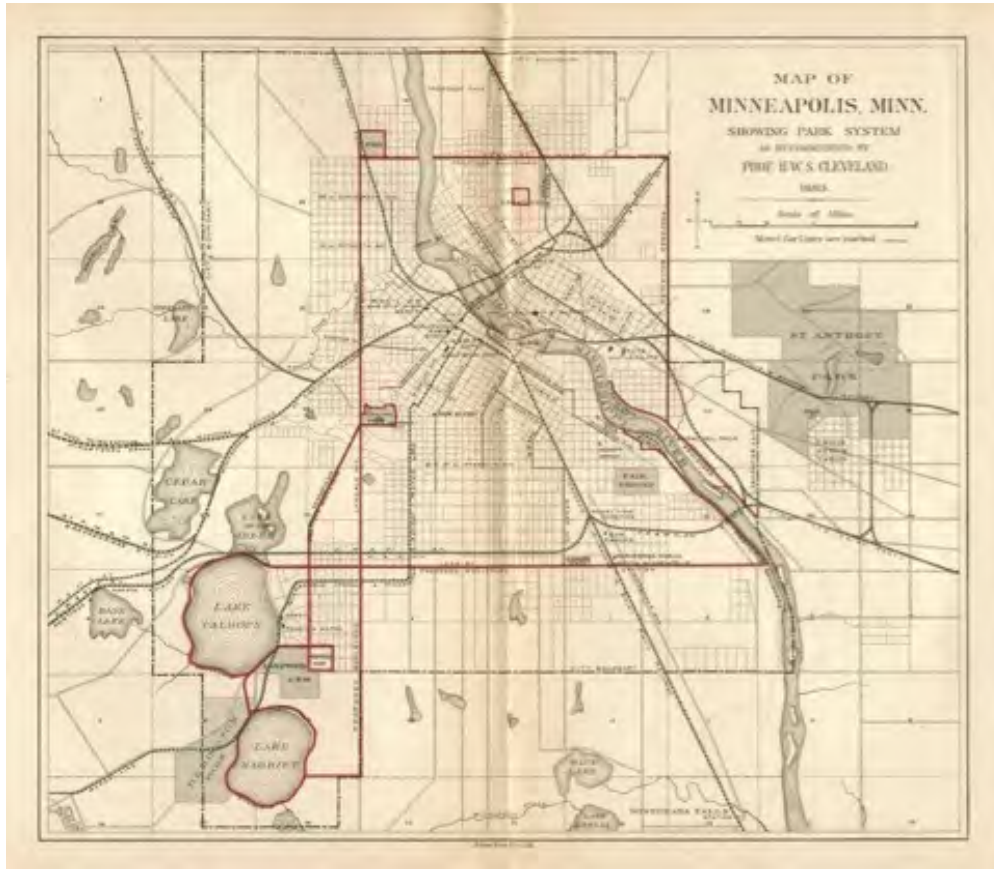


Frederick Law Olmsted and Charles Eliot, *Back Bay Fens*, Boston MA, 1879



# Designing movement

## Choreographing | Connecting the City



Horace W. Cleveland, *Grand Rounds*, Minneapolis MN, 1883



Horace W. S. Cleveland, *Central (Loring) Park*, Minneapolis MN, c.1863



"[There is a]... preference of an extended system of boulevards, or ornamental avenues, rather than a series of detached open areas or public squares."

~Horace W. Cleveland, 1883

# Designing movement

## Choreographing | Connecting the City

You may be asking, "What does *running* have to do with the practice of landscape architecture?"

### RUNNERS' WORLD

Trail Infrastructure for Navigating Extreme Urban Freeway Conditions

Emily Rose Genova Perchlik

A thesis  
submitted in partial fulfillment of the  
requirements for the degree of

Master of Architecture

with a Certificate of Urban Design

University of Washington

From Emily Rose Genova Perchlik, *Runner's World: Trail Infrastructure for Navigating Extreme Urban Freeway Conditions*, MArch Thesis, University of Washington, 2016

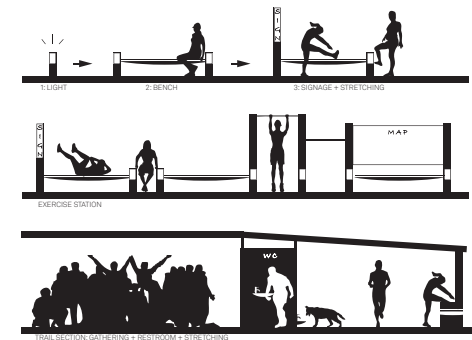
### DESIGN

Your quality of experience is based not on standards such as time or ranking, but on finally awakening to an awareness of the fluidity within action itself.

-Haruki Murakami

### SYSTEM

The design response begins with a kit of parts of a deployable module for installing program along the trail system. The base connector would be installed all along the central spine trail and incorporate lighting to serve as a trail marker day and night. Modules can be attached to these base pieces over time to create spaces for stretching, shelter, and gathering.



# Designing movement

## Choreographing | Connecting the City

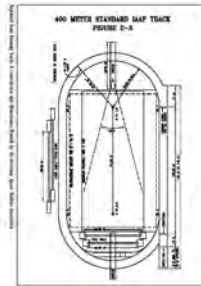


IAAF Track and Field Facilities Manual

2008  
EDITION



### International Standard Track



*The 400-meter standard IAAF track can enclose an American football field, as well as an international soccer field, and still have room for several field events on or in the facility itself.*

line out the starts with dashed lines to keep everyone starting on the straight?

A facility must fit the athletes' needs, as well as the space available. According to Steve Peterson of Sports Turf Company, Inc. in Whitesburg, GA, "An 'equal quadrant' track could certainly be the size that fits into a stadium or on a lot. Although the international track will be preferred, there are limited other configurations that would provide functional usage facility."

"There is no incorrect track configuration as long as it meets the requirements of the association whose rules will govern its use," says Ron Nemech, a retired track builder and former athletic director. "Is the equal quadrant track wrong? No—it is simply outdated. Is the IAAF track more correct? No—it is simply more important to the development of not only facilities to meet the needs of owners of multipurpose sports venues, but also the development of athletes in meeting their full potential. Will change occur again? Most likely, but don't let that influence your decision today."

### Surfacing

By Mary Helen Sprecher

It finally happened. Your school has the funding in place for the track you've always wanted. Now what?

You know you want a 400-meter track suitable for training and competition. Beyond that, there may be some confusion. The following is a primer designed to help you understand the material choices available. Ultimately, various factors such as your site, budget and intended use will influence the decision you make.

An experienced, reputable design professional, contractor or track builder can help you sort through your options and come up with the best plan. However, it is good to go into your first meeting with

an understanding of the choices to be made. The following is an overview of the essentials, including the components of a track and how they come together. For the sake of simplicity, this article assumes that a site has been selected upon and that the track orientation and design are complete.

**What's in a track?**  
According to the American Sports Builders Association's (ASBA) publication, "Running Tracks: A Construction and Maintenance Manual," construction of a track begins with site preparation—grading, compaction and drainage. (For more information, see the following article.) Next comes the installation of a base of crushed aggregate (limestone or gravel) or of processed or recycled asphalt or concrete.

Track Facilities 2008/Issue Two & Three • 9

### Indoor Tracks

and a maximum of eight lanes. Placement of the high jump may be such that the athlete will start his or her run-up on the leading of the end track, provided that the last 5 meters of the run-up are on the level approach to the high jump bar. Others to ensure that the entire run-up is level, the take-off area is placed up against the straight track.

A single facility for the long jump and triple jump is generally placed beside the straight track, with the pole vault next to it on the outside.

The shot put should have a landing area protected by a stop barrier. The landing surface may be covered by any suitable material on which the shot will make an impact but will not bounce.

#### Multi-Sport Facilities

Often an indoor track, whether for competition, training or recreation, will be included in a multi-sport facility, such as a field house.

In the case of a multi-sport arena, make sure all track facilities are built according to the guidelines of the relevant govern-

ment. For example, the common surface for track has a high level of surface friction, which would limit its suitability for other sports. Indoor track surfaces may alter the use of space or may be optimized.

According to Robin Traum of Tardiff Sports Flooring by Corifier in Torrance, France, a multi-sport facility starts with the correct surface for each individual sport.

"Flooring tracks is the most critical part of an indoor athletic facility," says Traum. "To get the most out of everyone entering and leaving the room, walls and slaps on the floor. The floor is the only part of a facility that stays visible everywhere that users go. Its appearance, comfort and performance create impressions that athletes, coaches, spectators and visitors take with them. The right flooring creates a positive image and can be a strong reason for pow-

er return. While poorly selected, improperly maintained and uncomfortable floors lead to negative perceptions and discourage people from coming back."

Surfaces are manufactured for a specific use: track, basketball, tennis, dance and

Factors that must be evaluated when choosing flooring include the types of sports that will be played and how often each will be played, the age and skill level of the players, any non-sporting uses planned (graduations, proms, concerts), the construction, maintenance and oper-



This indoor facility, the Indiana Wesleyan New Indoor Sport Complex, provides track & field athletes an opportunity to train in a variety of disciplines.

ating budgets. How the flooring will respond to temperature and humidity fluctuations and more.

"Look into the small cost versus the life-cycle costs of the flooring types," adds Traum. "Owners tend to see only the initial savings instead of the long-term savings potential. Investing a little more money at the outset usually leads to huge savings in upkeep, energy usage and downtime in the long run."

The pros are adamant about not cutting corners by installing inferior sports surfaces. They also recommend the installation of a top-quality air-handling system. According to Marozzo, "Proper air quality and ventilation are essential for optimal

performance. Carefully choose products that meet the requirements needed and that will address the purpose you have intended," says Marozzo. "Choosing an inappropriate product can lead to disappointment in performance."

Track Facilities 2008/Issue Two & Three • 13

# Designing movement

## Choreographing | Connecting the City | Reclaiming the Streets



SOURCE: FBT I architects <https://fbtarch.com/walk-bike-and-ride-on-complete-streets-day/>

“Running can also be read **as resistance and the growth of the street...** [which has] contested the dominance of the motorised vehicle **and provided a way of claiming back the street for human locomotion.**”

~ John Bale “Running: Running as Working”

# Designing movement

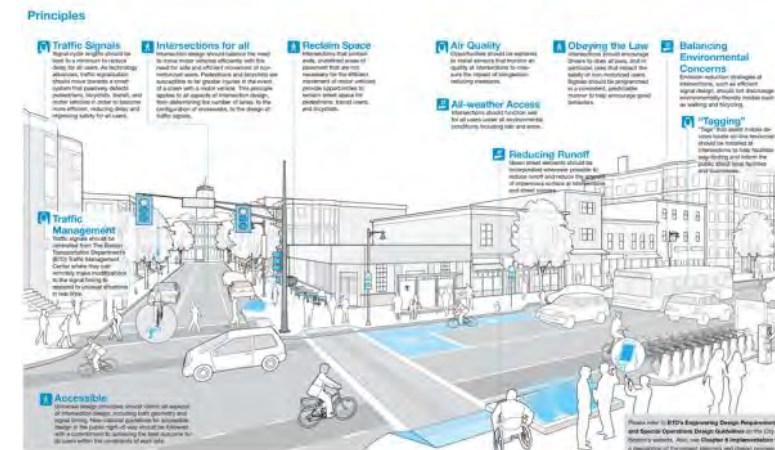
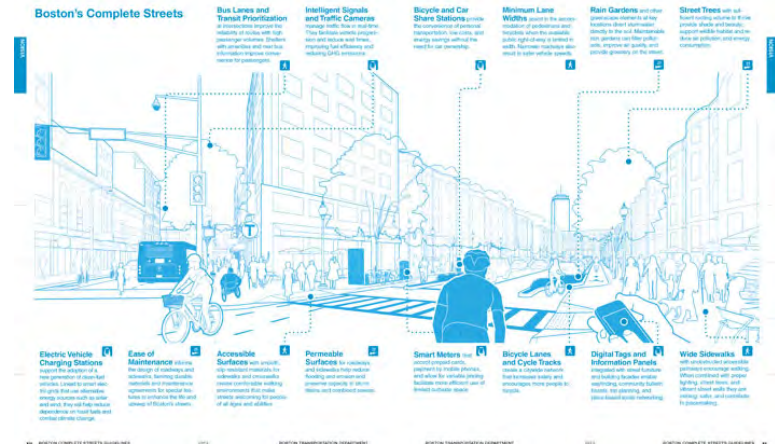
## Choreographing | Connecting the City | Reclaiming the Streets

**"Design is both process and product.** It is the **process of decision making about forms, arrangements, means and ends** which becomes necessary whenever change occurs in our environment. Environment is everything, social as well as physical, that surrounds us and effects us throughout our lives. **Change occurs constantly, in increments of varying scale, and at varying rates of speed.** One typical characteristic of the 20<sup>th</sup> century has been the continuous acceleration of change in our lives."

~ Garrett Eckbo

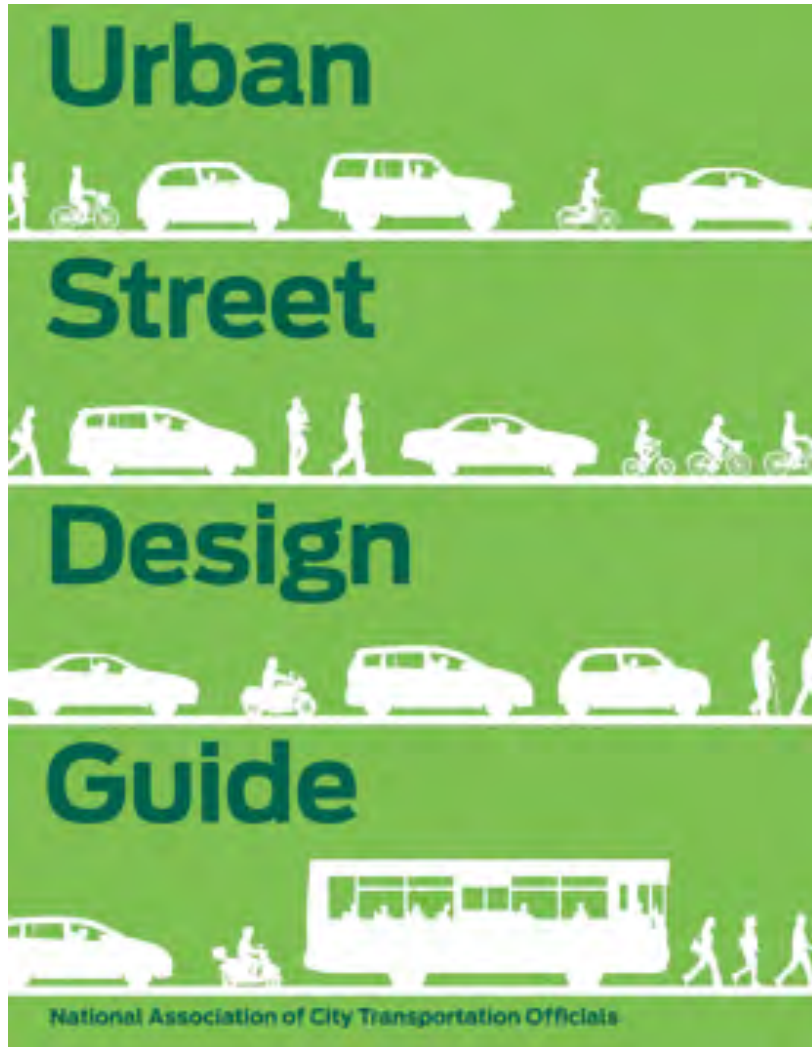
# Designing movement

## Choreographing | Connecting the City | Reclaiming the Streets

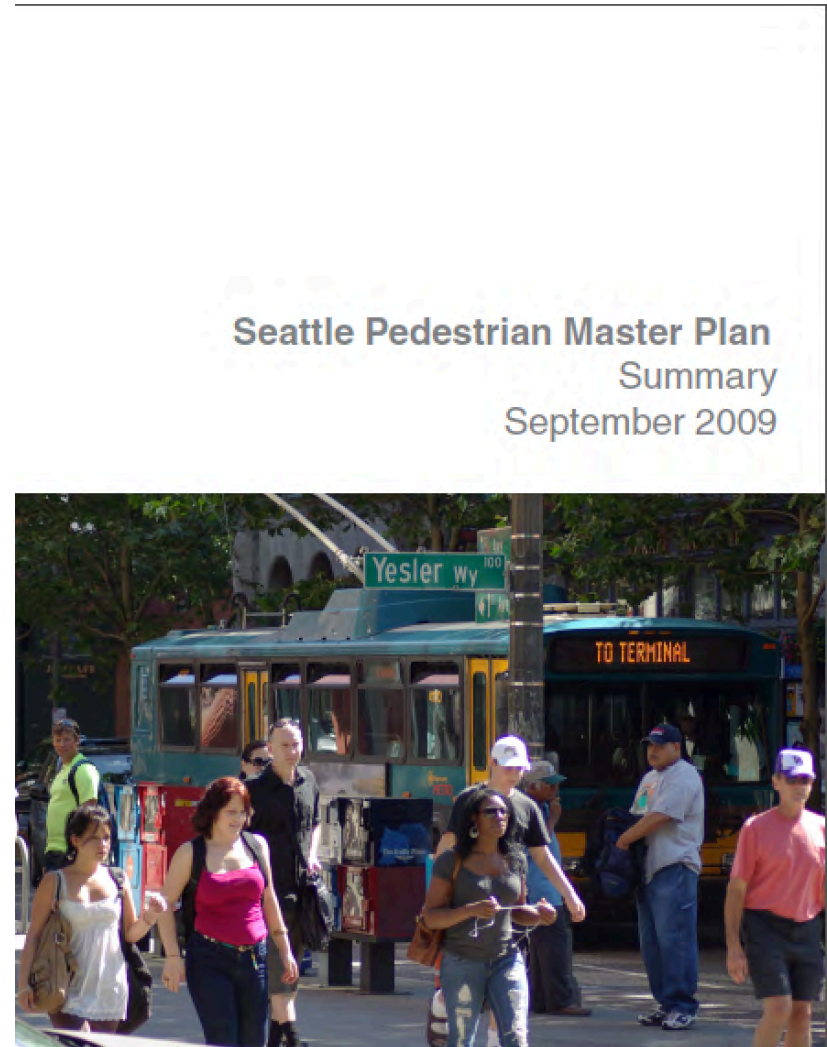


# Designing movement

Choreographing | Connecting the City | Reclaiming the Streets



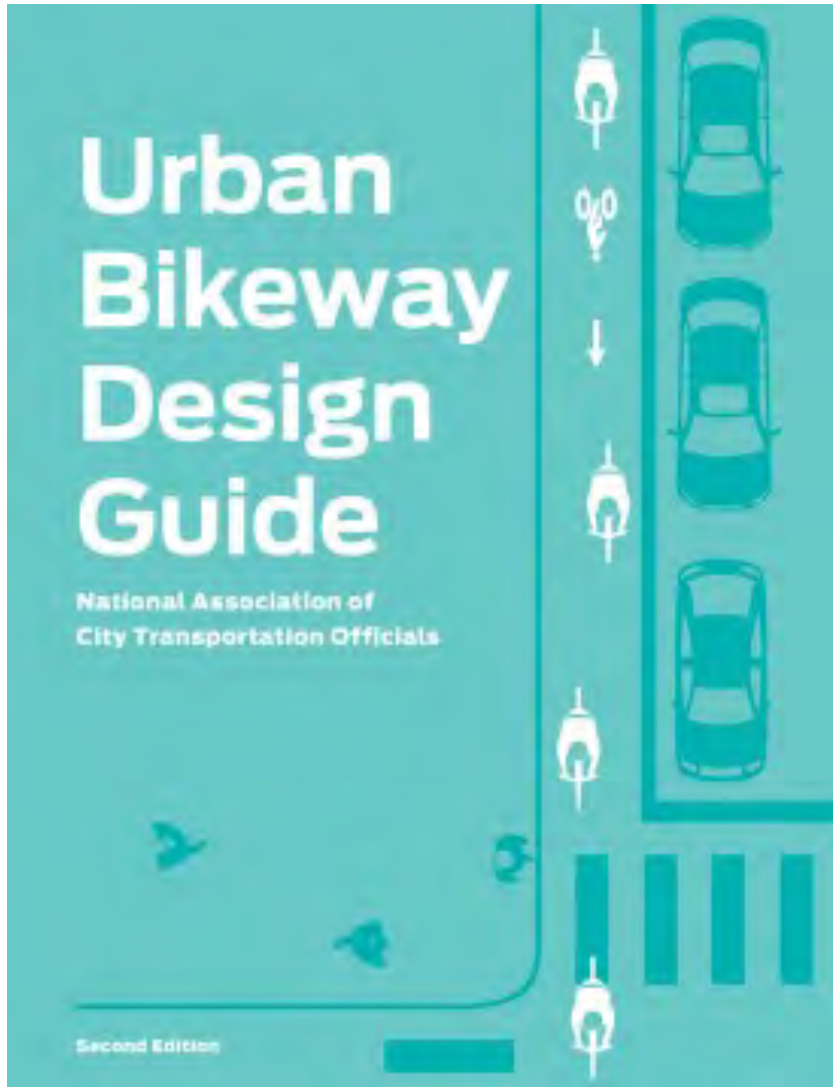
NACTO Street Design Guide



Seattle Pedestrian Master Plan (2009)

# Designing movement

## Choreographing | Connecting the City | Reclaiming the Streets



NACTO Bikeway Design Guidance



Second Avenue Protected Bicycle Lane, Seattle WA



Former Pronto Bike Share, Seattle WA



# Designing movement

## Standards for Running



Jump, Puff.

Jump, jump, jump.

Jump, Puff, jump.

6



Run, Puff.

Run, Puff, run.

Run, run, run.

Jump, jump, jump.

7

# Designing movement

## Standards for Running... Or what do runners need?

From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MSc Thesis, Wageningen University and Research Centre, 2016

### Scene



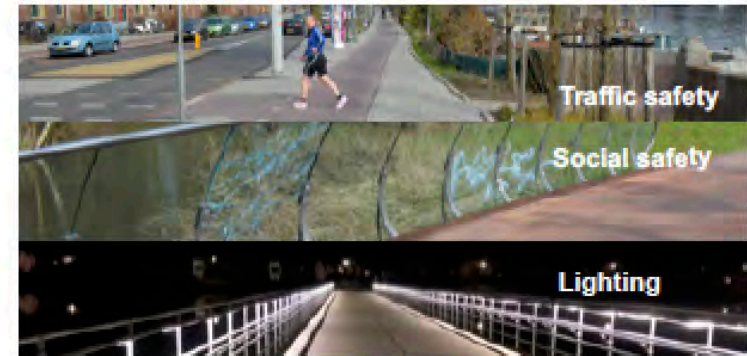
### Nuisance



### Surface



### Safety



### Conditions



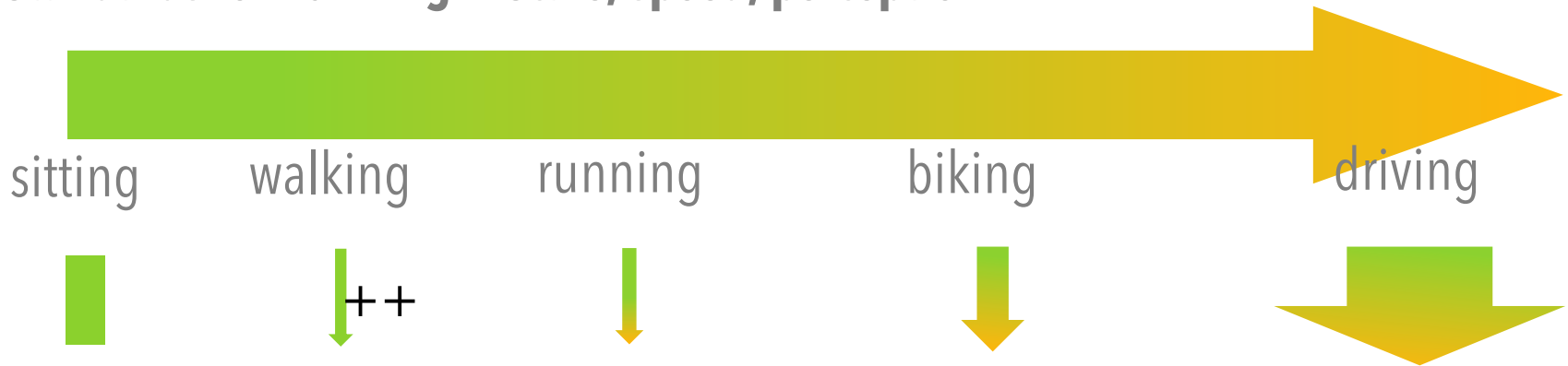
### guidance



Figure 4.1: Spatial running requirements

# Designing movement

## Standards for Running... Scale, speed, perception



"When **running at 10 - 12 km (6 - 7 mph)**, we can still **perceive and process sensory impressions** and thus gain an acceptable **level of control** over the situation, assuming that the **road is even** and the surroundings reasonably easy to comprehend. It is interesting that the running experience largely corresponds to cycling at an ordinary speed of 15 - 20 km/h (9-12 mph)."

~ Jan Gehl, *Cities for People*

# Designing movement

## Standards for Running... Slope and distance

- Running is work
- Running and walking connects us viscerally to the shape of the earth
- Unlike walking environments, where we are designing for full access, runners look for challenges, including grade change
- Running is interface with time, space and material

# Designing movement

## Standards for Running... sight distance and light(ing)

The runner is looking ahead and/or  
looking down

The future is in front, the past is in  
back

Avoid trip hazards—the feet want to  
operate separately from the mind

From Emily Rose Genova Perchlik, *Runner's World: Trail Infrastructure for Navigating Extreme Urban Freeway Conditions*, MArch Thesis, University of Washington, 2016

# Designing movement

## Standards for Running... Surface and texture

# Life

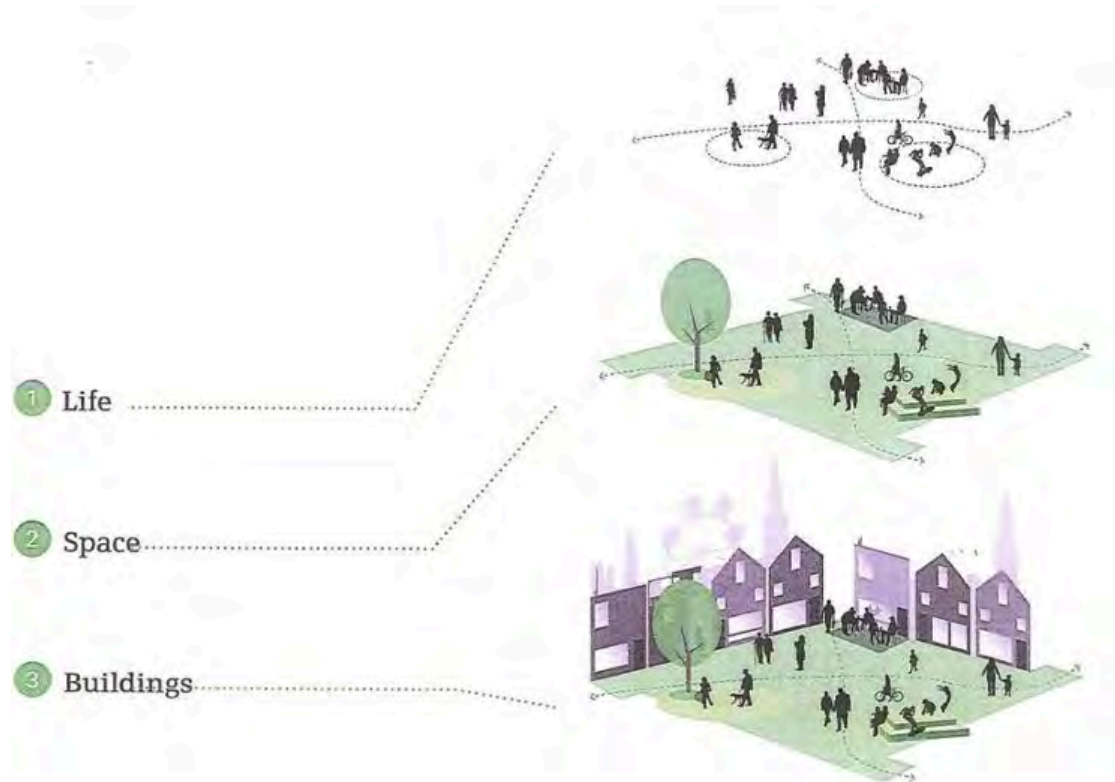
We formulate a vision and a program of activities based on the type of life (activities and attractions) that are inherent in a given area.



# Designing movement

## Standards for Running... Surface and texture

"We know the City when we move through and interact with it when we see it, touch it, and remember the way in which it challenges us."



# Designing movement

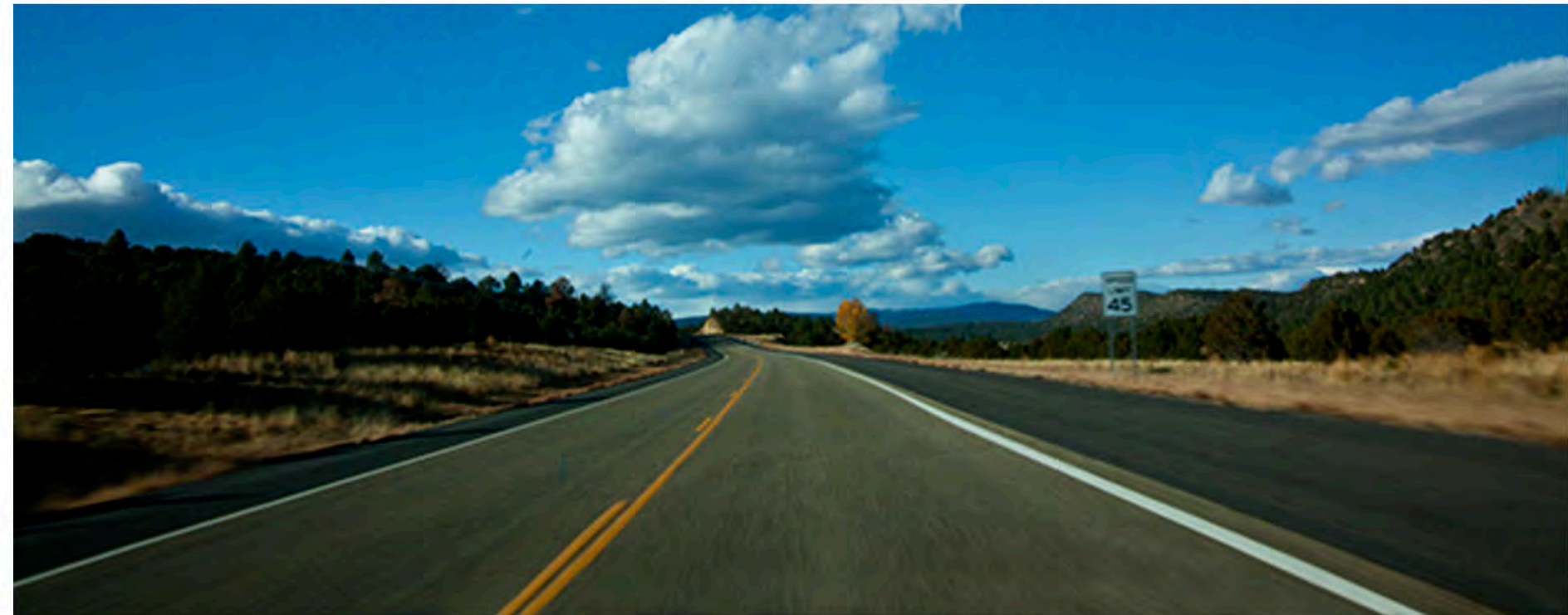
Standards for Running... Surface and texture

## TOP 10 RUNNING SURFACES

Not all running surfaces are created equal - we've rated the top 10, from asphalt to woodland

RUNNER'S  
WORLD

By **Marc Bloom** Posted on June 1, 2002



SOURCE: <https://www.runnersworld.co.uk/health/top-10-running-surfaces>



# Designing movement

## Standards for Running... Surface and texture

"In the summer, when I run mainly on grass, my whole body seems to relax... Concrete sen[ds] shock waves through [my] body and was a surefire route to long-term damage. I'm convinced that if you run on softer surfaces, your career will last longer."

~ Marcus O'Sullivan, professional miler and two-time indoor champion winner mile race,  
"Top 10 Running Surfaces", *Runner's World*

# Designing movement

## Standards for Running... Top 10 Surfaces

### 1. Grass *parks, golf courses, fields and soccer*

- **Pros:** soft and easy on the legs in terms of impact, muscles work harder and builds strength, flat areas provide speedwork surface, open areas that don't demand turns
- **Cons:** uneven, potentially slippery when wet, dangerous for runners with unstable ankles, difficult for runners with allergies, softness can tire legs quickly, private/inaccessible

### 2. Woodland Trails *parks, forest preserves, private acreages*

- **Pros:** Usually easy on the legs, scenic areas that are interesting and repeatable, can be level, longer distances
- **Cons:** uneven, steep, muddy and slippery, tree root trip/slip hazards, may be isolated/unsafe

### 3. Earth *informal/undeveloped paths/trails, eroded routes across playing fields, undeveloped areas*

- **Pros:** medium to soft surfaces decrease the risk of overuse injuries and reduce impact on downhill, interesting/challenging
- **Cons:** Wet, slippery mud, increased risk of injury to calves and Achilles tendons, may be isolated unsafe

### 4. Cinders *running tracks and parks from pre-synthetic era may of fine rock, carbon, ash and slag*

- **Pros:** easier on legs, if well-maintained, provide good, even surface, measured distance on tracks
- **Cons:** in heat becomes loose and slippery, in the rain muddy and wet, new cinder surfaces not built, can be slower than synthetic materials

### 5. Synthetic Track *schools, parks, rec/community centers*

- **Pros:** forgiving surface, easy measurable and timeable surfaces, useful for speedwork
- **Cons:** curves on every lap stress ankles, knees and hips, tedious

### 6. Treadmill *homes, schools, gyms, community centers*

- **Pros:** smooth surface easy on the legs, pace adjustable, external factors such as dogs, wind and bad weather minimized or eliminated, precise level of control for speedwork, accessible to a variety of runners and practical alternative in inclement weather
- **Cons:** hardness of running surface varies between machines, lack of interest running on the spot, without natural breeze treadmill runners tend to sweat profusely. Too expensive for most individual runners, gym membership may be uneconomical

### 7. Asphalt *roadways, bicycle and pedestrian paths and trails, parking lots*

- **Pros:** fastest surfaces, easy to measure distances on it, predictable, even surface that puts less strain on the Achilles tendon than softer or uneven terrains.
- **Cons:** potential cambers, pot-holes, traffic and unforgiving surface that strains body.

### 8. Sand *beaches, dunes, volleyball courts*

- **Pros:** provide deep muscle work out and resistance training with risk of injury and impact to joints, can run barefoot, potentially pleasant environments (beach, lake side), firm sand near water's edge
- **Cons:** softness can pose higher risk of Achilles tendon injury, tilt (camber) of surface puts uneven stresses on the body, potential for blisters and injury from foreign objects, limited to shorter distances

### 9. Concrete *roads, sidewalks, parking lots*

- **Pros:** easily accessible, very flat
- **Cons:** most shock of any surface to a runner's legs, up to 10 times as hard as asphalt, trip hazards, conflicts with other sidewalk users

### 10. Snow *northern, alpine conditions*

- **Pros:** forces slow pace beneficial for muscles recovering from injury, opportunity to be outside and moving
- **Cons:** slippery, with slush, ice and frozen footprints creating unpredictability due to hidden objects, unstable surface and lack of visibility

# Designing movement

## Standards for Running... Engaging Infrastructure

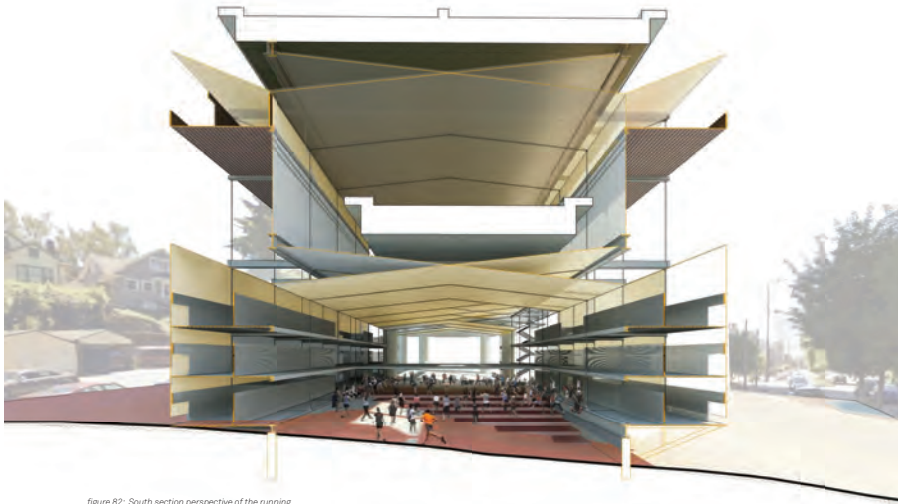


Figure 82: South section perspective of the running station

85



84

"Running Station" from Emily Rose Genova Perchlik, *Runner's World: Trail Infrastructure for Navigating Extreme Urban Freeway Conditions*, MArch Thesis, University of Washington, 2016

# Designing movement

Standards for Running... Fostering community



# Designing movement

Standards for Running... Fostering community

## Flying Bike Co-op Brewery RUN CLUB!

Home

Members

Photos

Discussions

More

Join us!



Seattle, WA

Founded Feb 21, 2016

Flying Bike RUN CLUB Runners 564

Group reviews 2

Upcoming Meetups 10

Past Meetups 62

# Designing movement

## Standards for Running... Technology and Mobility



Altra Torin IQ powered by iFit running shoe with embedded sensors to measure distance, pace, etc. **SOURCE:** Shape <http://www.shape.com/topics/technology>

**SOURCE:** <https://www.strava.com/>



AVERAGE ELEVATION OF RUN



89m  
MALE

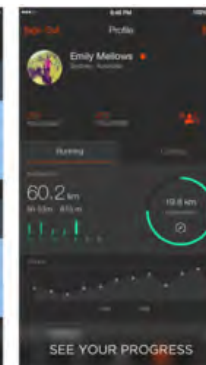
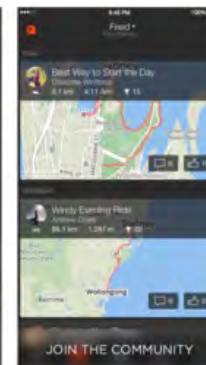
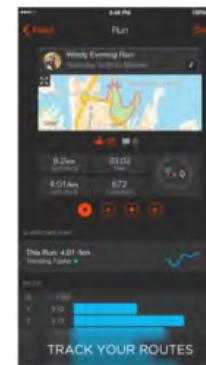
63m  
FEMALE

AVERAGE DISTANCE OF RUN



8.5km  
MALE

7km  
FEMALE



**Designing a  
runner  
friendly city**  
Case Study



# **Running Amsterdam**

**Designing a runner friendly city**

**Mart Reiling & Thijs Dolders**  
MSc thesis Landscape Architecture  
Wageningen University  
2015

# Designing a runner friendly city

## Case Study

### Design Goals

- Create healthier cities
- Provide convincing slow traffic networks that are:
  - Recognizable
  - Uninterrupted
  - Fine-grained
  - Clear start/stop locations
  - Specific or measurable distances
  - Tranquility
  - Vibrancy
  - Safety
  - Limited nuisance

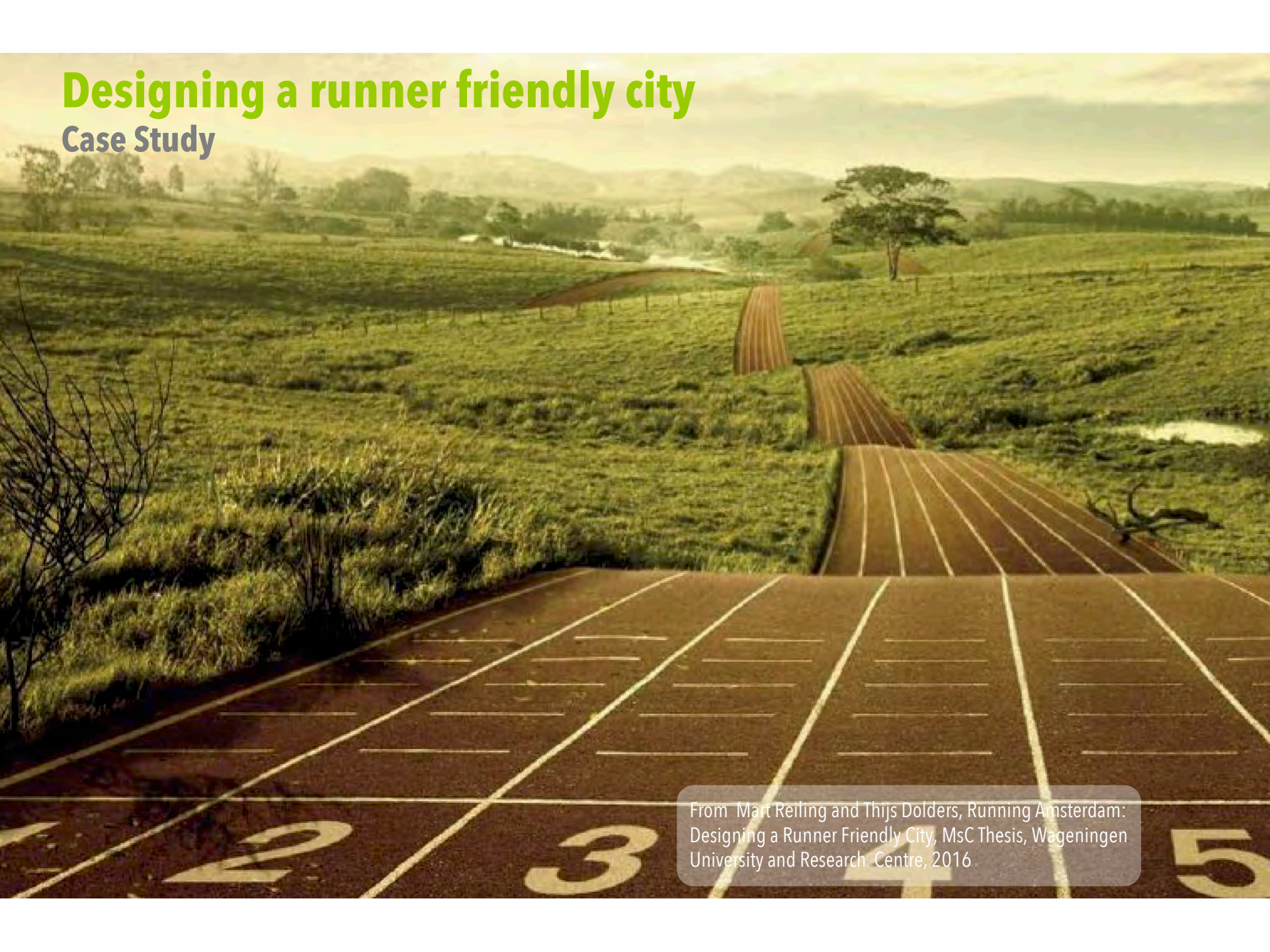
~ From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MsC Thesis, Wageningen University and Research Centre, Netherlands, 2016

From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MsC Thesis, Wageningen University and Research Centre, 2016



# Designing a runner friendly city

## Case Study

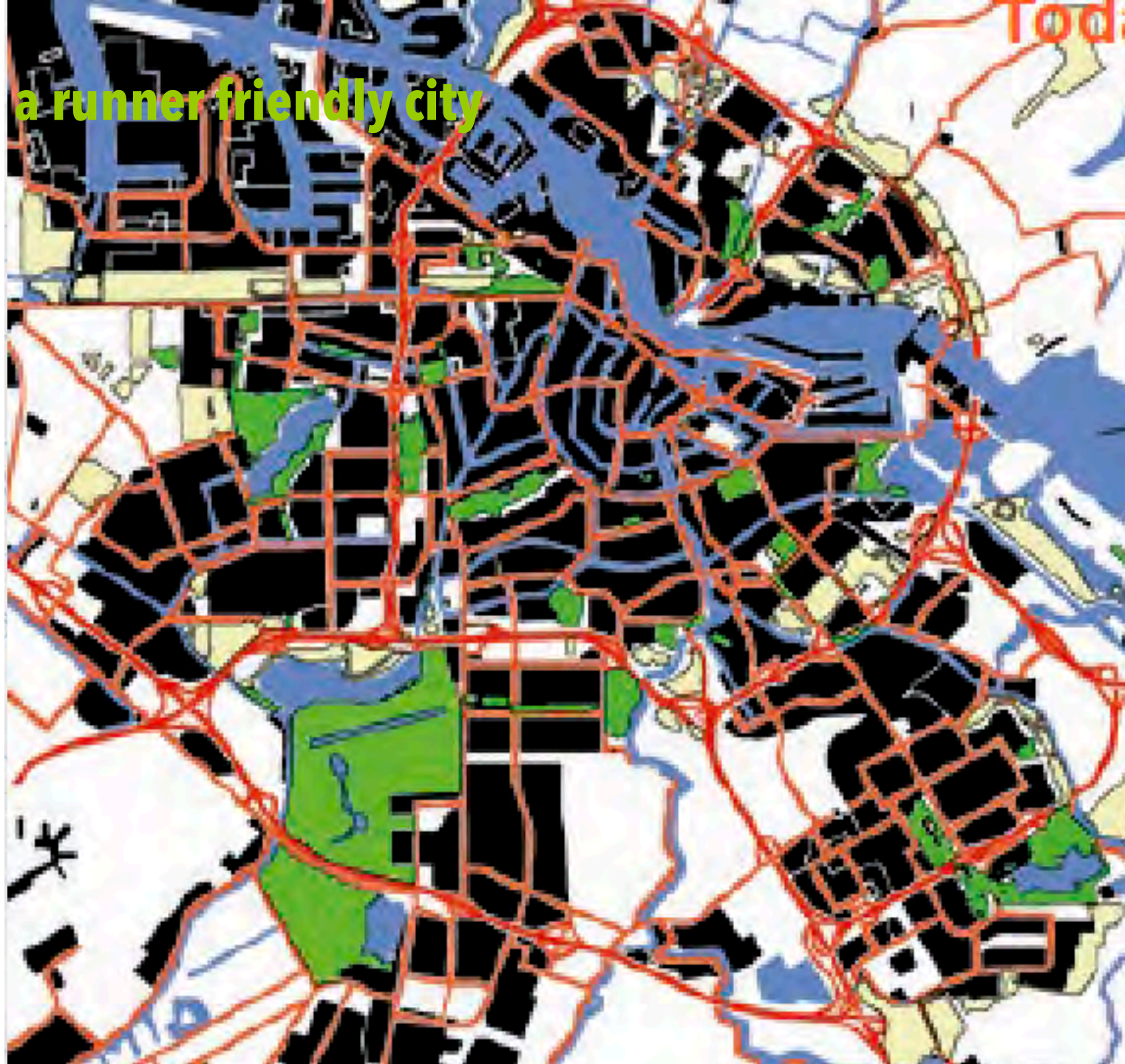


From Mart Reiling and Thijs Dolders, Running Amsterdam: Designing a Runner Friendly City, MsC Thesis, Wageningen University and Research Centre, 2016.

# Designing a runner friendly city

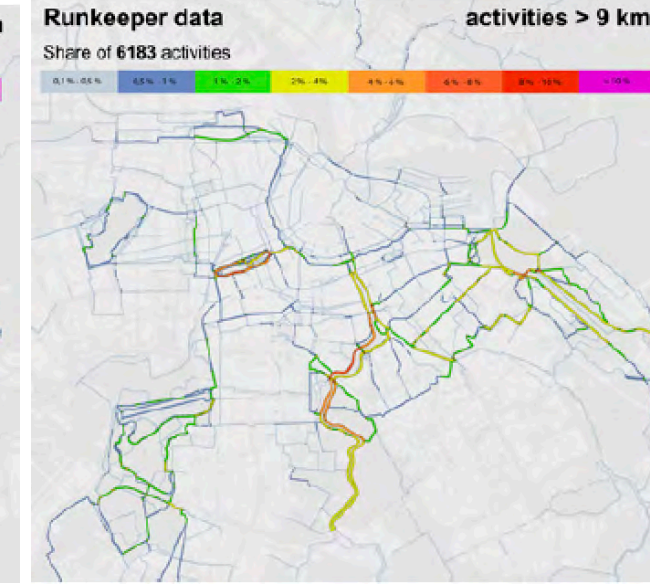
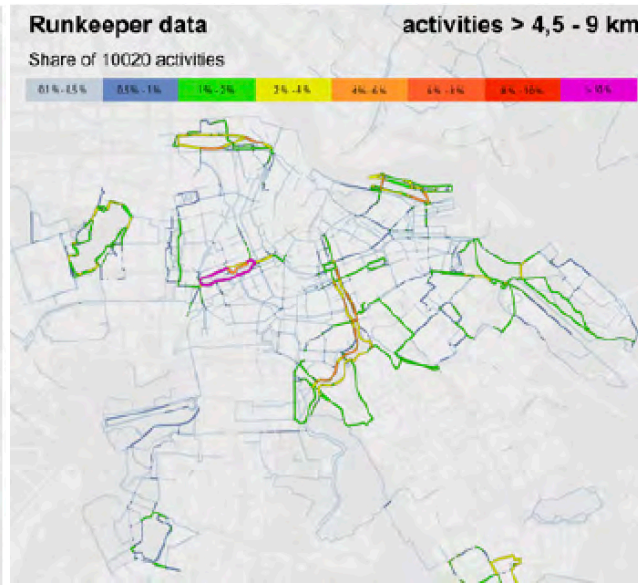
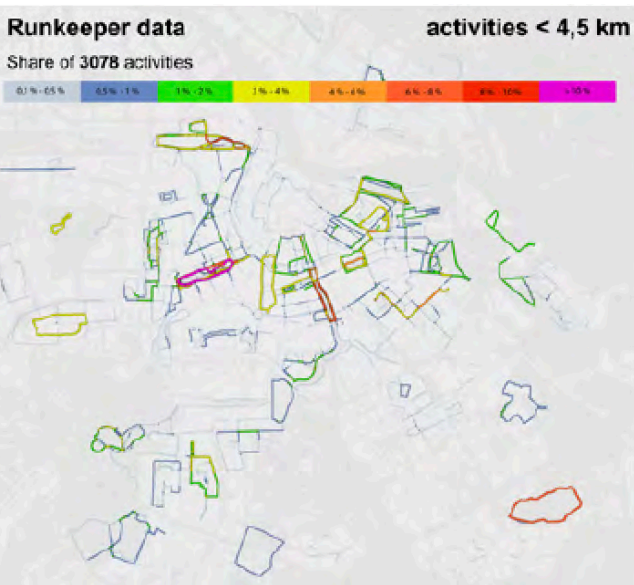
## Case Study

From Mart Reiling and  
Thijs Dolders, *Running  
Amsterdam: Designing a  
Runner Friendly City*, MSc  
Thesis, Wageningen  
University and Research  
Centre, 2016



# Designing a runner friendly city

## Case Study



From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MSc Thesis, Wageningen University and Research Centre, 2016

# Designing a runner friendly city

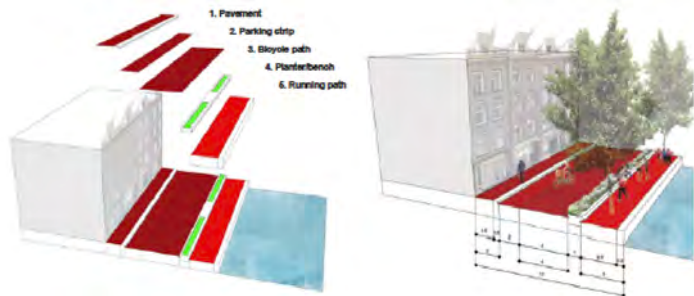
## Case Study



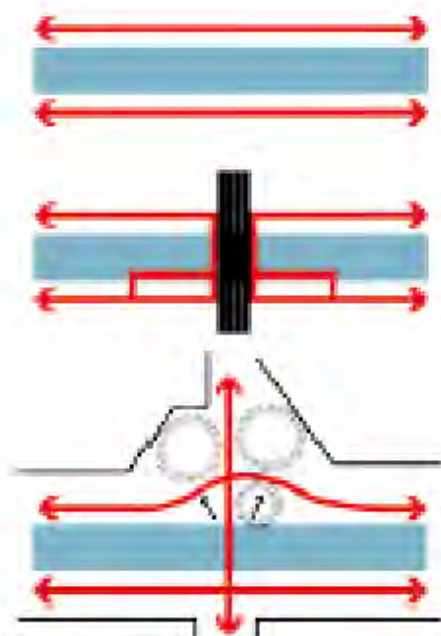
From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MSc Thesis, Wageningen University and Research Centre, 2016

# Designing a runner friendly city

## Case Study



From Mart Reiling and Thijs Dolders, *Running Amsterdam: Designing a Runner Friendly City*, MsC Thesis, Wageningen University and Research Centre, 2016



# Thank you!



# Questions?

[HOME](#) [A.P.P.L.E](#) [REGISTRATION](#) [GENERAL RACE INFO](#) [SUPPORT](#) [RACE RESULTS](#)



April 23, 2017

Spokane River Run, Sunday, April 23, 2017 <http://spokaneriverrun.com/>

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