

european healthcare design

enriched environments

Tye Farrow

Farrow Partners

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enriched environments


birth, death & resurrection wellness

can space
cause physiological &
psychological health?

**bolster attention, memory,
learning & the quality of
social interaction?**

activate optimal health





Study: “Coffee cues elevate arousal and reduce level of construal”; journal *Consciousness and Cognition*.
Eugene Y. Chana, Sam J. Maglio, University of Toronto, 2019

looking at coffee
causes brain to be
alert & attentive

similar chemically
to physiological
effect of actually
drinking coffee









Study: "Smell the Roses:
Exposure to Fast Food Impedes Happiness."
Julian House, Sanford E. DeVoe, Chen-Bo Zhong
University of Toronto, 2013



symbols of
impatience culture
undermines ability to:

- experience happiness
- produces negative consequences for how experience pleasurable events



psychological effect
called priming

subtle exposure to clues
influences our
subconscious thought
how we think & react
to what we see



why is this relevant?

**. . . to what
& how we build?**

environmental health



environmental health

physical health

physical health



Introduction to LEED

LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn points to achieve different levels of certification. Prerequisites and credits differ for each rating system, and teams choose the best fit for their project.

5 Rating systems

<h3>BD+C</h3> <p>BUILDING DESIGN + CONSTRUCTION New Construction Core & Shell Schools Retail Healthcare Data Centres Hospitality Warehouses & Distribution</p>	<h3>ID+C</h3> <p>INTERIOR DESIGN + CONSTRUCTION Commercial Interiors Retail Hospitality</p>	<h3>O+M</h3> <p>OPERATION + MAINTENANCE Existing Buildings Data Centres Warehouses & Distribution Hospitality Schools Retail</p>	<h3>ND</h3> <p>NEIGHBOURHOOD DEVELOPMENT New land developments Land Redevelopment Residential Mixed Use Commercial Industrial</p>	<h3>HOMES</h3> <p>HAUS Single Homes Low Rise Multi Unit Mid Rise Multi Unit</p>
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Credit Categories

Each rating system is made up of a combination of credit categories.

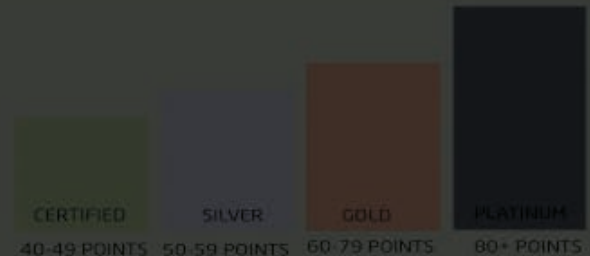
Within each of the credit categories, there are specific prerequisites projects must satisfy and a variety of credits projects can pursue to earn points. The number of points the project earns determines its level of LEED certification.

INTEGRATIVE PROCESS Encouraging cross discipline collaboration	LOCATION & TRANSPORTATION Access to variety of transport and/or credit for constrained sites	MATERIALS & RESOURCES Using sustainable materials & reducing waste	WATER EFFICIENCY Smart use and reuse of water	ENERGY & ATMOSPHERE Energy Performance	SUSTAINABLE SITES Minimising impact on ecosystems & water resources	INDOOR ENVIRONMENT Indoor air quality & access to natural light & views	INNOVATION	REGIONAL PRIORITY Geographic environmental priorities



LEED is administered by the US Green Building Council. For information on the scheme go to www.usgbc.com

The Ratings



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5 Rating systems


BD+C LEED Building Design + Construction New Construction Core & Shell Schools Retail Manufacturing	ID+C LEED Interior Design + Construction Commercial Interiors Retail Hospitality	O+M LEED Operations + Maintenance Existing Buildings Data Centres Warehouses & Distribution Hospitality Academics	ND LEED Neighborhood Development New land developments Land Redevelopment Residential Mixed Use Commercial	HOMES LEED Homes Single Homes Low Rise Multi Unit Mid Rise Multi Unit
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LEED Building Certification Living Building Challenge Fitwel Rating System

Delos WELL Building Standard NYC Active Design Guidelines



INTEGRATIVE PROCESS
Encouraging cross discipline collaboration



LOCATION & TRANSPORTATION
Access to variety of transport and/or credit for constrained sites



INNOVATION

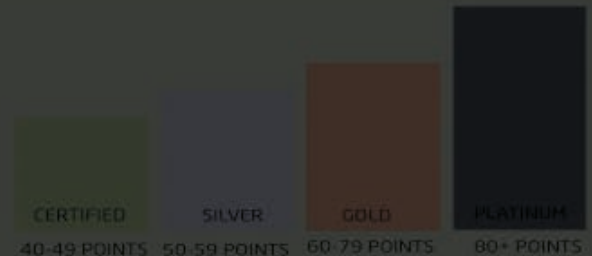


REGIONAL PRIORITY
Geographic environmental priorities



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The Ratings



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5 Rating systems

BD+C DESIGN + CONSTRUCTION New Construction Core & Shell Schools Retail Healthcare Data Centres Hospitality Warehouses & Distribution	ID+C INTERIOR DESIGN + CONSTRUCTION Commercial Interiors Retail Hospitality	O+M OPERATION & MAINTENANCE Existing Buildings Data Centres Warehouses & Distribution Hospitality Schools Retail	ND NEIGHBOURHOOD DEVELOPMENT New Land Developments Land Redevelopment Residential Mixed Use Commercial Industrial	HOMES RESIDENTIAL BUILDING Single Homes Low Rise Multi Unit Mid Rise Multi Unit
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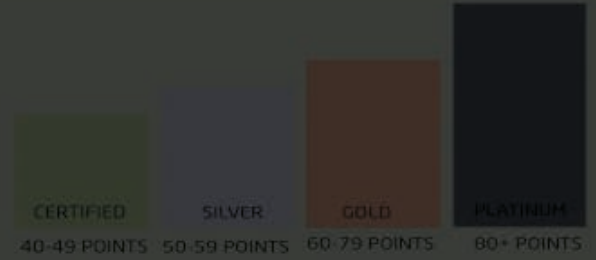
standard of care

 <p>INTEGRATIVE PROCESS Encouraging cross discipline collaboration</p>	 <p>LOCATION & TRANSPORTATION Access to variety of transport and/or credit for constrained sites</p>	 <p>MATERIALS & RESOURCES Using sustainable materials & reducing waste</p>	 <p>WATER EFFICIENCY Smart use and reuse of water</p>	 <p>ENERGY & ATMOSPHERE Energy Performance</p>	 <p>SUSTAINABLE SITES Minimising impact on ecosystems & water resources</p>	 <p>INDOOR ENVIRONMENT Indoor air quality & access to natural light & views</p>	 <p>INNOVATION</p>	 <p>REGIONAL PRIORITY Geographic environmental priorities</p>
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The Ratings







hardware



operating system







mind health

A glowing blue wireframe brain with neural connections, set against a black background. The brain is rendered in a semi-transparent, wireframe style, showing the intricate network of neural pathways and the overall structure of the brain. The color is a vibrant, slightly cyan blue, giving it a futuristic and scientific appearance.

neuroscience + architecture





cognitive ↔ pre-cognitive

physiological ↔ psychological

thrive

**bolster attention, memory,
learning & the quality of
social interaction**



NO PARKING
WELCOME
CUSTOMERS
PLEASE USE ONLY
THE DESIGNATED
PARKING SPACES
FOR CUSTOMERS
ONLY

space isn't neutral





causes health







erodes health

Context



Wellness: holistic view of what causes health


3,000 BC




2018

Pathogenic

Wellness



Disease care




Holistic health

Reacting


Causing




Preventative


Proactive


Predictive


Activating

3,000 BC Traditional Chinese Medicine



TCM applies a holistic perspective to achieving health & wellbeing, by cultivating harmony in one's life



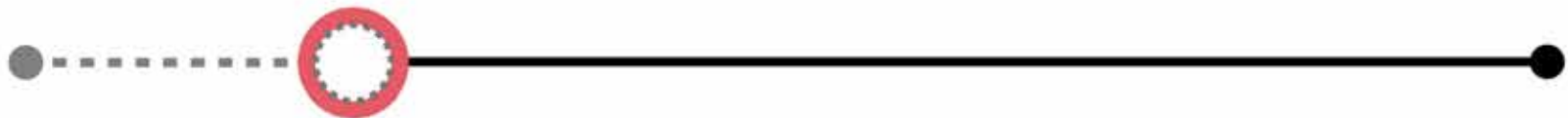
500 BC Ancient Greek - Hippocrates



Focus on preventing sickness vs treating disease
diet, lifestyle & environmental



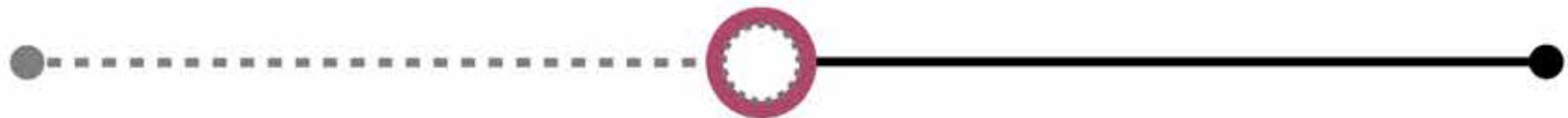
50 BC Ancient Roman Medicine



Preventing spread of disease
public health: aqueducts, sewers & public baths



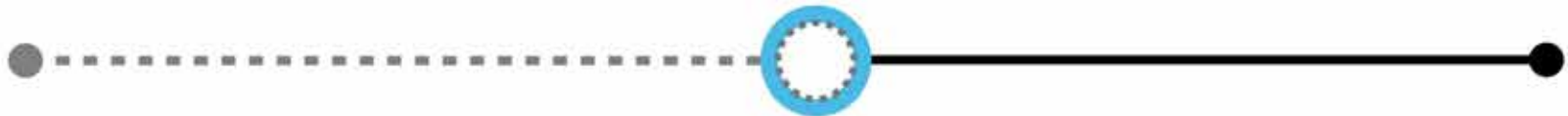
1600 – 1800's Wellness Concept Established



'State of well-being'
rise of homeopathy, hydrotherapy, herbalism,
exercise, nutrition, balanced fruit/veg diets,
osteopathy, chiropractic,
naturopathy - body self-healing, message therapy,
detoxification
spiritual arthrosophysical medicine



1854 London England Cholera Epidemic



John Snow English physician who discovered medical hygiene - connected the dots between the handle of a water well & spread of the disease of those that used it



1870 Germ Theory Established



Louis Pasteur discovery
foundations of 'modern' western medicine



1910 Carnegie Foundation Flexner Report



Critique of North American medical education
questioned all forms of medicine other than
bio-medical
sets stage for disease oriented evidenced based
medicine all other forms of medical education
ostracized



1940's Rise of Chronic Disease



Reduced daily physical exertion
Marketing of tobacco
Changing food quality
Car-centric suburbs
'Common source epidemic'



1960-70's Birth of Wellness Movement



1960-Halbert L Dunn: "High-level Wellness"
1970's: Travis, Ardell, Hettler: comprehensive
wellness assessment tools, wellness centres &
National Wellness Institute



1971 Antonovsky Identifies 'Origins of Health'



Salutogenesis salus-health, genesis-origins

Sense of coherence

comprehensibility can understand events in your life & can anticipate future

Manageability

have the skills, support to take care of things; a sense of control

Meaningfulness

things are interesting, satisfying & a reason & purpose

Sense of purpose - most important determinant of health outcomes

1980-2014 Wellness Goes Mainstream



'wellness' enters the collective psyche & vocabulary
workplace wellness programs (\$40 bn industry-9% 3 bn wf)
fitness/spa, healthy diet, living, travel industries rapid growth
chronic disease crisis - unsustainable healthcare costs
diminishing healthcare workforce
governments shift focus to screening & prevention strategies
Harvard, Yale & Mayo Med Cntrs' shift to 'Integrative Medicine'



2014 – 2017 Growth of Global Wellness Economy



2014 first Global Wellness Economy Monitor report
measures size of global wellness economy
industries enabling wellness activities & lifestyles into daily life
2015 global healthcare expenditures \$7.3 trn
2015 wellness economy \$3.7 trn
2017 wellness economy \$4.2 trn - 6.4% growth annually
5.3% of global economic output
annually growth rate 2x global economic growth of 3.6%

Global Wellness Institute



2018 Health Acceleration



causing health by accelerating the physiological & psychological conditions of optimal health



accelerate
optimal health?

how can space
accelerate
optimal health?

architecture

is like

food

architecture
is like
food

Manners Maketh M
John L. "Jack" Wright

This above all: to thine own self
William Shakespeare

I am the master of my fate; I am the captain
William Ernest Henley

Next to trying and winning, the best thing
L. B. Sargent
The best portion of a good man's life; his little, namel
William Lloyd Garrison

enrich
mind, body
& soul

starve them

**...full of 'empty calories'
that cause chronic disease,
depression & boredom**





food conscious:

where it's from
how it made
how it nourishes

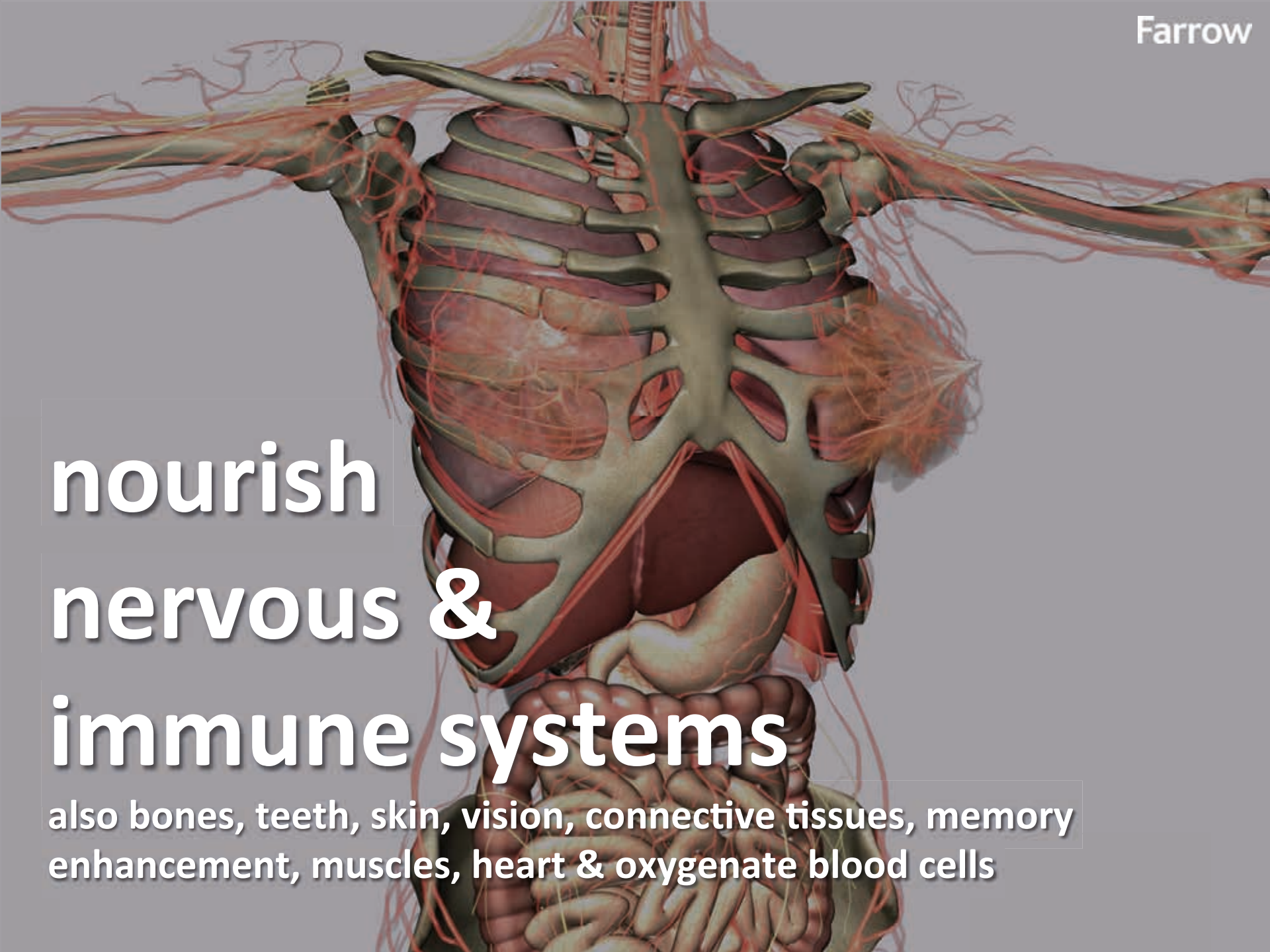


'super foods' eclipse all others



**packed with
minerals & vitamins**

A, B, C, D & minerals; iron, calcium & magnesium



nourish nervous & immune systems

also bones, teeth, skin, vision, connective tissues, memory enhancement, muscles, heart & oxygenate blood cells

**Neuroscientists:
environment alters
& enhances our capacity for thought**

**creating, concentrating
& social engagement**

... heighten
... or suppresses
emotions & behaviour

enriched environments: architectural 'super vitamins'

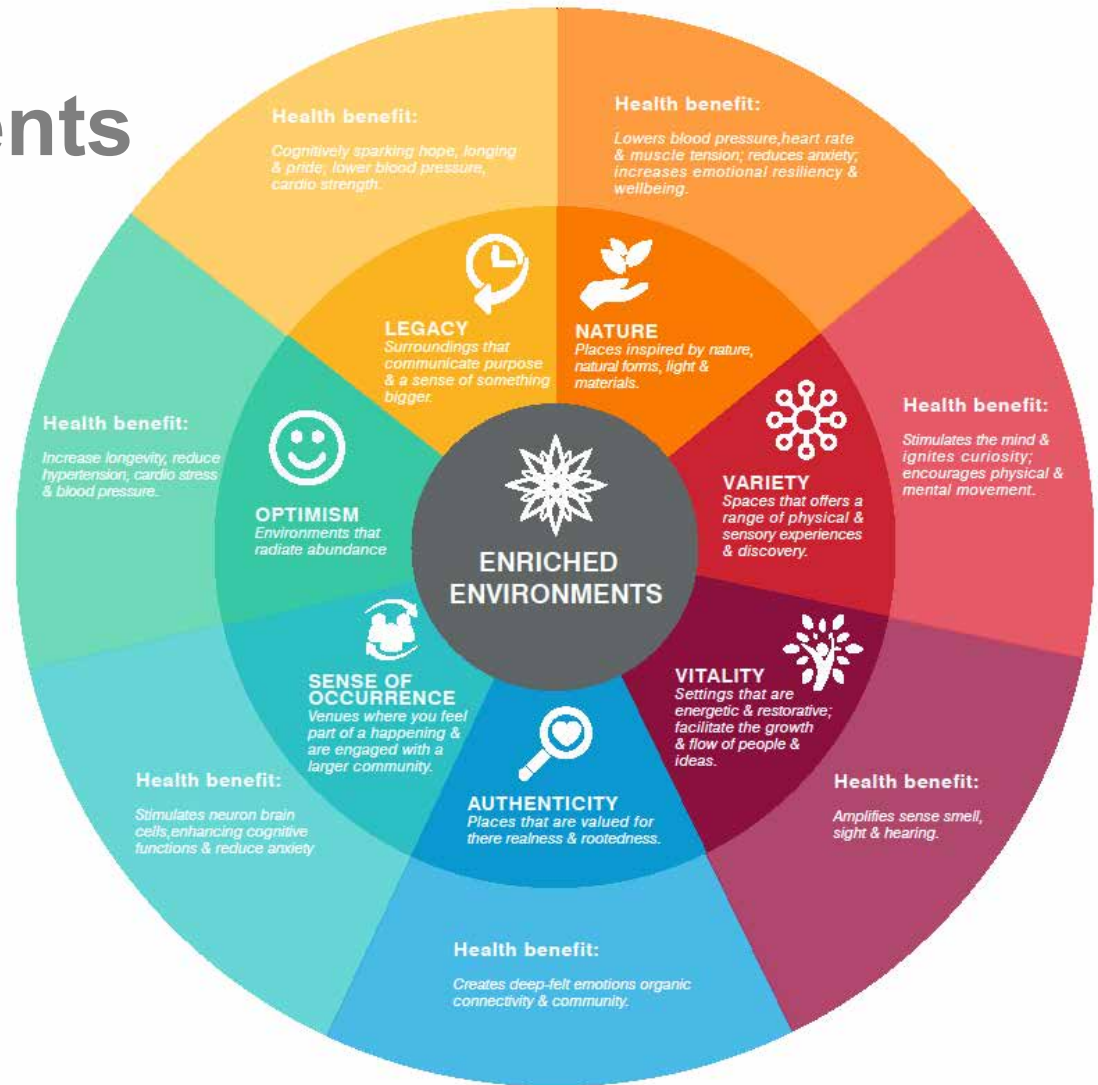


... intrinsic components
**that simulate brains'
biological & chemical
operating systems**

improves health
measured through
**neurological, physiological, psychological
& sociological feedback**



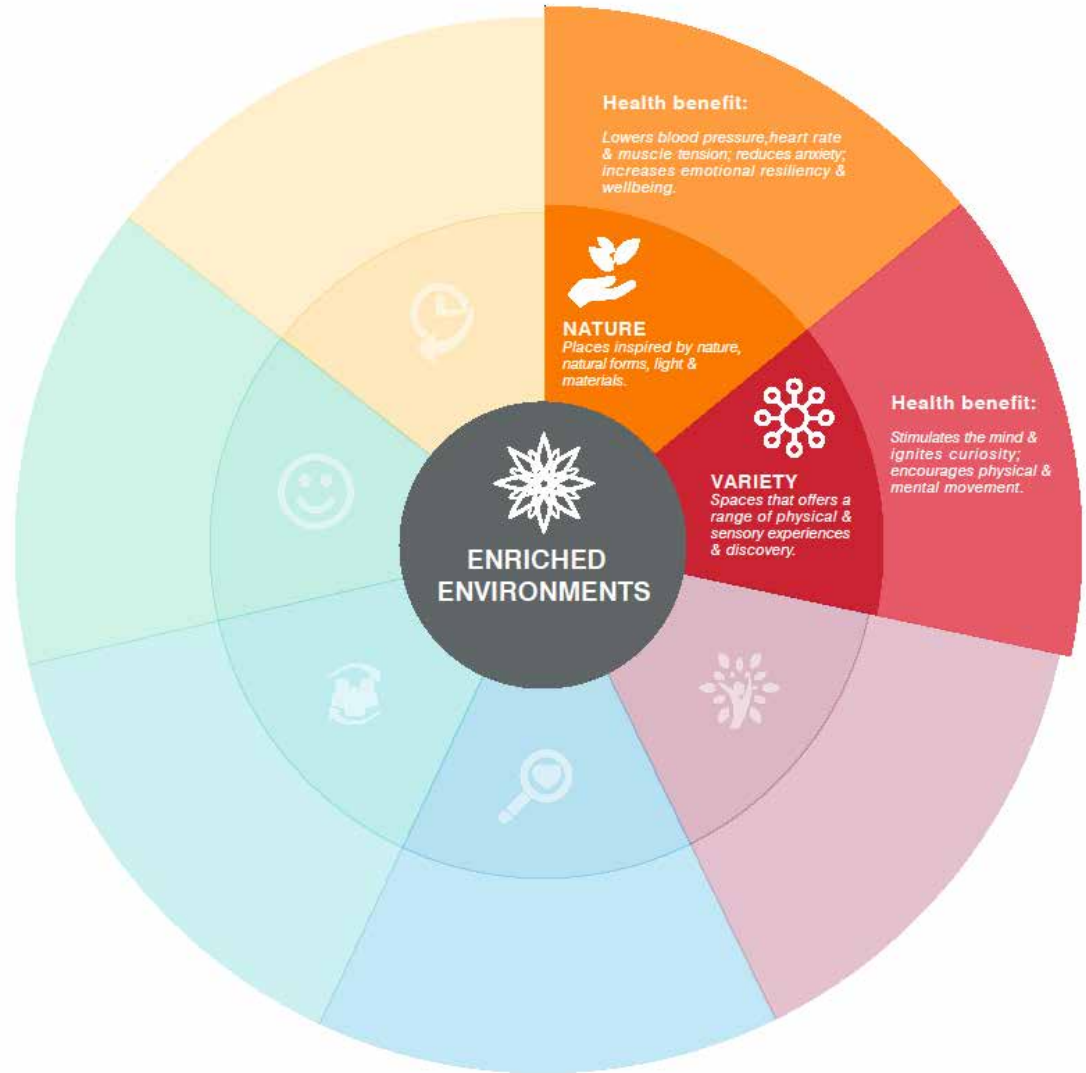
common elements



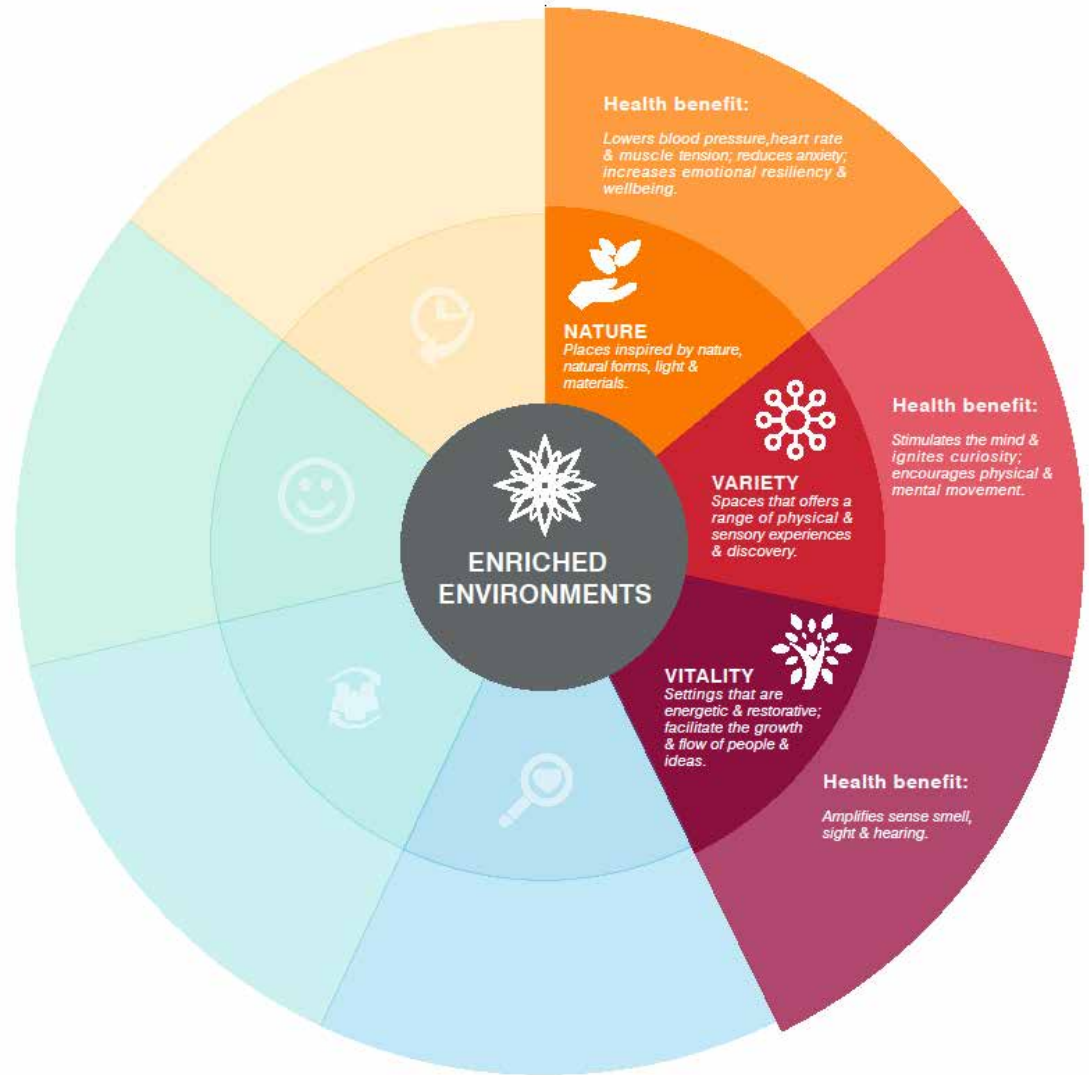
nature



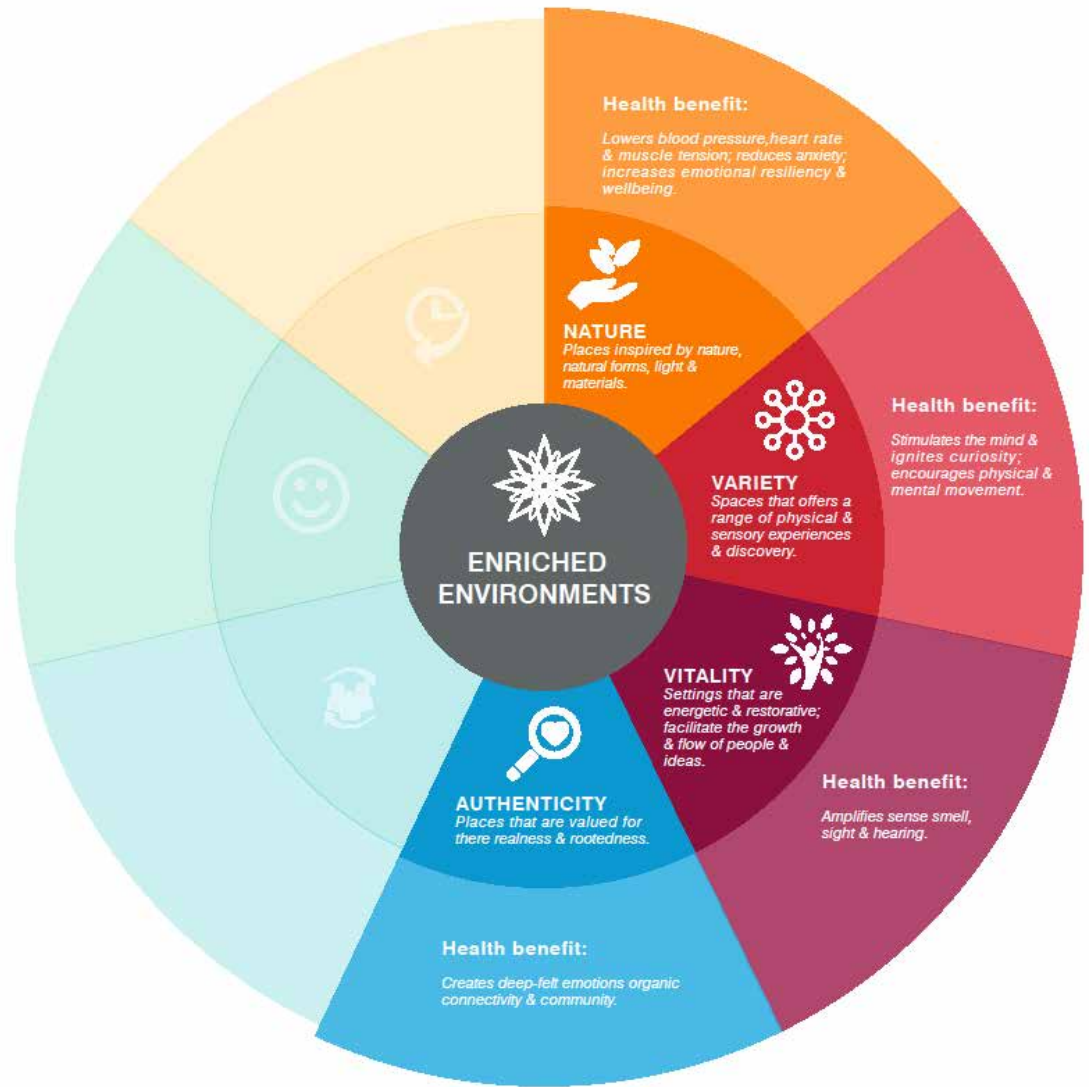
nature variety



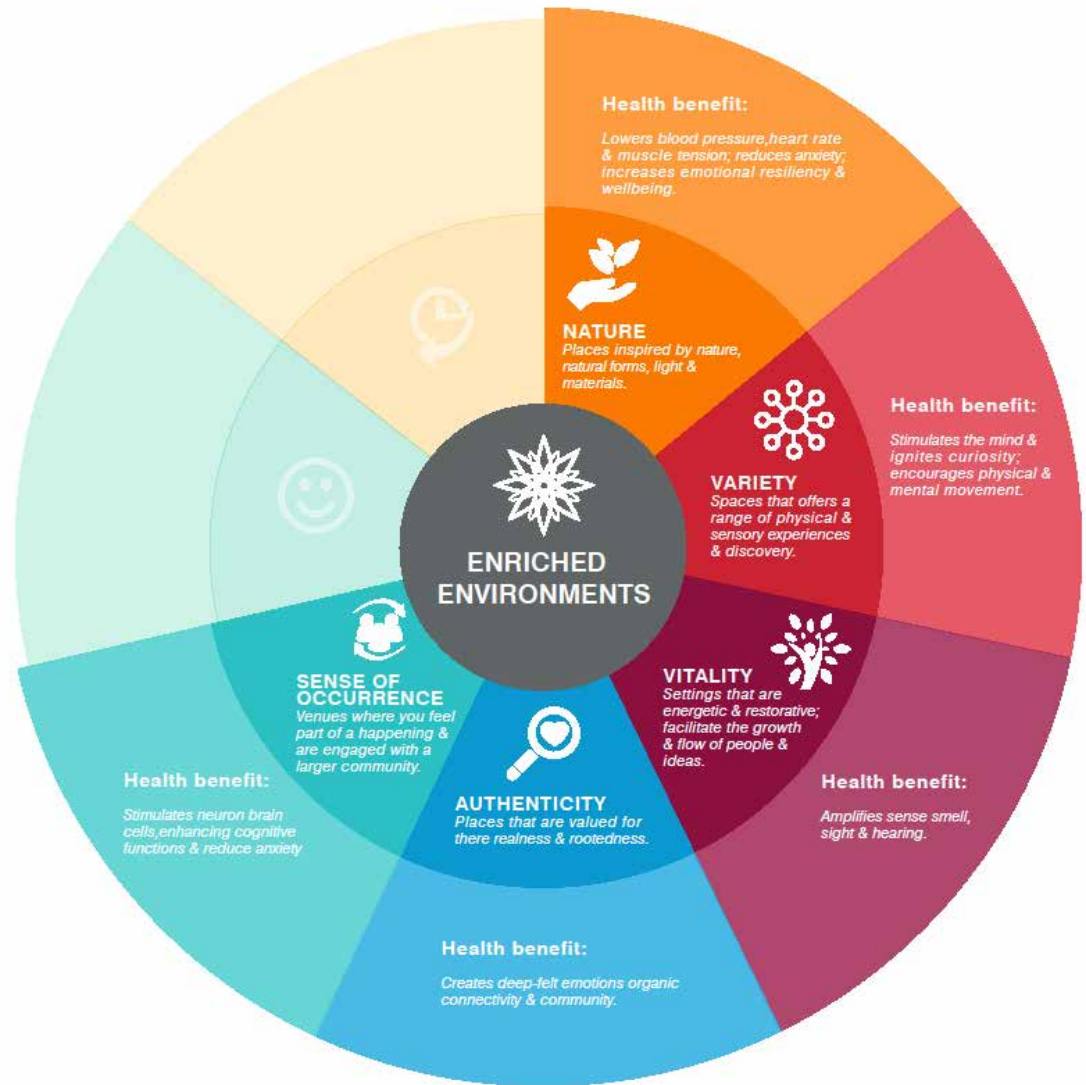
nature
variety
vitality



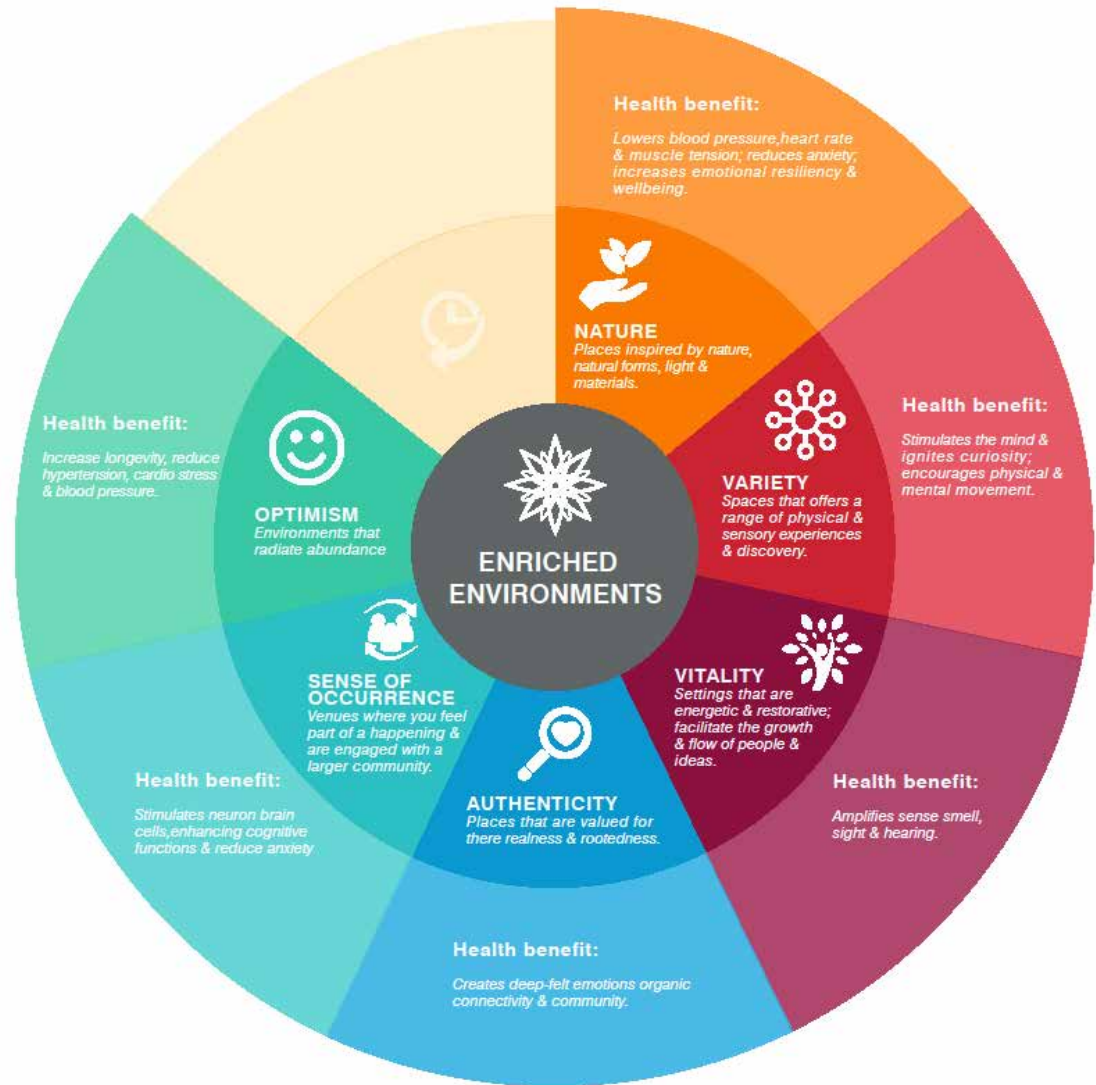
nature
 variety
 vitality
 authenticity



nature
 variety
 vitality
 authenticity
 sense of
 occurrence



nature
 variety
 vitality
 authenticity
 sense of
 occurrence
 optimism



nature
 variety
 vitality
 authenticity
 sense of
 occurrence
 optimism
 legacy



nature
 variety
 vitality
 authenticity
 sense of
 occurrence
 optimism
 legacy







nature

A black and white photograph of a large, mature tree with a wide, spreading canopy, standing in a grassy field. The tree is the central focus, with its trunk and branches clearly visible. The background shows a rolling landscape with other trees and a clear sky.

nature

places inspired by nature
natural forms, light & materials

health benefit

lowers blood pressure, heart rate & muscle tensions; reduces anxiety; increases emotional resiliency & wellbeing

A large, leafy tree stands in a field, its branches spreading wide. The tree is the central focus of the image, with its dense foliage filling much of the upper and middle portions of the frame. The background shows a rolling landscape with other trees and a clear sky.

nature

places inspired by nature
natural forms, light & materials



Credit Valley Hospital, Farrow Partners



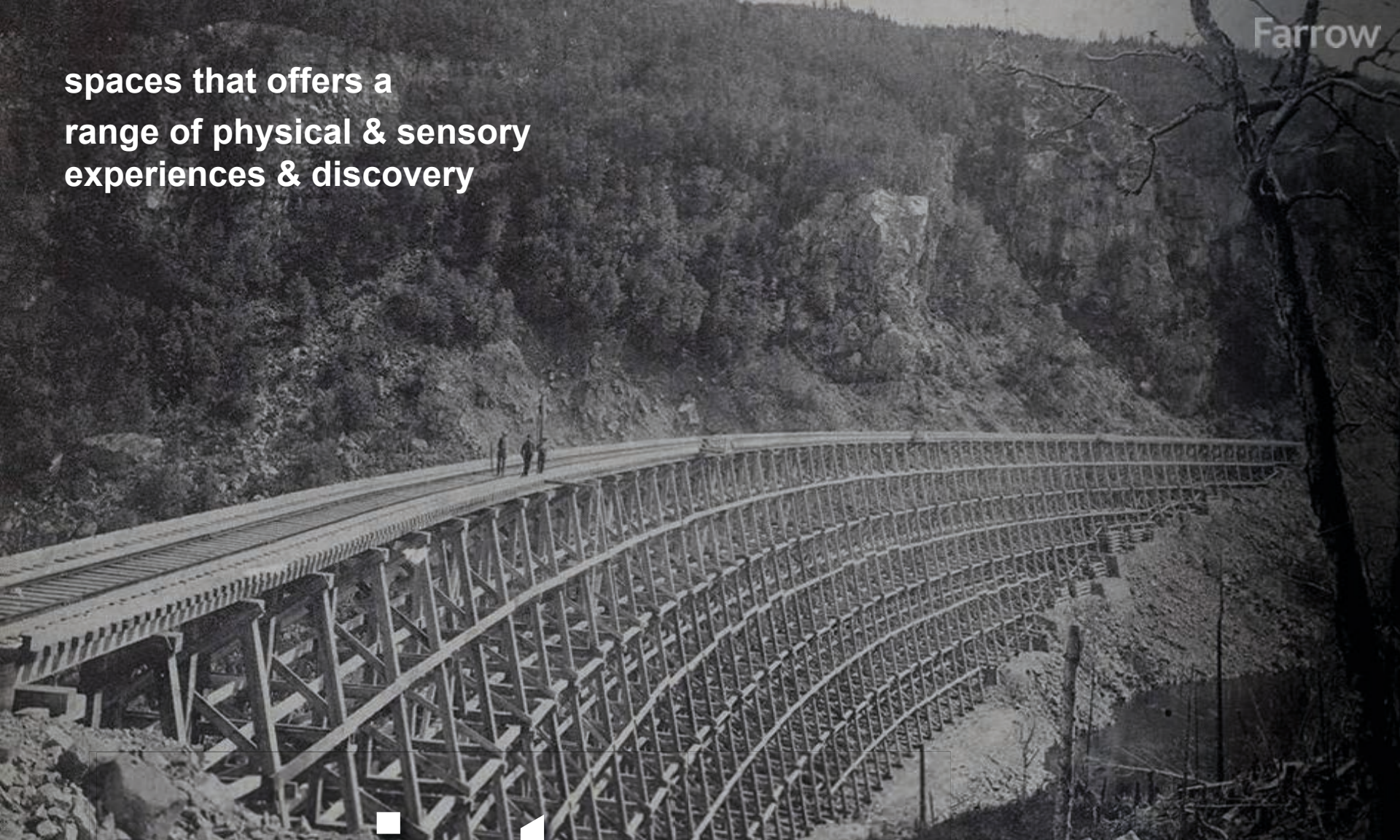


Credit Valley Hospital, Farrow Partners



variety

spaces that offers a
range of physical & sensory
experiences & discovery



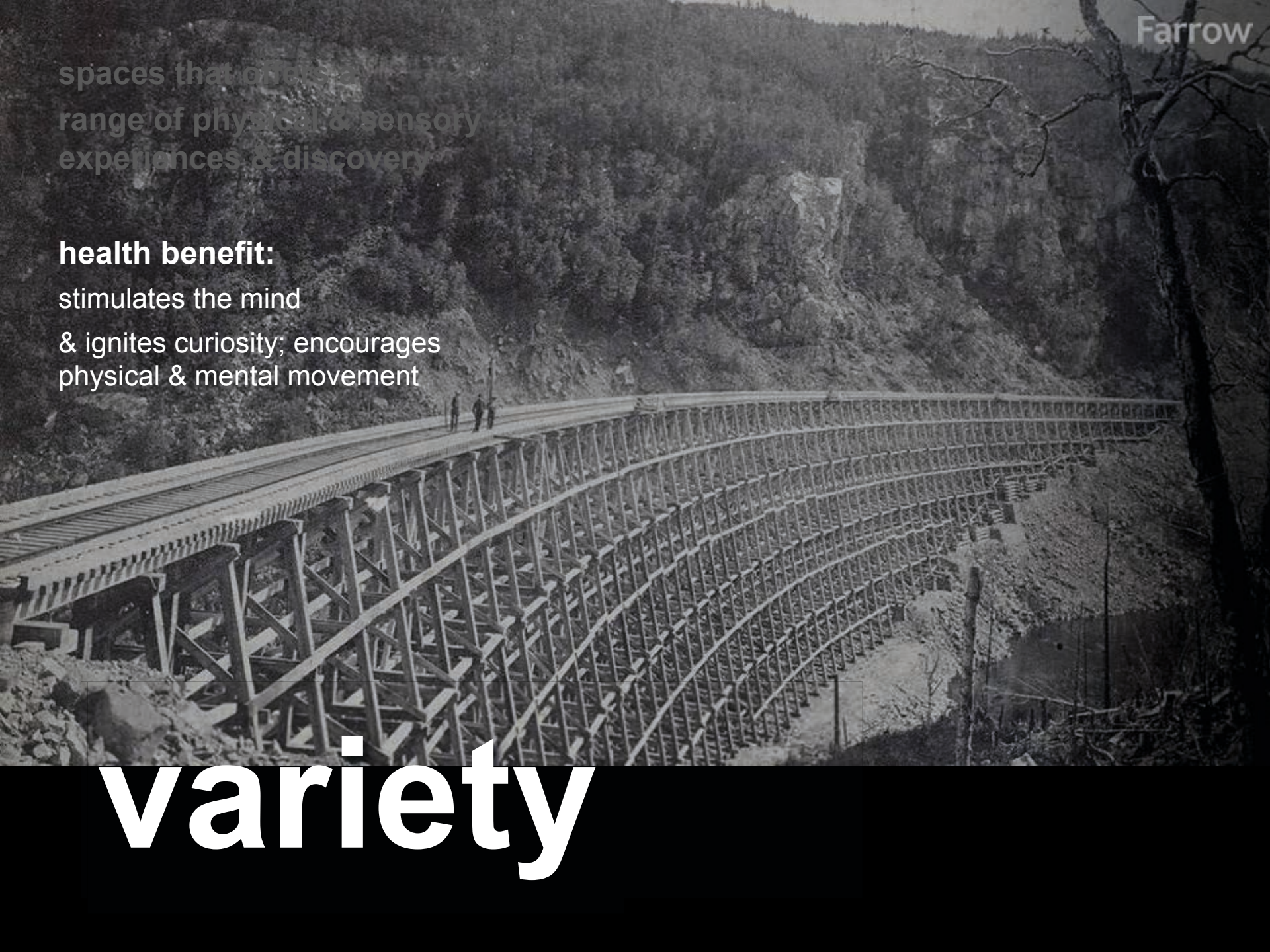
variety

spaces that offers a
range of physical & sensory
experiences & discovery

health benefit:

stimulates the mind

& ignites curiosity; encourages
physical & mental movement



variety



Thunder Bay Health Sciences Centre, Farrow Partners & Salter Pilon



Thunder Bay Health Sciences Centre, Farrow Partners & Salter Pilon



Thunder Bay Health Sciences Centre, Farrow Partners & Salter Pilon



Thunder Bay Health Sciences Centre, Farrow Partners & Salter Pilon



vitality

**settings that are energetic
& restorative; facilitate the
growth & flow of people
& ideas**



vitality

health benefit:
amplifies senses, smell,
sight & hearing

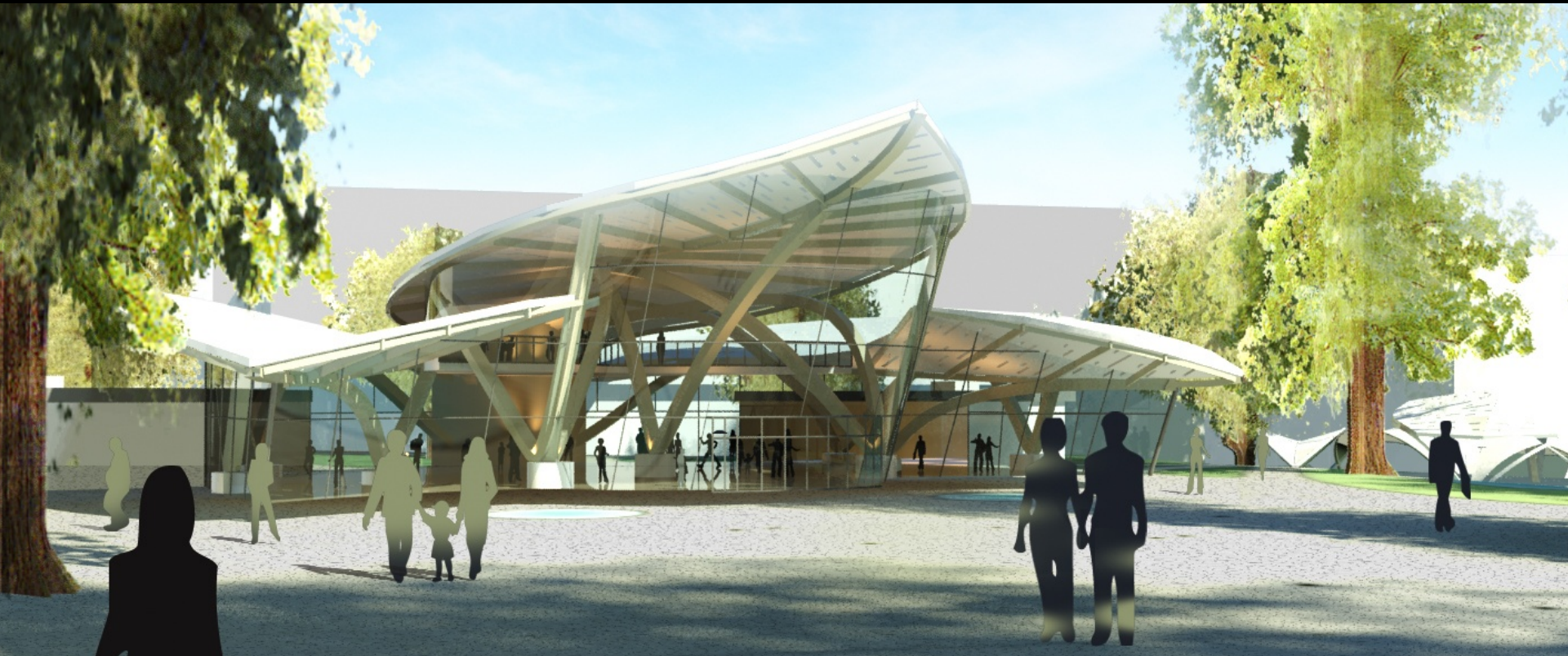


vitality



Kaplan Medical Centre, Farrow Partners & Avi Gordon Architects







authenticity

places that are valued
for their realness &
rootedness

authenticity



Places that are valued
for their realness &
rootedness

health benefit:

creates deep-felt emotions;
organic connectivity & community

authenticity



St. Mary's Hospital
Main Entrance

Sechelt Medical Centre, Farrow Partners & Perkins Will

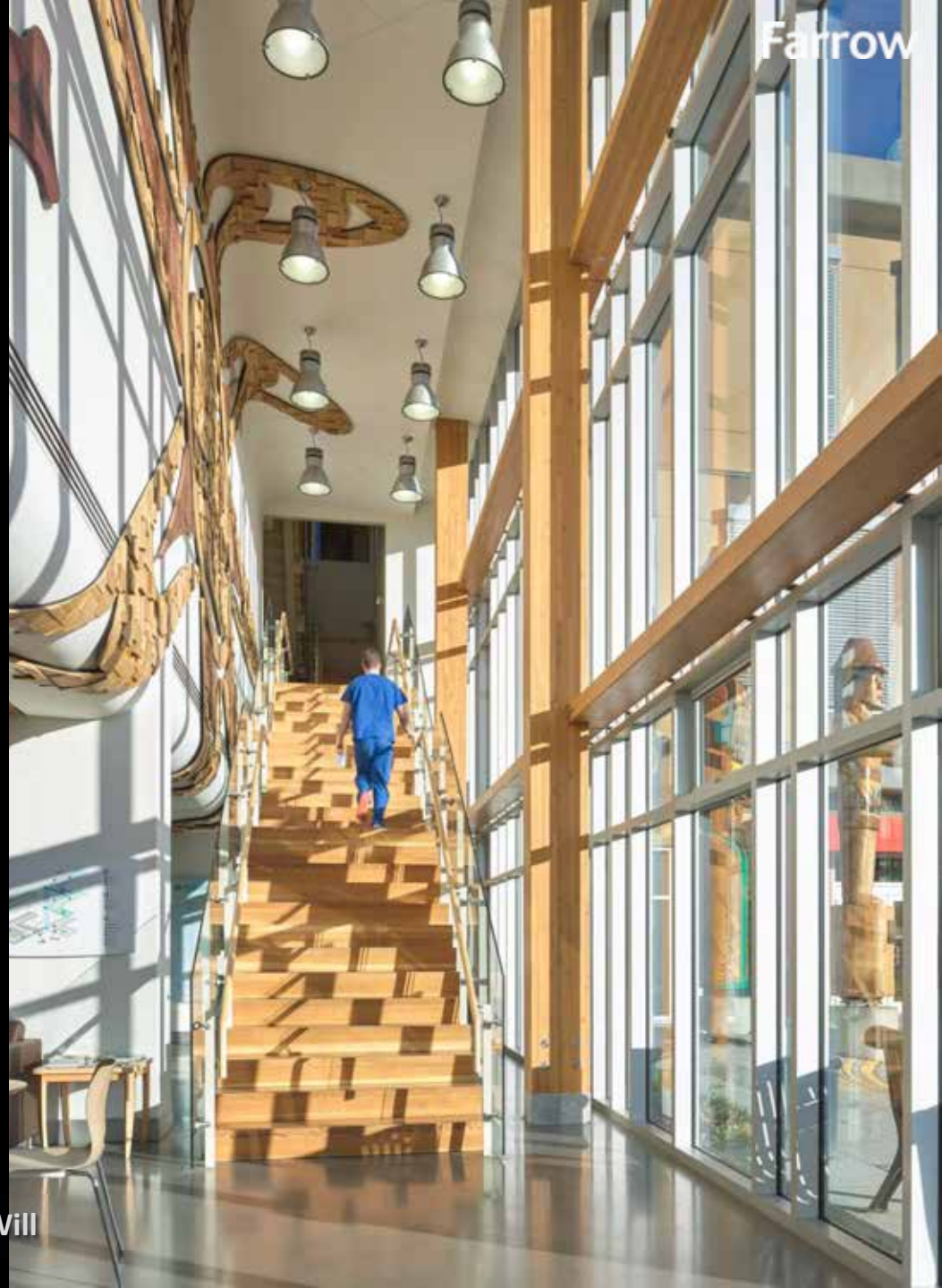




Sechelt Medical Centre, Farrow Partners & Perkins Will



Sechelt Medical Centre, Farrow Partners & Perkins Will



Farrow

sense of occurrence



venues where you feel
part of a happening
& are engaged with
a larger community

sense of occurrence



venues where you feel
part of a happening
& are engaged with
a larger community

health benefit:
stimulates brain neuron
cells, enhancing cognitive
functions & reduce anxiety

sense of occurrence





Shaare Zedek Medical Centre, Farrow Partners & RO Architects



Shaare Zedek Medical Centre, Farrow Partners & RO Architects







Shaare Zedek Medical Centre, Farrow Partners & RO Architects





optimism

environments that radiate abundance



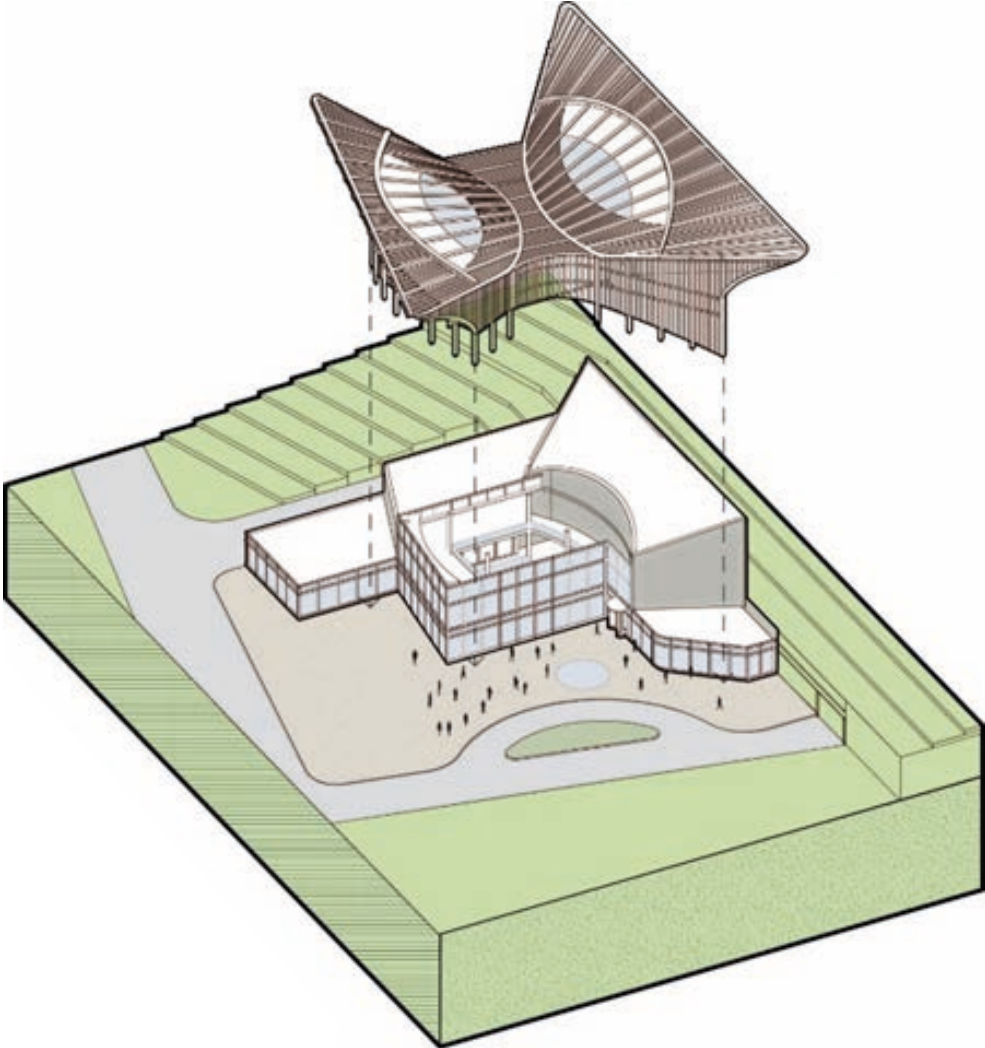
optimism

environments that radiate abundance

health benefit:
reduce hypertension,
cardio stress &
blood pressure,
increase longevity



optimism



Shaare Zedek Cancer Centre, Farrow Partners & RO Architects





Shaare Zedek Cancer Centre, Farrow Partners & RO Architects



Shaare Zedek Cancer Centre, Farrow Partners & RO Architects



Shaare Zedek Cancer Centre, Farrow Partners & RO Architects



Shaare Zedek Cancer Centre, Farrow Partners & RO Architects

legacy



surroundings that
communicate a
“sense of purpose”
& something bigger

legacy



surroundings that
communicate a
“sense of purpose”
& something bigger

health benefit:

cognitively sparking hope,
longing & pride; lower blood
pressure & cardio strength

legacy





Shaare Zedek Cancer Centre, Farrow Partners & RO Architects



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nature

variety

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sense of

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legacy

**bolster attention, memory,
learning & the quality of
social interaction**

thrive

www.farrowpartners.ca
instagram @ tyefarrow



