


The Nature Experience: The Directive Gaze

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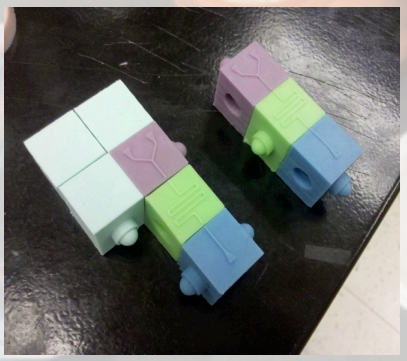
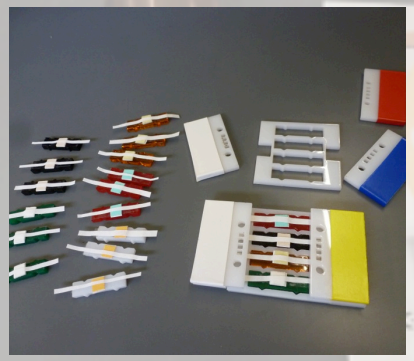
HARVARD SCHOOL OF PUBLIC HEALTH | Center for Health and the Global Environment

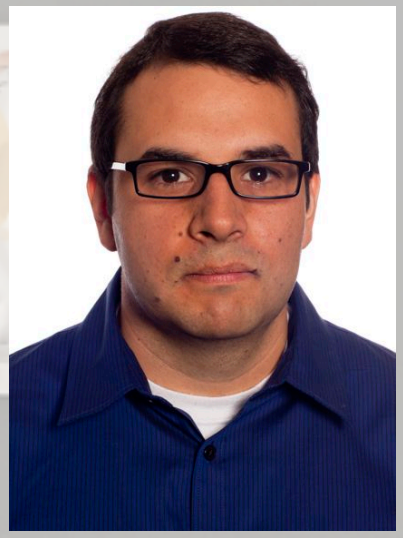





Little Devices Lab @ MIT // DIY Kits for Health







Jose Gomez-Marquez leads the **Little Devices Lab**
at the MIT International Design Centre

http:// bit.ly/1tXiJLe

Agenda

Changing nature, Changing health

Mobile monitoring strategies

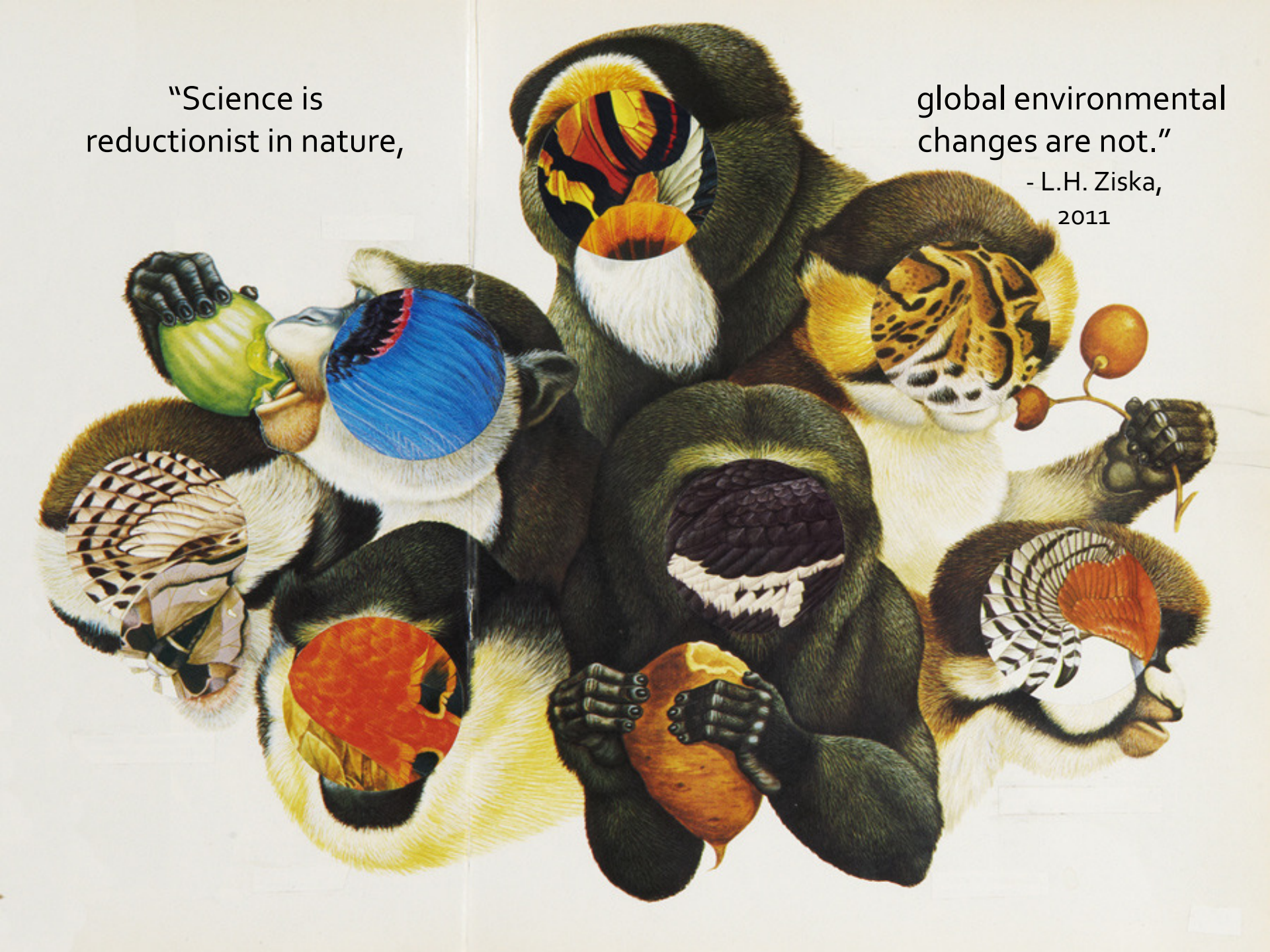
Biophilic design parameters

Feedback on Parks for Health

Translation via professionals and users

"Science is reductionist in nature, global environmental changes are not."

- L.H. Ziska, 2011




Many prevalent human diseases are linked to climate fluctuations, from cardiovascular mortality and respiratory illnesses due to heat waves, to altered transmission of infectious diseases and malnutrition from crop failures or nutrient deficiencies. These problems are amplified by sociopolitical displacement (including resource shortage-related war or climate change refugees), and many populations face significantly increased health challenges in the coming decades.
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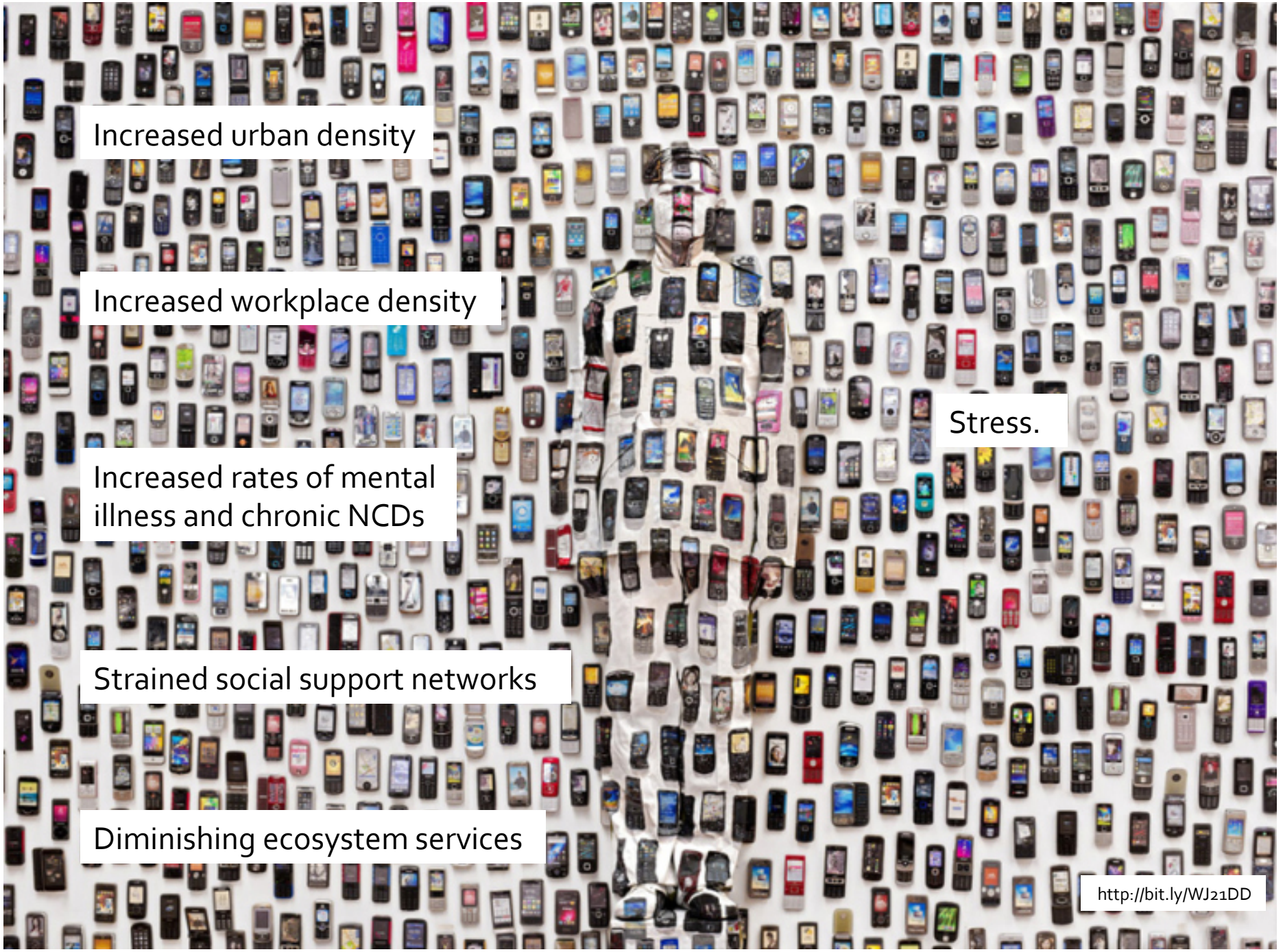

Increased urban density
Increased workplace density
Stress.
Increased rates of mental illness and chronic NCDs
Strained social support networks
Diminishing ecosystem services
http://bit.ly/WJ21DD

Stress etiology and pathology theory

"Allostatic load"

Social context ---------- Personality

Environmental demands (stressors / life events)

Appraisal of demands and adaptive capacities*

Perceived stress

Benign appraisal

Negative emotional responses

Negative physiological or behavioral responses

Increased risk of physical disease

Increased risk of psychiatric disease

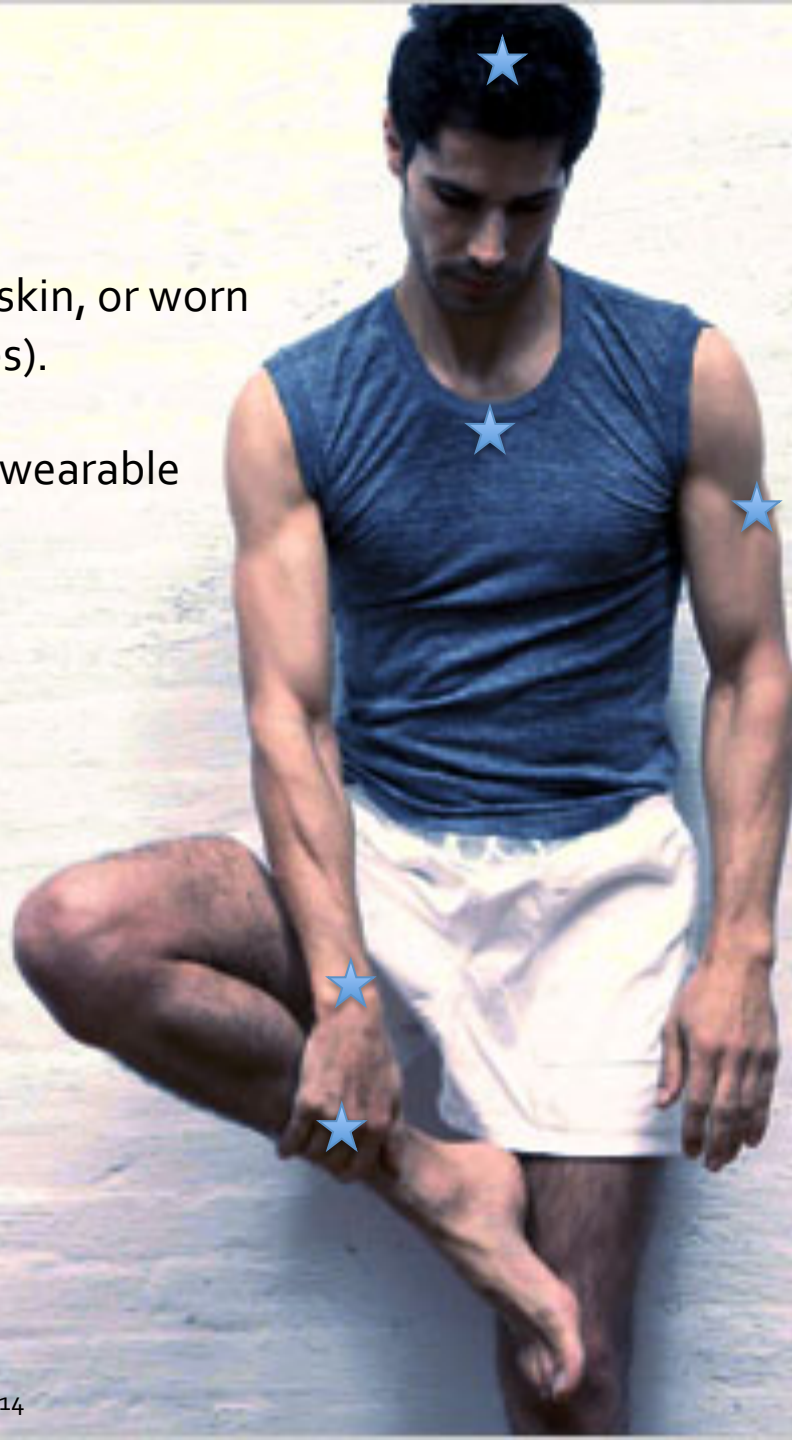
*Potential design benefits

http://bit.ly/1ohixlt, http://bit.ly/1DB4XSN

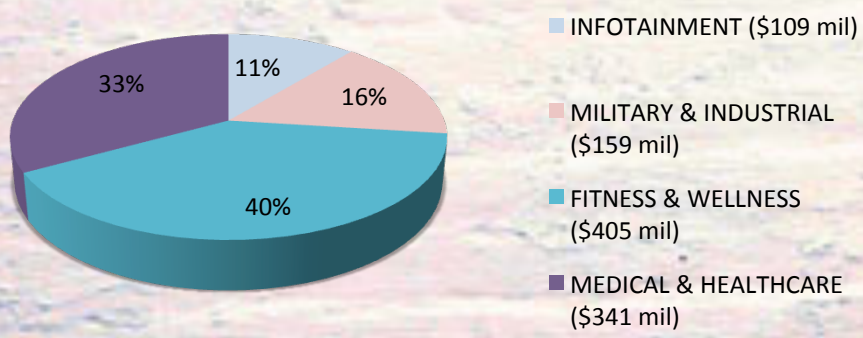
Cohen, S. et al 1995

Devices can be implanted below the skin, on the skin, or worn as accessories (bands, belts, vests, or even clothes).

Research firms predict significant growth for the wearable market, potentially reaching $50 billion by 2018.



Breakdown of VC funding by segement, 2000-2011



Medical + Fitness = ~75% of total or $746 million

http://nyti.ms/1uAoZDj Rock Health: the future of biosensing wearables, June 2014


Antidotal immersions
http://bit.ly/WJ21DD

14 PATTERNS OF BIOPHILIC DESIGN

NATURE IN THE SPACE

1. Visual Connection with Nature
2. Non-Visual Connection with Nature
3. Non-Rhythmic Sensory Stimuli
4. Thermal & Airflow Variability
5. Presence of Water
6. Dynamic & Diffuse Light
7. Connection With Natural Systems

NATURAL ANALOGUES

8. Biomorphic Forms & Patterns
9. Material Connection with Nature
10. Complexity & Order

NATURE OF THE SPACE

11. Prospect
12. Refuge
13. Mystery
14. Peril

NY TIMES BIRCH GARDEN. PHOTO CREDIT: HUBERT J. STEED

TERRAPIN BRIGHT GREEN VIA B. BROWNING





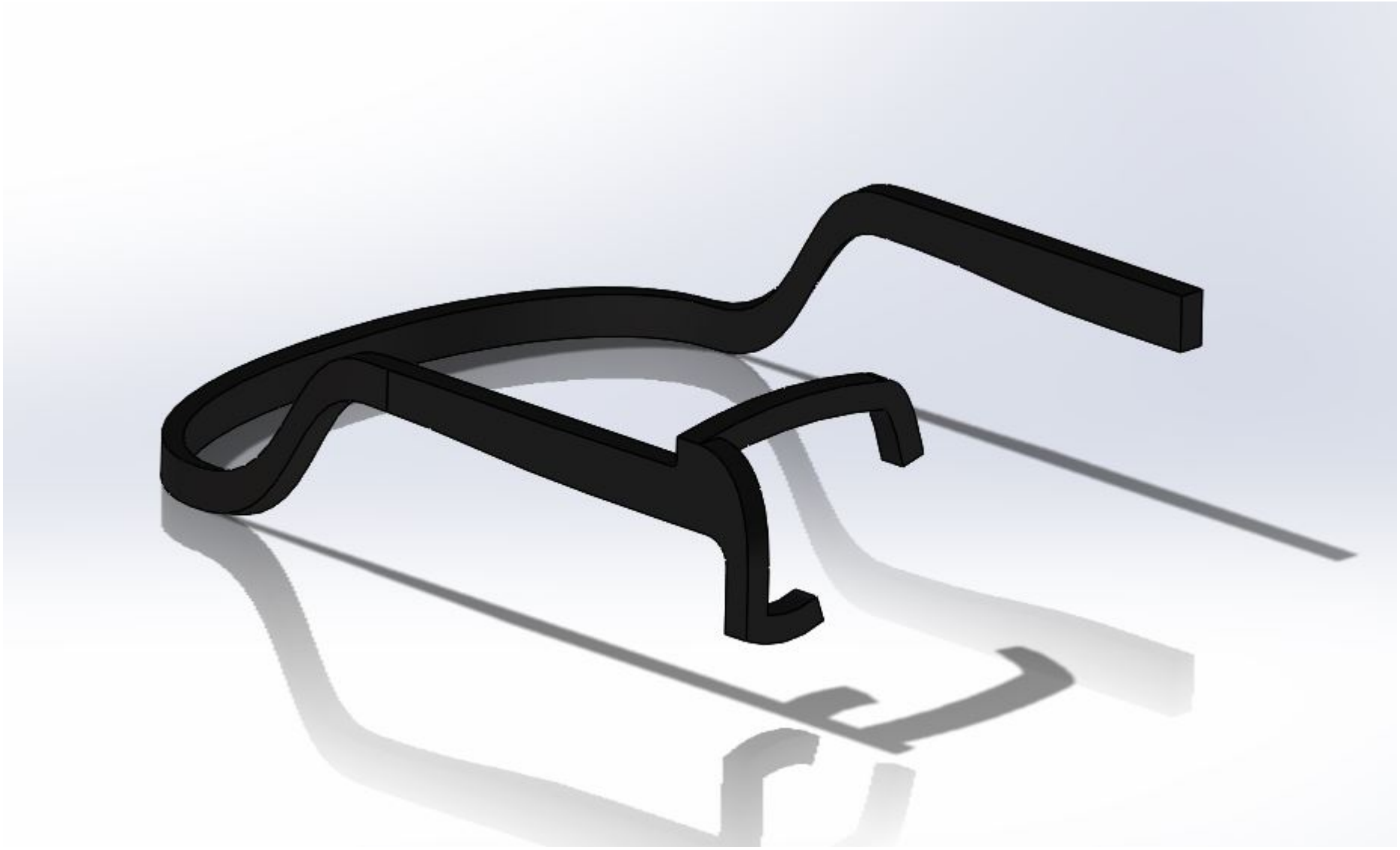





http:// bit.ly/1tXjB20; http:// bit.ly/1xoM9TZ; http:// bit.ly/ZtW9Qg; http:// bit.ly/10Ucspw

http:// bit.ly/1EohGqi

Merging landscape analysis and mobile response technology



Emerging patterns for behavior modification

Real time feedback on behaviors which are beneficial to health

Potential identification and quantification of compelling landscape features

Aggregate design feedback from population studies that can influence planning

Directed messaging from urban planners, landscape architects, public health clinicians

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