



Saving Doctors from Themselves: Designing Medicine with Empathy and Compassion

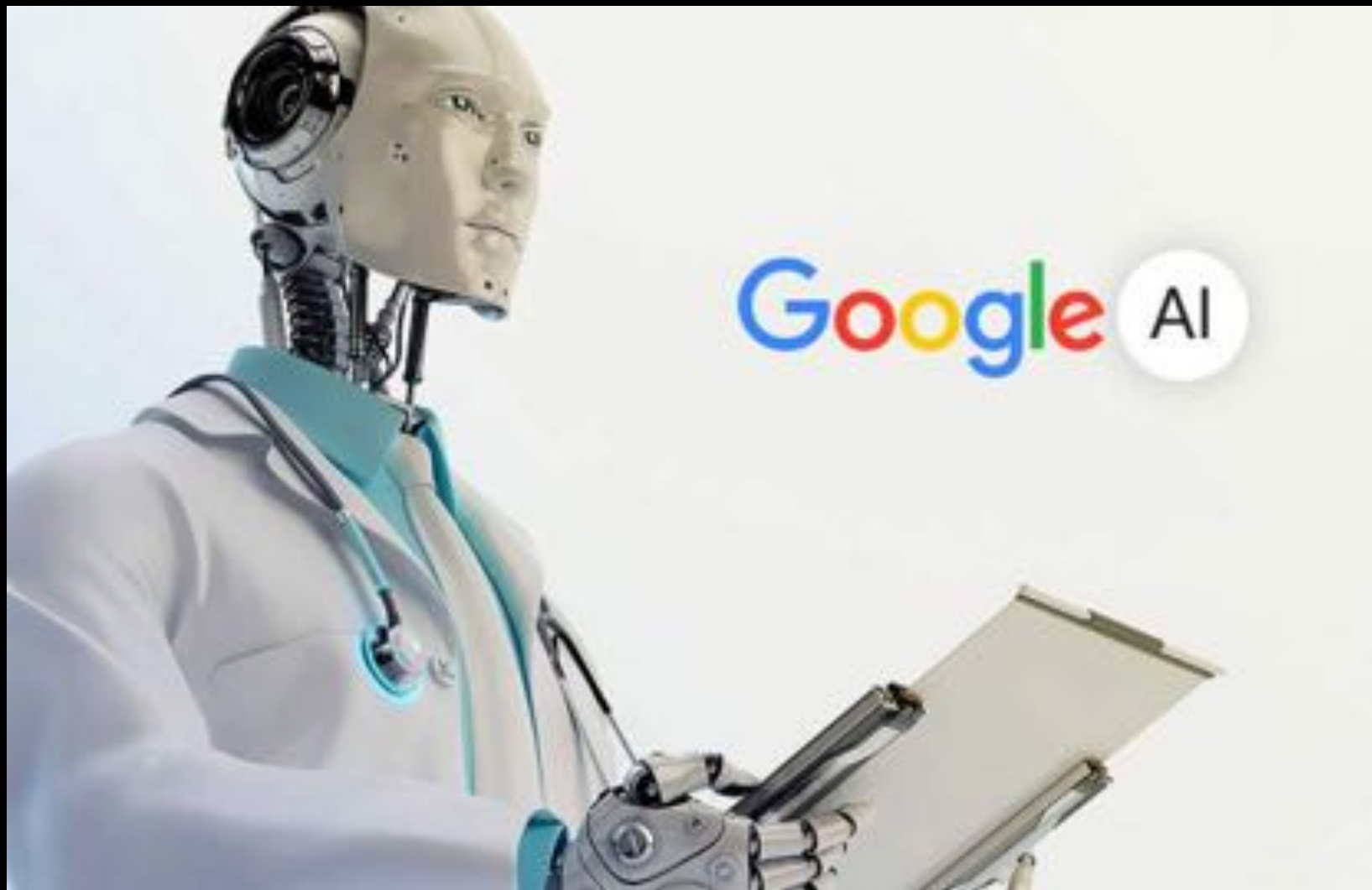
ROYAL COLLEGE OF PHYSICIANS LONDON | 11-13 JUNE 2018
EUROPEAN
HEALTHCARE DESIGN
RESEARCH • POLICY • PRACTICE

Dr
Sharad Paul
Wellness through Skin

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UTOPIA OR DYSTOPIA? VISIONING THE FUTURE OF HEALTH

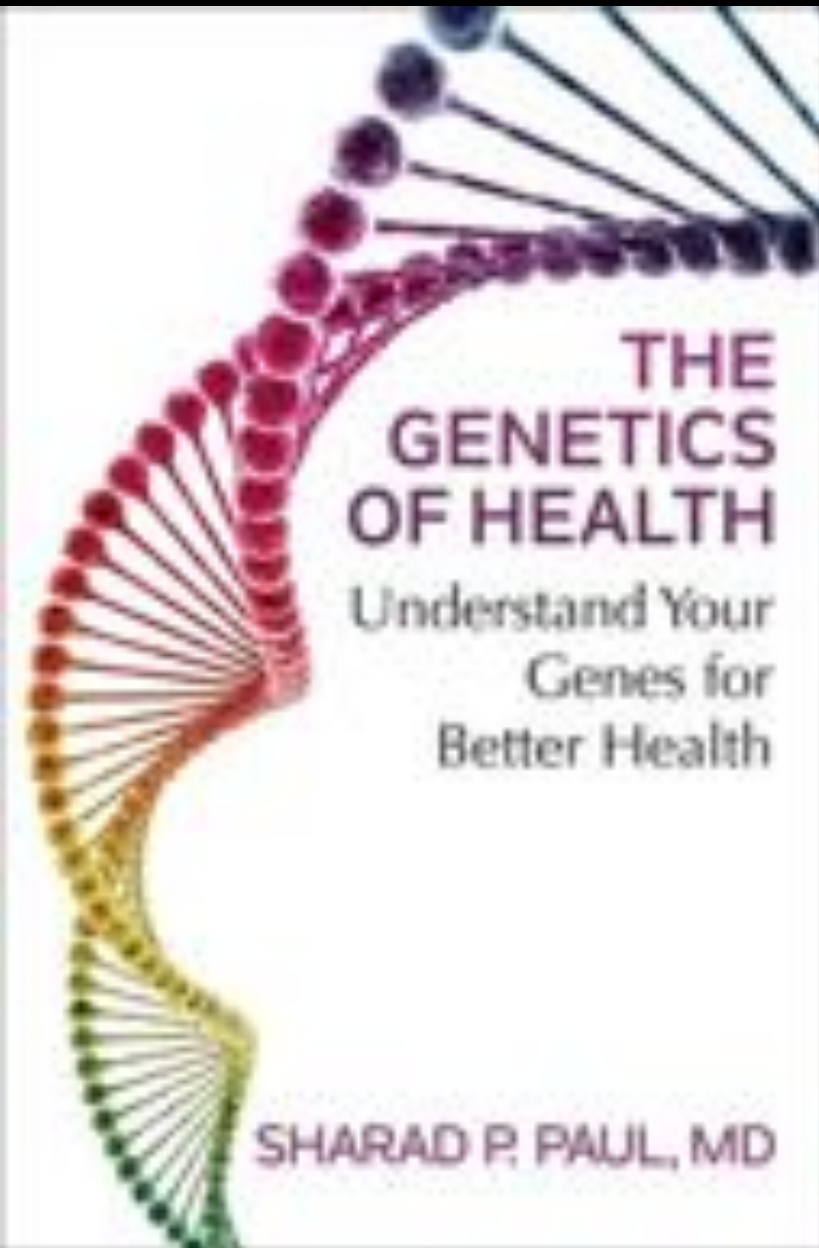


**LIFE WAS
MUCH EASIER
WHEN Apple
AND *BLACKBERRY*
WERE JUST
FRUITS**

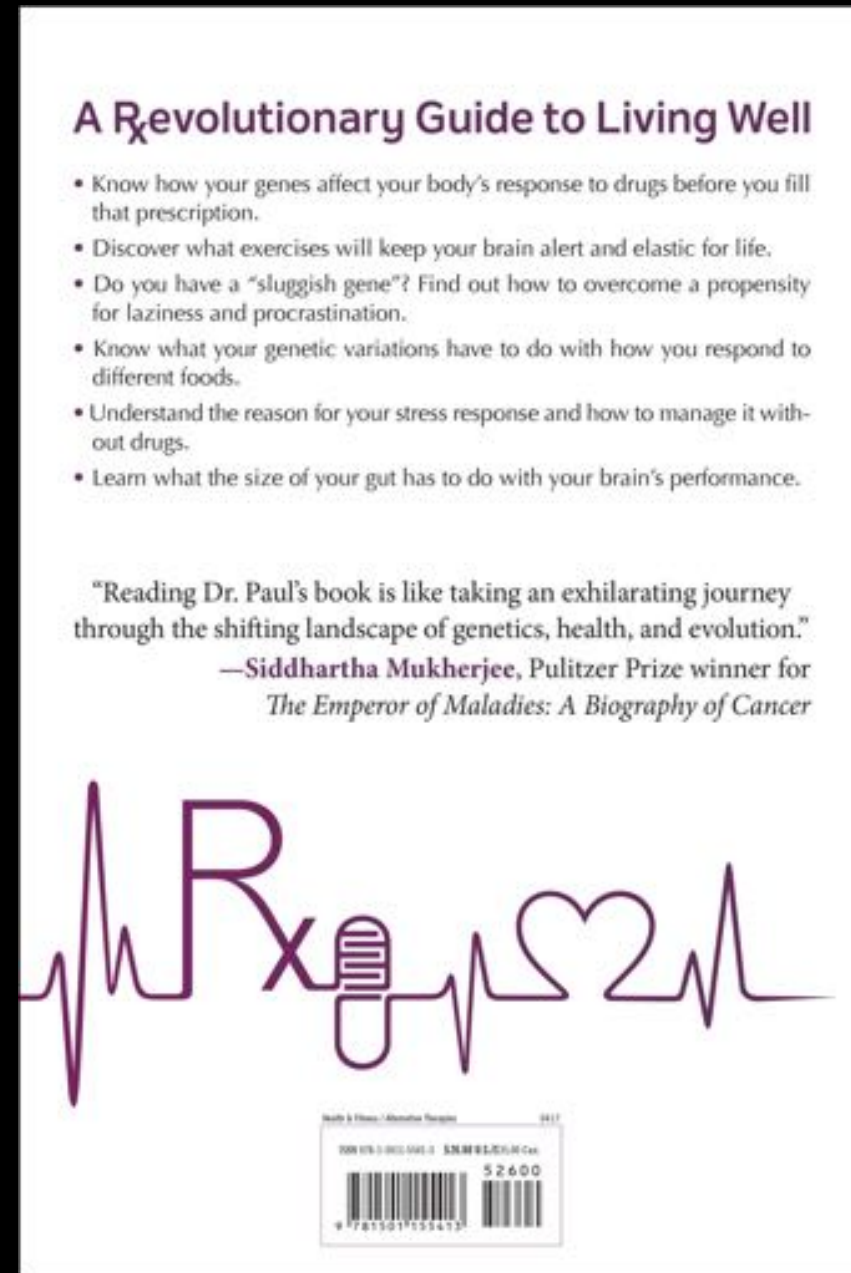
A word cloud centered around the word "Evolution". The word "Evolution" is the largest and most prominent, written in a dark blue, bold, sans-serif font. Surrounding it are various other words in different sizes, colors (including shades of blue, green, and yellow), and orientations (horizontal and vertical). The words include: "Transformation", "Improve", "GROWTH", "Progress", "ADVANCEMENT", "CHANGE", "Development", "Growth", "Adapting", "Expansion", "DIVERSIFIED", "THEORY", "Rise", "Change", "PROMOTE", "RESULTS", "DEVELOPED", "INNOVATION", "Modify", "Evolve", "REFINEMENT", "Build", "Process", "Adaptation", and "Development".

Evolution

Transformation
Improve
GROWTH
Progress
ADVANCEMENT
CHANGE
Development
Growth
Adapting
Expansion
DIVERSIFIED
THEORY
Rise
Change
PROMOTE
RESULTS
DEVELOPED
INNOVATION
Modify
Evolve
REFINEMENT
Build
Process
Adaptation



“In Australia, “going walkabout” refers to a rite of passage that the Aboriginal people undertake—a time of solitude spent searching for “songlines” of their ancestors—the idea being to imitate the past and return with renewed energy to face the future
... That’s why songlines matter; our history makes us more than we make history.”
~ Sharad P Paul, *The Genetics of Health* (Simon and Schuster)



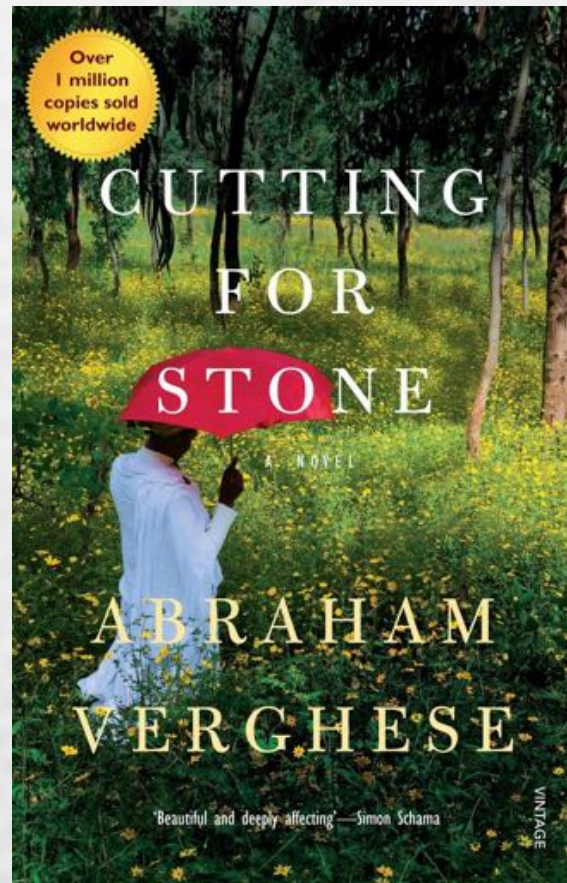




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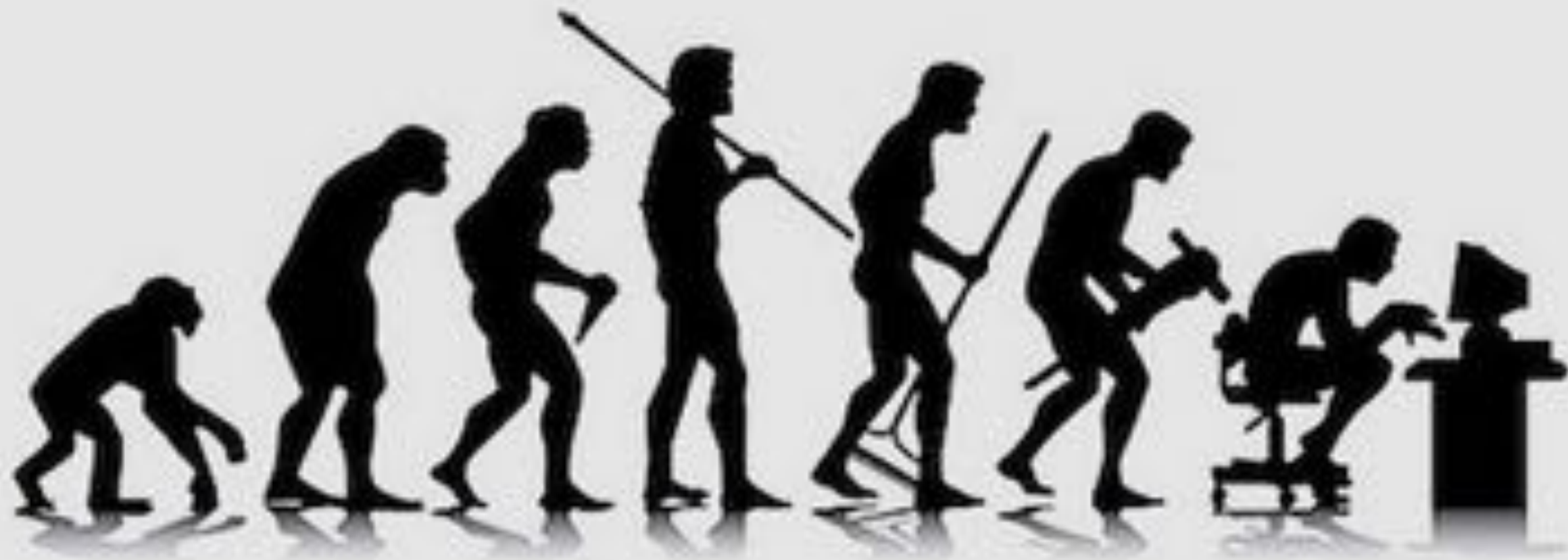


"Students undergo a conversion in the third year of medical school - **not pre-clinical to clinical, but pre-cynical to cynical.**"
~Abraham Verghese

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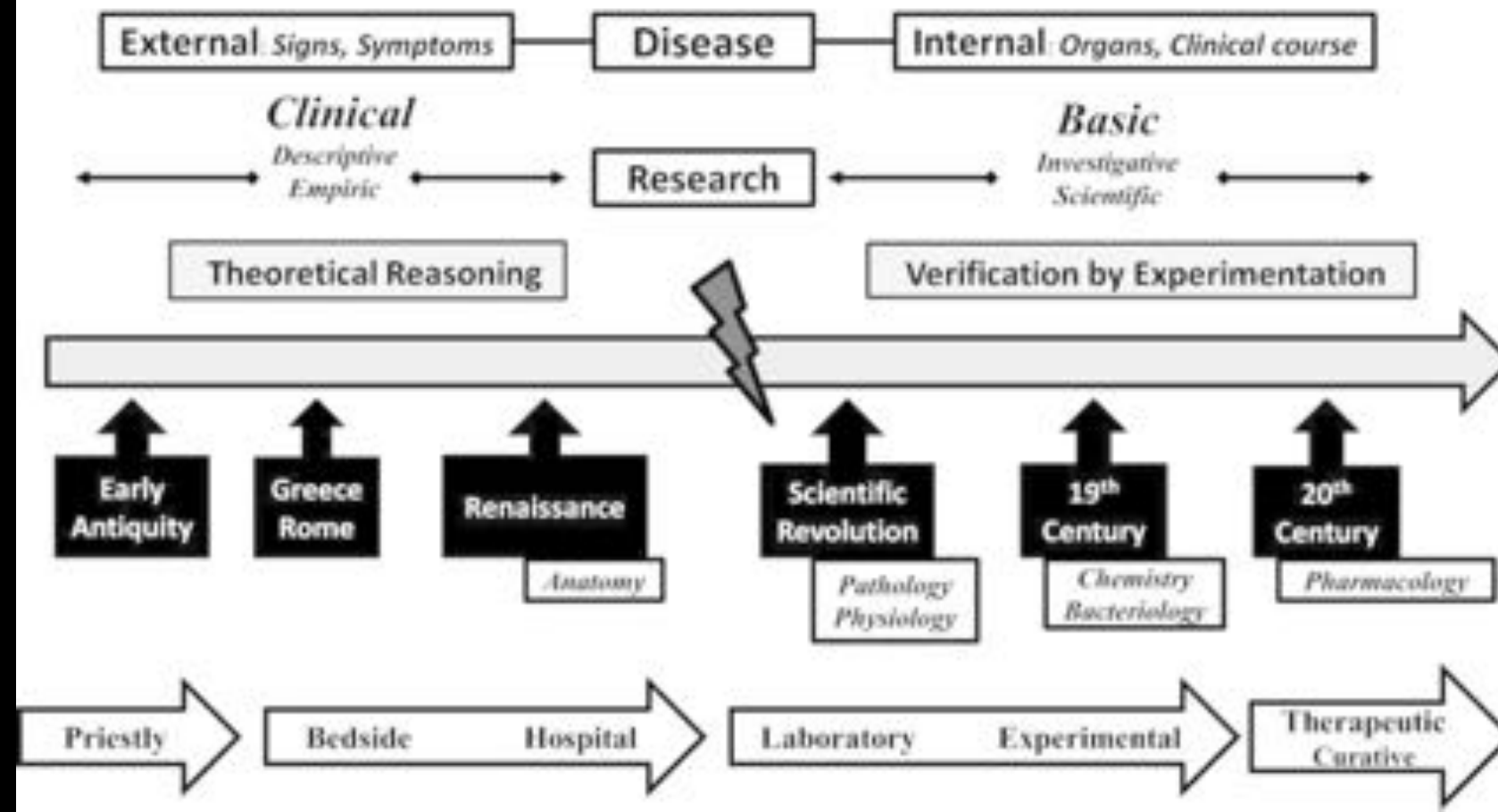
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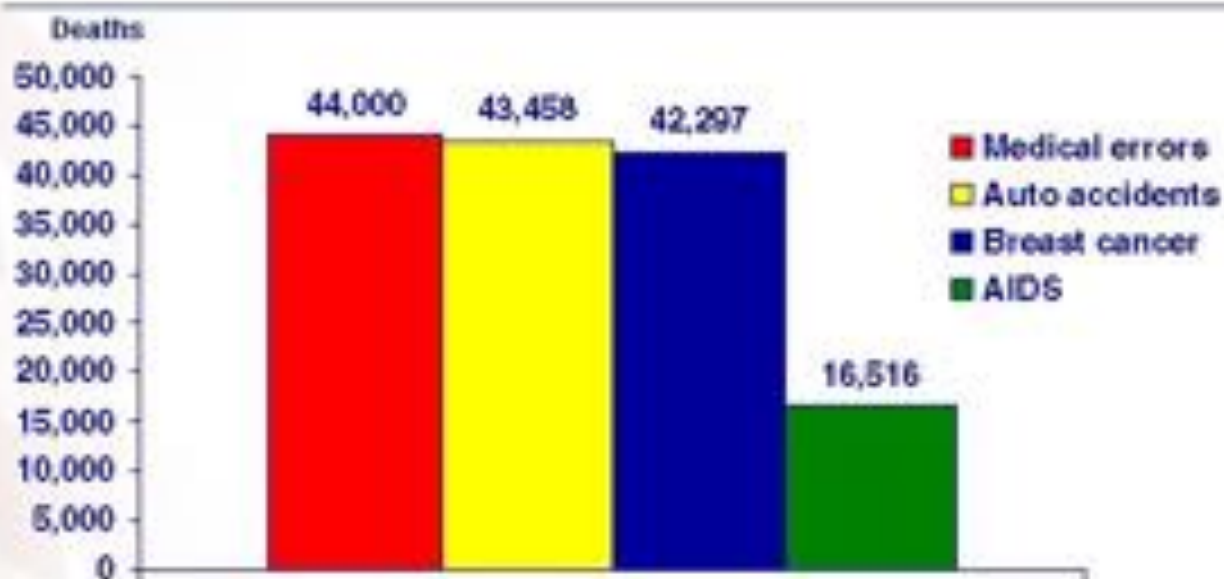


Evolution of Medical Knowledge

“SCIENTIFICATION”



Deaths due to medical errors in hospitals are higher than certain other causes of death in the U.S.



Source: The Institute of Medicine (IOM), *To Err is Human: Building a Safer Health System*. (Washington, D.C. National Academy Press, 2000.)

Note: Rates of death for cause other than medical error are from the CDC, National Center for Health Statistics, Births and Deaths, Preliminary Data for 1994, National Vital Statistics Reports, 47(1) 6, 1995, as cited in *To Err is Human*.

METRO **FESTIVAL GUIDE 2018**

SUMMER'S COMING!

CONDEMNED TO DEATH... BY AN NHS COMPUTER

Enter with lowest remaining bid - up to 270 lives at risk

BUNS OUT

The Daily Telegraph

'I don't know if I'll survive ... Why did this happen?'

May - outmaneuvered on Brexit - remains dead

Pattern-recognizers

Proceduralists

Personal-physicians



Cambridge
Analytica

ALGORITHMS: MELANOMA DIAGNOSIS EDUCATION



Asymmetry - Moles that, if divided in half are not the same on both sides.

Border - Moles with edges that are jagged like a coastline.

Colour - Moles gaining or losing colour, or multicoloured.

Diameter - Moles more than 1/2 cm in diameter (especially if uneven colour).

Evolution - Moles that have changed size, shape, colour or risen.







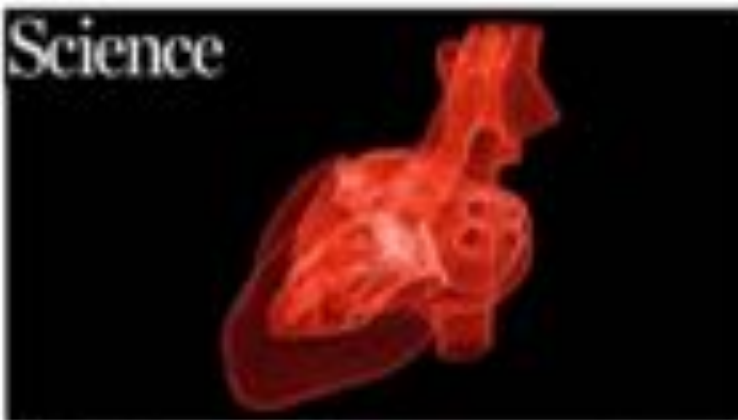
JANUARY 25, 2017

Stanford

News

Deep learning algorithm does as well as dermatologists in identifying skin cancer

Science



Self-taught artificial intelligence beats doctors at predicting heart attacks

By Matthew Hutten | Jan. 25, 2017 | 11:00 AM



26 Feb 2018 | 17:30 GMT

AI Beats Dermatologists in Diagnosing Nail Fungus

Deep learning algorithms beat 42 dermatology experts at diagnosing nail fungus infections

By **Jeremy Hsu**





“There are in fact two things, science and opinion; the former begets knowledge, the latter ignorance”

~ Hippocrates

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*“... The public would be shocked if it knew the **amount of unnecessary surgery performed**”*

~ Hawley P, Director of the American College of Surgeons (ACS), 1953

*“We perform surgery because we have been trained to do so and because **“we have always done it this way”** or we simply do not know any better. In German psychology, this behaviour is analogous to a historic entity termed **“Funktionslust”**”*

~ Stahel PF. Blood, sweat and tears — becoming a better surgeon. Shropshire, UK: TFM Publishing; 2016. p. 320

*“When specialists are paid through a **fee-for-system scheme** rather than on a **capitation basis, surgery rates increase 78%**. The impact of primary care physician compensation on surgery rates depends on whether or not referral restrictions are **present**”*

~ Shafrin J. Health Econ. 2010 May;19 (5): 562-80

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A SURGEON CUTS
THROUGH THE EVIDENCE

SURGERY, THE ULTIMATE PLACEBO



The scalpel is probably the most powerful placebo known to modern medicine. Ian Harris provides the surgical antibiotic: facts and rational argument." - Dr Norman Swan

IAN HARRIS

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Surgery as Therapy: A Common sense Approach?

If we treated surgery like a pharmaceutical drug, the procedure would be required to undergo scrutiny of testing its safety and feasibility in phase 1 and 2 trials. Subsequently, its efficacy would have to be proven in prospective randomized controlled trials prior to approvals.

Yet, the FDA or similar bodies do *not* regulate surgical procedures. Regulation is rather “self-certification” via professional Colleges.

If level 1 evidence disproves a benefit for a certain surgical procedure, any **ineffective practice would be called into question and abandoned immediately. This is not the case in the field of surgery.**

 Editorial

Sweet success: will sugar taxes improve health?

The Lancet Diabetes & Endocrinology

Published: April 2017



DOI: [https://doi.org/10.1016/S2213-8587\(17\)30070-0](https://doi.org/10.1016/S2213-8587(17)30070-0)



 Article Info

[Summary](#)

[Full Text](#)

[Tables and Figures](#)

Mexico continues to build on the success of its tax on sugary drinks, with new analysis showing further reductions in sales of sugar-sweetened beverages in the second year after its implementation. The results provide potential hints of optimism about the effect of similar strategies in other countries—including the UK, where a levy on sugary drinks is set to take effect in April, 2018.

TOO SWEET TO BE HEALTHY - SUGAR CONTENT OF SOFT DRINKS

HIGHER RATE: Over 8g per 100ml

**TAX
24p
per litre**



1 teaspoon = 4g of sugar

LOWER RATE: 5g-8g per 100ml

**TAX
18p
per litre**



DRINKS THAT'LL ESCAPE TAX

The levy will not be charged on flavoured milkshakes, fruit juices or smoothies. Small drinks firms will also be exempt.





News

Artificial sweeteners could increase risk of diabetes in just two weeks

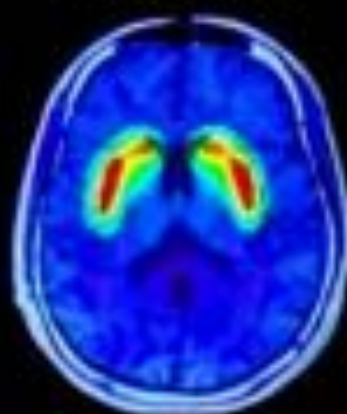


Millions of people turn to artificial sweeteners instead of sugar - [caption text](#)

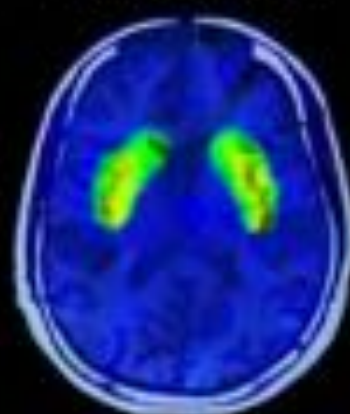
By **Laura Donnelly**, HEALTH EDITOR

SUGAR INTAKE EVENTUALLY BLUNTS DOPAMINE RELEASE, JUST LIKE COCAINE.

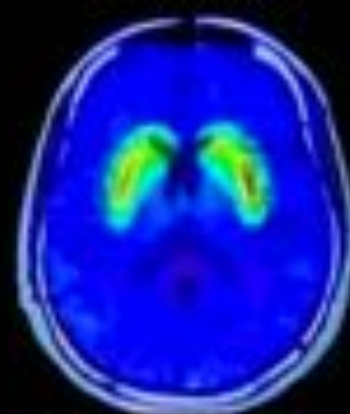
Normal



Cocaine



Obese

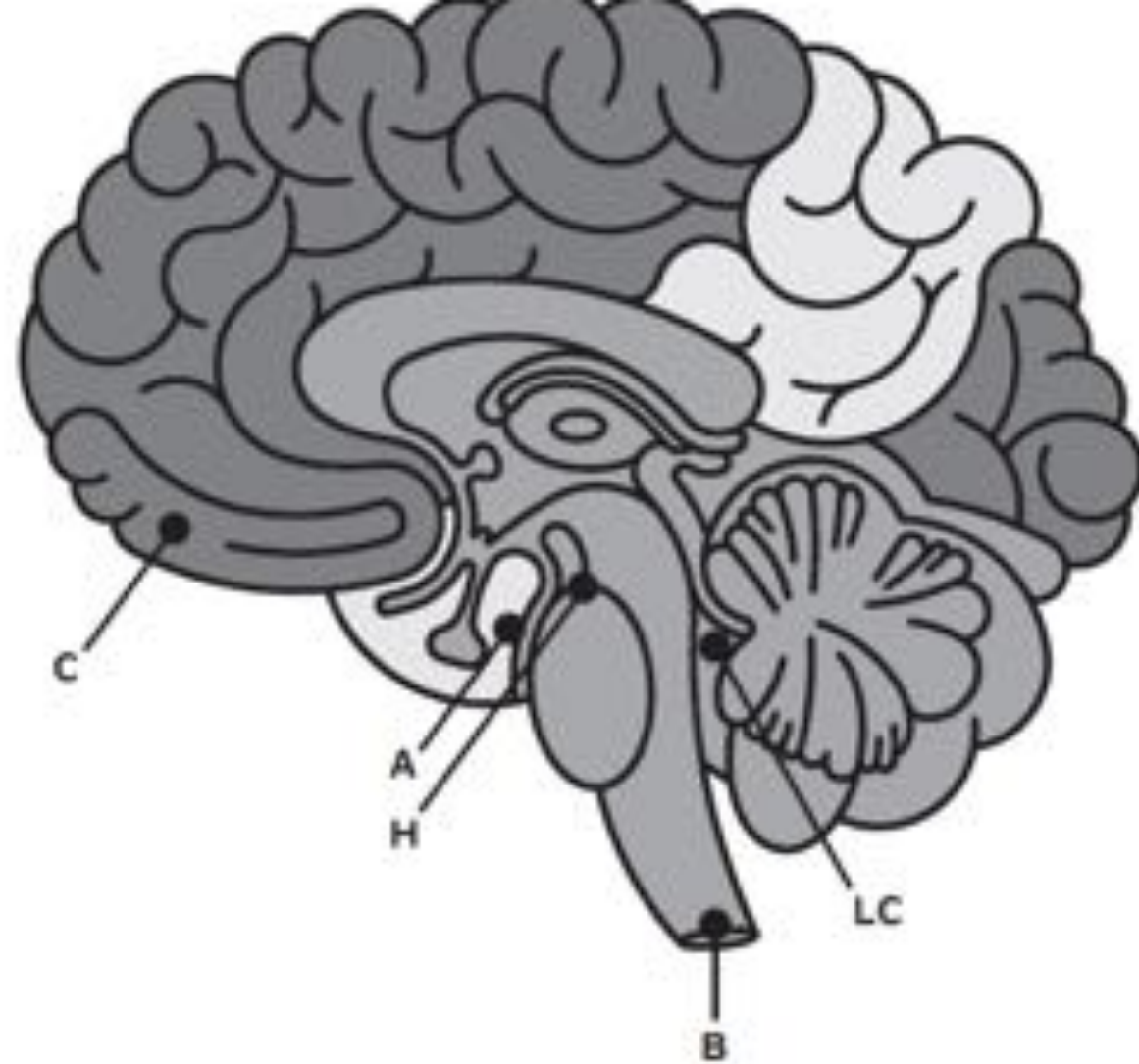


(CHRONIC SUGAR INTAKE)

THE STRESS GENES: SABER-TOOTHED TIGERS AND SCAREDY-CATS

I am an old man now; I've had lots of trouble,
and most of it never happened.

—Thomas Dixon Jr.



- LC: Locus ceruleus (produces noradrenaline, the stress chemical)
- H: Hippocampus (the part of the brain associated with learning and emotion)
- A: Amygdala, your early warning system (the part that senses the "rustle in the bushes")

ANATOMY OF EMPATHY

Using scanning technology, scientists can identify parts of the brain that are active when we empathize with others. By combining those results with other findings—from psychological evaluations to genetic testing—researchers are beginning to determine which biological and environmental factors reinforce or corrode our capacity for empathy.

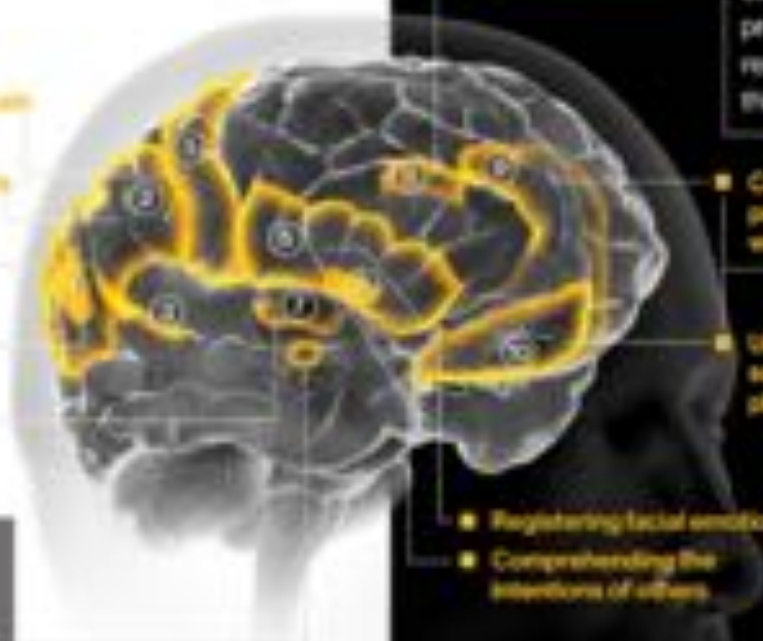
The Empathy Circuit

Highlighted areas have direct links to how the brain responds to others.

- 1. Visually reacting to others' physical pain
- 2. Mimicking another's actions and emotions
- 3. Reading the eye expressions and movements of others
- 4. Imagining thoughts of others (right now only)
- 5. Recognizing emotion, pain, and self-awareness

THE AMYGDALA

Extremely abusive people have more neural activity in their enlarged amygdala—a part of the brain associated with learned emotional responses and the processing of distressing stimuli.



NORMAL BRAIN

Active prefrontal cortex



HOMICIDAL BRAIN

Less active prefrontal cortex



THE PREFRONTAL CORTEX

A brain scan of a murderer who pleaded insanity (above right) shows reduced activity in the prefrontal cortex, a part of the brain that restrains impulsive behavior. Abnormalities in this area could predispose a person to violence.

Recognizing pain

Comparing one's perspective with others'

Understanding social cues and physical pain

Registering facial emotion

Comprehending the intentions of others

1. SENSORY CORTEX

2. SUPERIOR TEMPORAL GYRUS

3. INFERIOR FRONTAL GYRUS

7. ANTERIOR INSULA

8. MEDIAL PREFRONTAL CORTEX

4. TEMPOROPARIETAL JUNCTION

5. INFERIOPARIETAL LOBE

6. FRONTAL OPERCULUM

9. MIDDLE CINGULATE CORTEX

10. ORBITOFRONTAL CORTEX

The Empathy Spectrum

Empathy can be measured through empathy quotient (EQ) tests. Questions aim to determine the magnitude of one's interest in how others feel and think. Extreme altruists fall at one end of the spectrum, those who totally lack empathy at the other.

Extreme altruists

Highly empathic people, such as those who risk their lives for strangers, are better able to recognize pain or fear in others' faces.

Professionals in the humanities

People such as musicians and historians typically score higher on EQ tests.

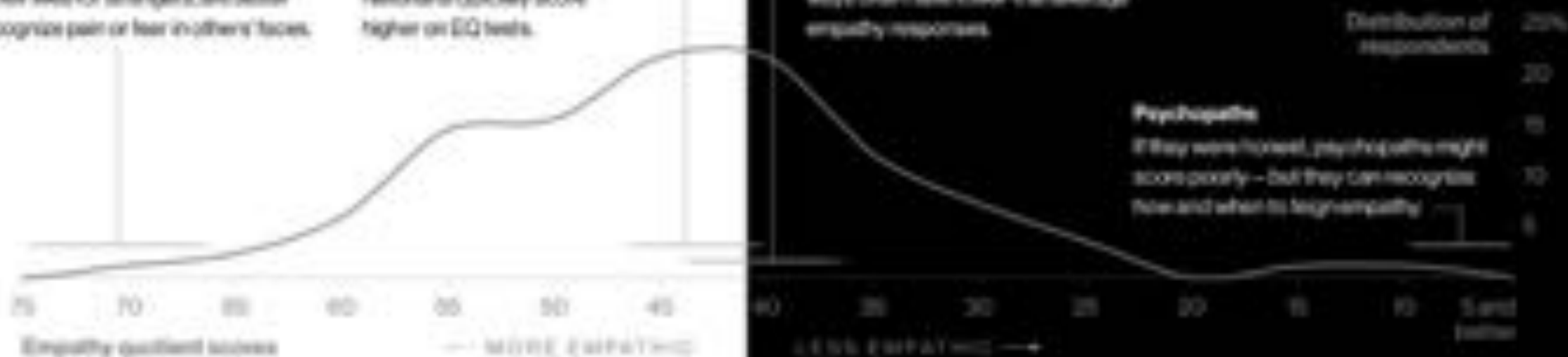
Professionals in the sciences

Those who think in highly systematic ways often have lower than average empathy responses.

Psychopaths

If they were honest, psychopaths might score poorly – but they can recognize how and when to feign empathy.

Distribution of respondents



When doctors need treatment: an anthropological approach to why doctors make bad patients

Alex Wessely, Clare Gerada , 12 Nov 2013

Perfectionists (“I must do this right, mistakes are intolerable”)

Narcissists (“I am the greatest”)

Compulsives (“I must do this, and I can’t give up till I finish”)

Denigrators of vulnerability (“People who need help are failures. If I need help, I am a failure”)

Martyrs (“I care for my patients more than myself, and my needs are secondary to those I treat”)

Open sesame!

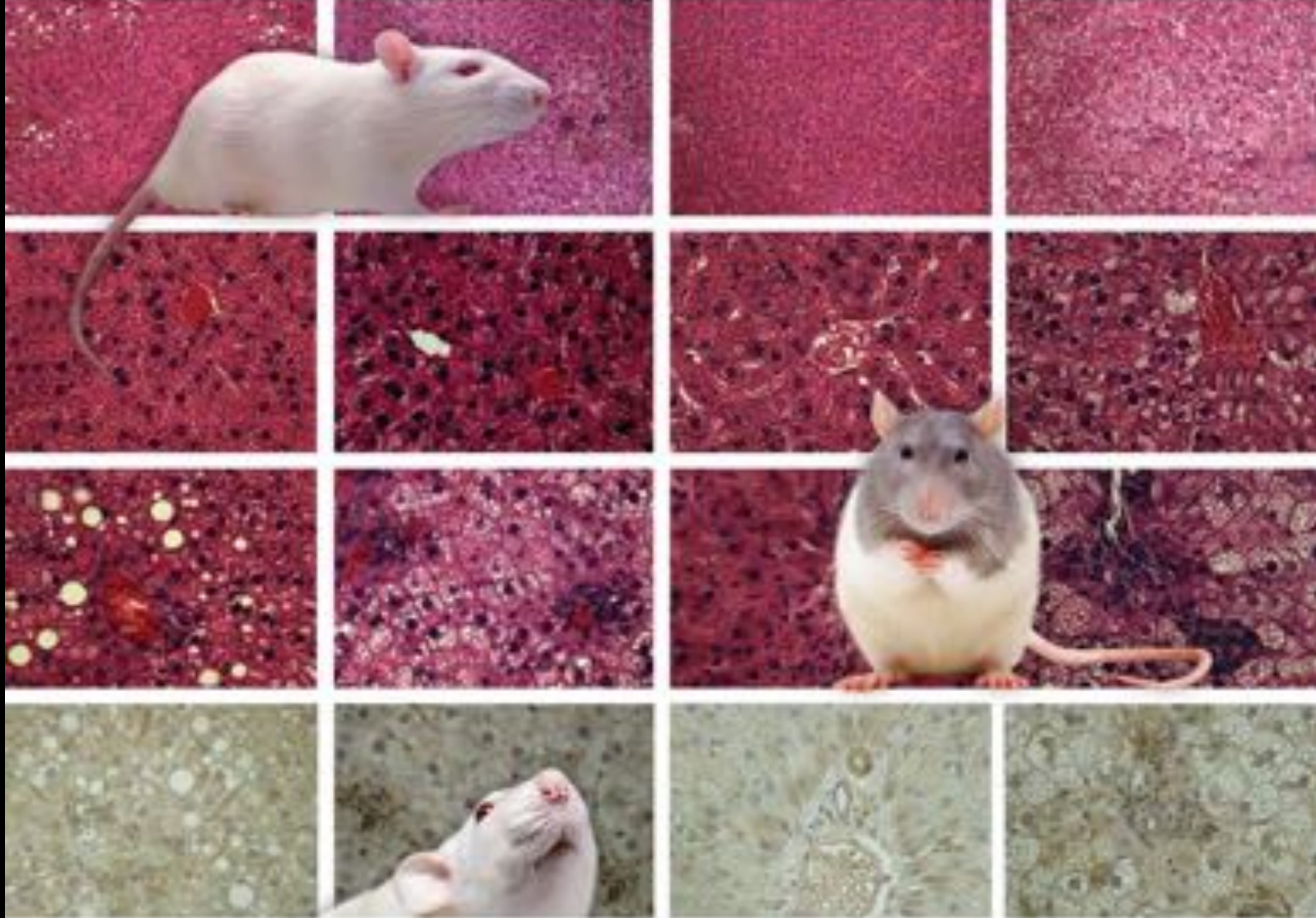
Your username
or password are
incorrect.

Op3n \$e\$ame?



**“Let food be thy medicine and medicine
be thy food”
~ Hippocrates**

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Ex Libris & Bibliotheca

T R E A T I S E

Ex Libris OF THE *Collegii Regii*
Medici Edinburgensis.

S C U R V Y.

IN THREE PARTS.

Collegii CONTAINING *Regii*

An inquiry into the Nature, Causes,
and Cure, of that Disease.

Medicor. Together with *Edinburg.*

A Critical and Chronological View of what
has been published on the subject.

By *JAMES LIND*, M. D.

Fellow of the Royal College of Physicians in *Edinburgh.*

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Printed by SANDS, MURRAY, and COCHRAN

For A. KINCAID & A. DONALDSON,

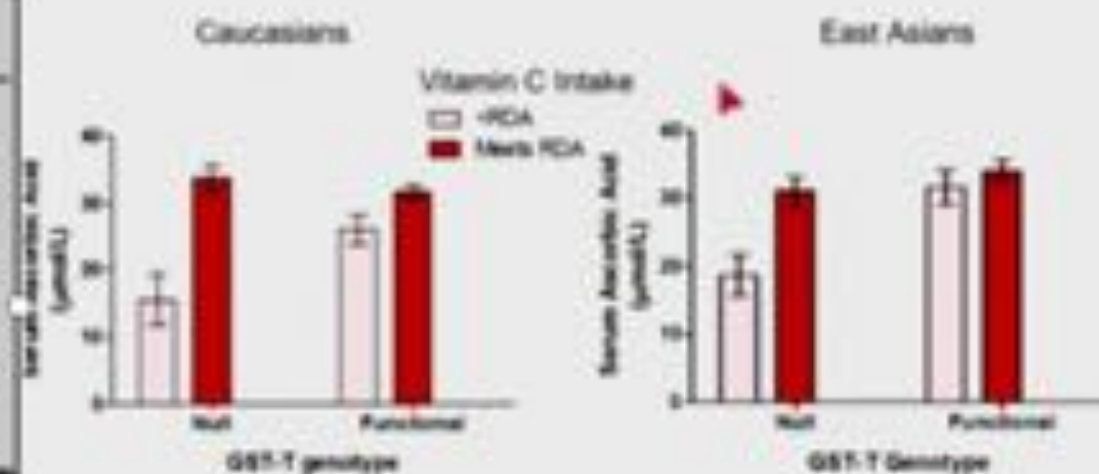
MDGCLIII.

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	Deficient ($<11 \mu\text{mol/L}$)	Suboptimal ($11-28 \mu\text{mol/L}$)	Adequate ($>28 \mu\text{mol/L}$)	<i>P</i>
BMI (kg/m^2)	$23.1 \pm 0.1^*$	$23.0 \pm 0.2^*$	$22.3 \pm 0.2^*$	0.007
Waist Circ. (cm)	$75.0 \pm 0.7^*$	$74.6 \pm 0.5^*$	$72.8 \pm 0.4^*$	0.003
Systolic Blood P	114.8 ± 1.0	114.7 ± 0.6	113.0 ± 0.5	0.06
Diastolic Blood P	$70.2 \pm 0.7^*$	$69.6 \pm 0.4^*$	$68.2 \pm 0.4^*$	0.004
hs-CRP (mg/L)	$2.04 \pm 0.23^*$	$1.46 \pm 0.15^*$	$1.03 \pm 0.12^*$	0.0004
Insulin ($\mu\text{mol/L}$)	54.3 ± 3.1	47.8 ± 2.0	48.0 ± 1.6	0.17
Total chol HDL	2.74 ± 0.06	2.85 ± 0.04	2.77 ± 0.03	0.22

Cahill et al Am J Epidemiol, 170: 464-471, 2009



$P=0.001$ for diet-gene interaction

$P=0.02$ for diet-gene interaction

Cahill et al. Am J Clin Nutr, 2009

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Faith

VS.

FACT

WHY SCIENCE AND RELIGION
ARE INCOMPATIBLE

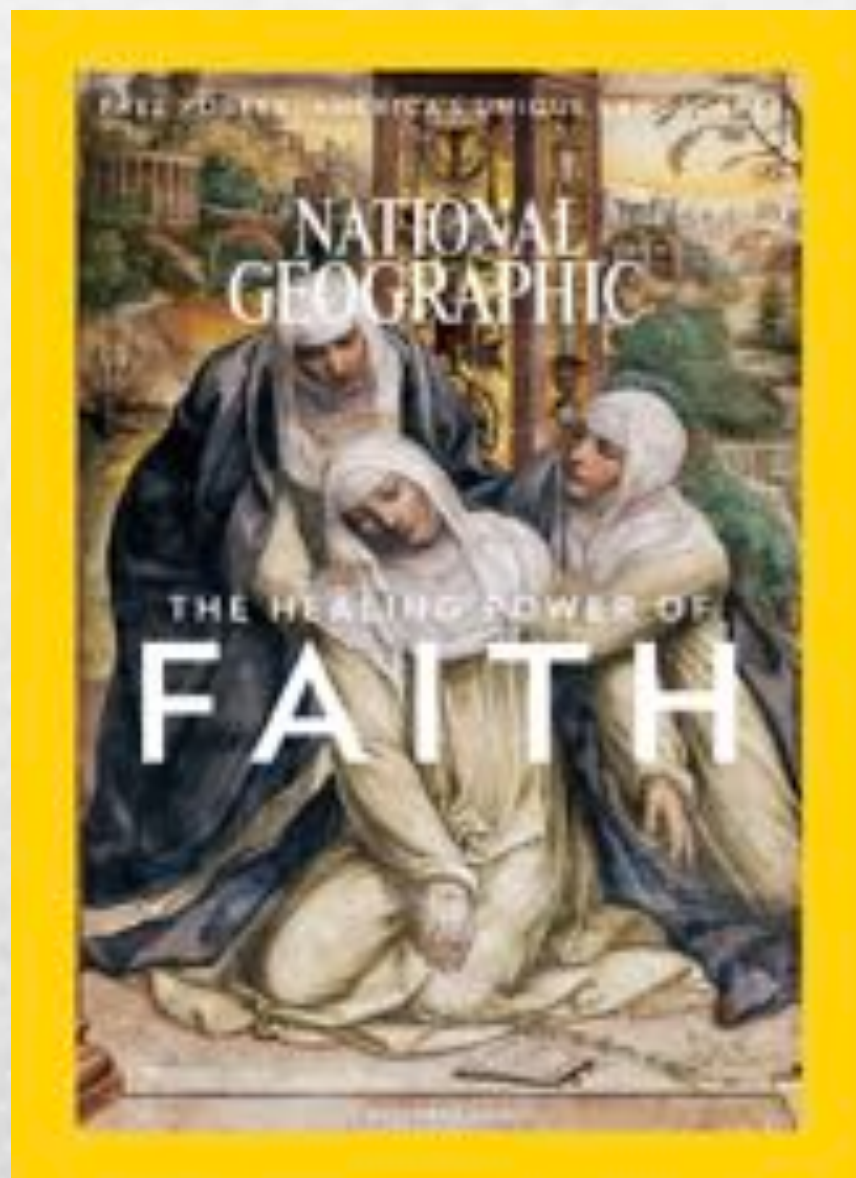
JERRY A. COYNE

Author of THE NEW YORK TIMES Bestseller
WHY EVOLUTION IS TRUE

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ANALYSIS SERIES
THE POWER OF NOTHING

Genetics and the Placebo Response: The Placebome

Kathryn Hall, PhD, MPH
Division of Preventive Medicine
Brigham and Women's Hospital





**“Where there is love of humanity, there is
also love for the art of medicine”
~ Hippocrates**

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Red Hat

intuition, hunches,
feelings, emotions



White Hat

information available
and needed, facts, data



Yellow Hat

benefits, value,
positive aspects



Black Hat

caution, difficulties,
risks, weaknesses



Green Hat

creative ideas,
alternatives, possibilities



Blue Hat

managing the thinking,
focus, summary

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My Registered Charity – Baci Foundation – Mobile Education Unit at Glen Taylor School in Auckland



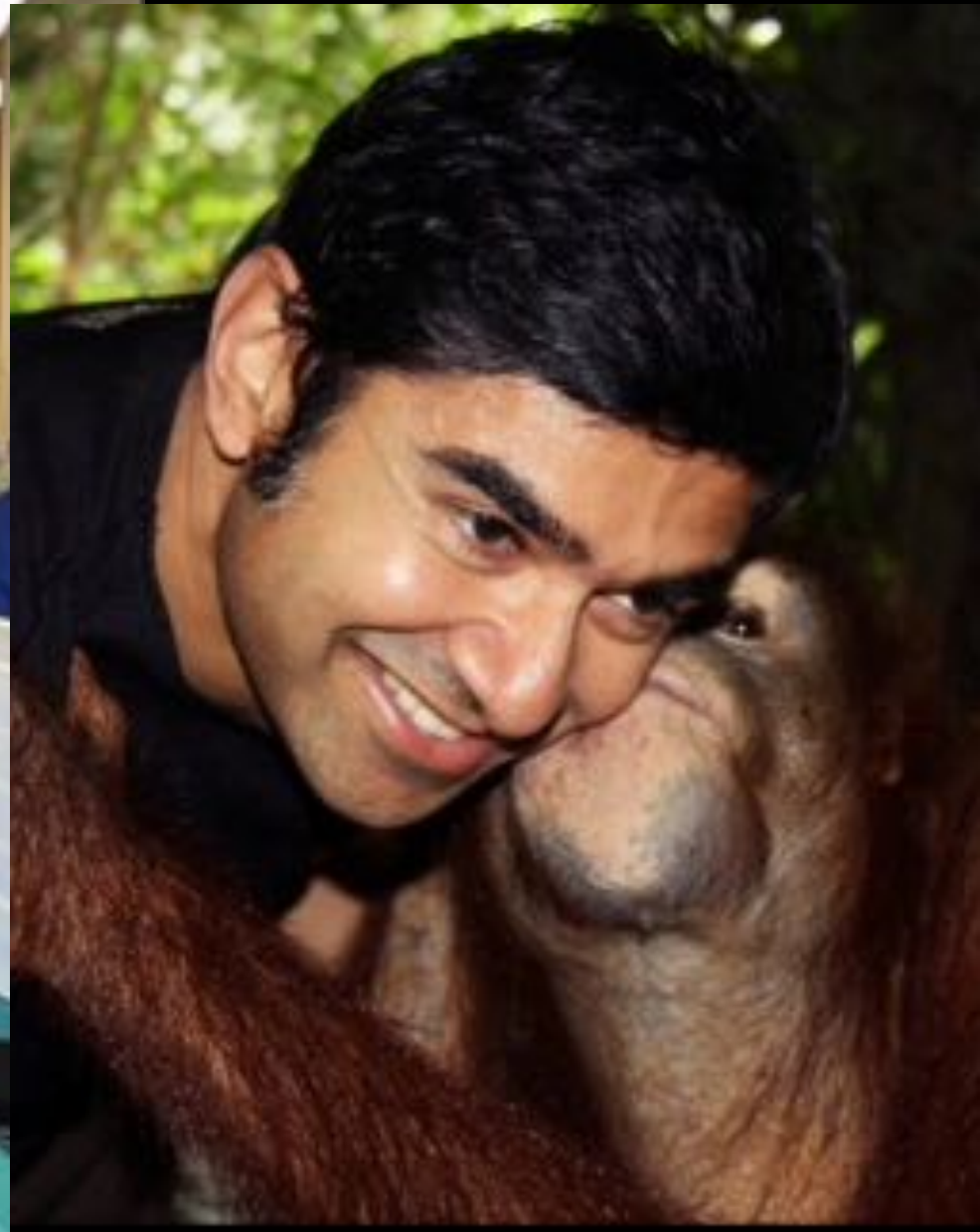
My Registered Charity – Baci Foundation – Mobile Education Unit at Glen Taylor School in Auckland



Opening of the Mobile Education Unit – May 2018 – Baci Foundation







ELEPHANT CORRIDORS IN INDIA

Approximately 30,000 elephants left in India

Elephants are widely distributed in the central and south Western Ghats, northeast India, east India, north India and some parts of southern peninsular India.

About **50** elephants lose their lives every year.

India loses nearly **400** people due to man-animal conflict.

India has 136 Elephant corridors. 26 Elephant reserves extending over about 60,000 sqkm have been formally notified by different state govts.



While most of the tiger habitats fall within the protected areas, only 22% of elephant habitat has some kind of protection.



5 NGOs

Elephant Family, International Fund for Animal Welfare, IUCN Netherlands, World Land Trust and Wildlife Trust of India - have collected £20 million to save Indian elephants.

The main threat facing Indian elephants is loss of habitat and corridors and the resulting human-elephant conflict.

Corridors are strips of land, pathways, that allow elephants to move freely from one area to another.

Indian elephants may spend up to 19 hours a day feeding & can produce about 220 pounds of dung per day while wandering over an area that can cover up to 125 square miles.

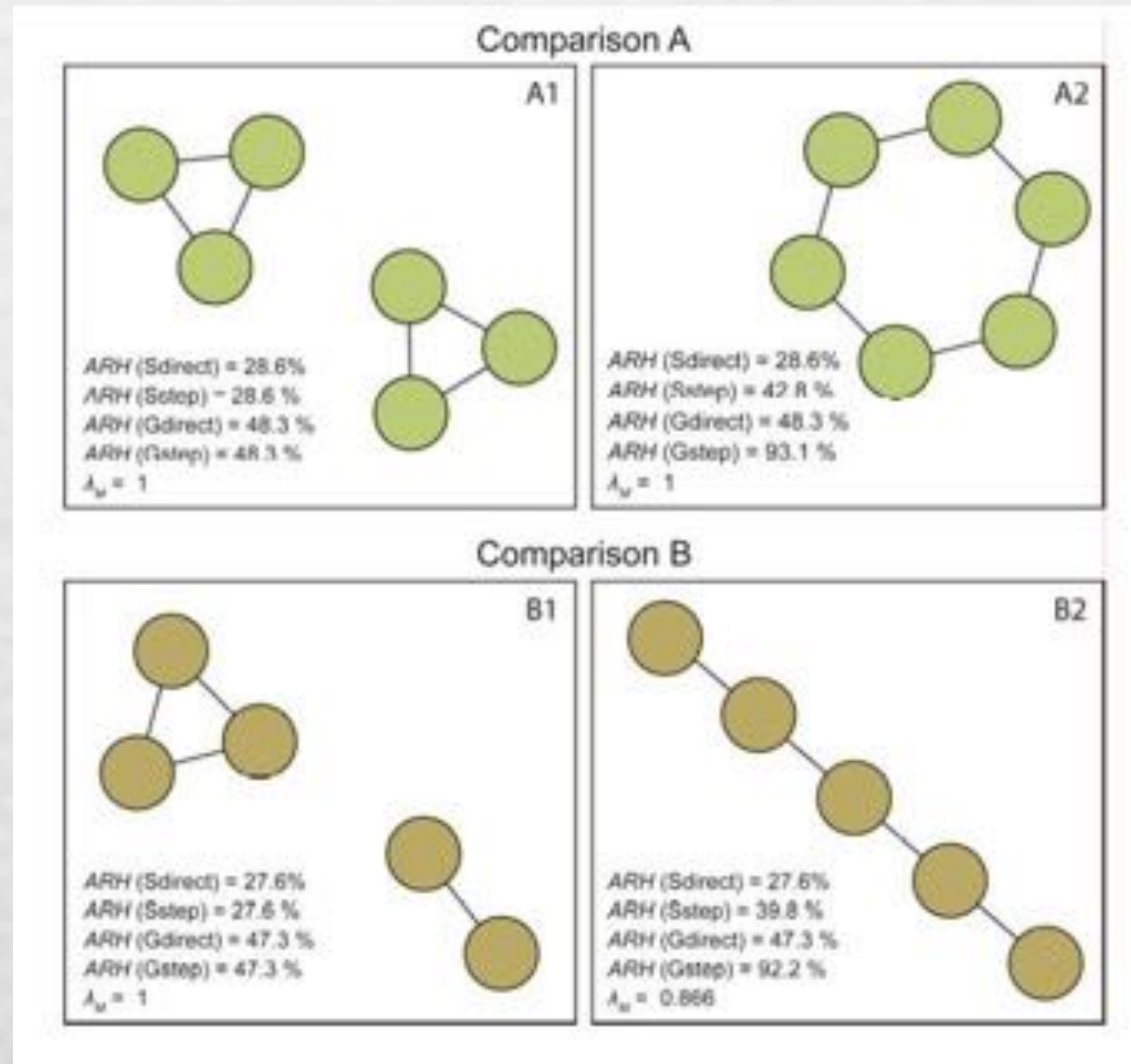
The Jaguar Corridor Initiative

Panthera is committed to conserving the region for jaguars because jaguars have previously been wiped out in many parts of the region, and their reintroduction is a high priority for conservationists.

Costa Rica is an integral part of the Jaguar Corridor Initiative because it is home to a large number of jaguars and therefore a crucial link between jaguar populations across Central America.



Conservation



Sustainability



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THE
PARADOX
OF
GENEROSITY



GIVING WE RECEIVE, GRASPING WE LOSE

Christian Smith &
Hilary Davidson

Dr
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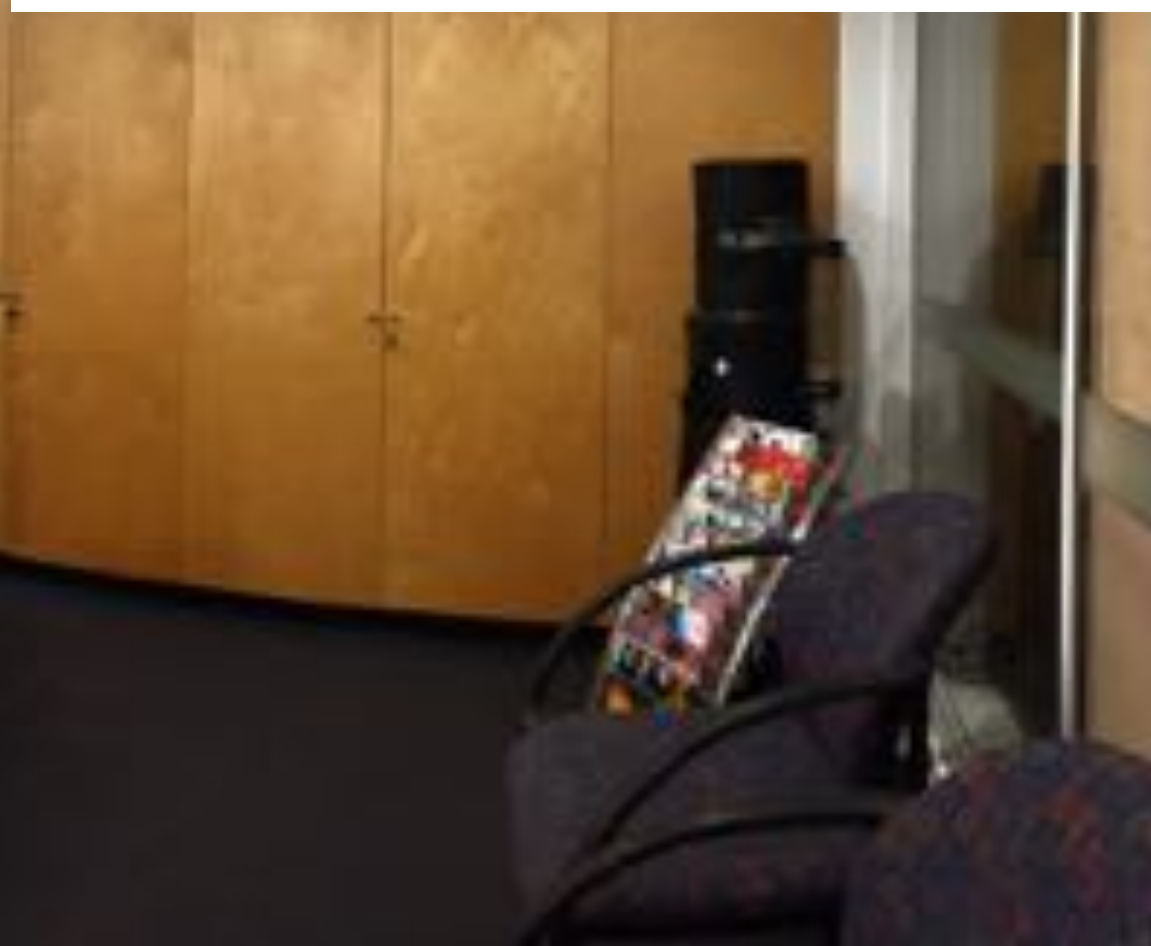
My Skin Surgery Clinic in Auckland, New Zealand



My Registered Charity – Baci Foundation – Mobile Education Unit at Glen Taylor School in Auckland

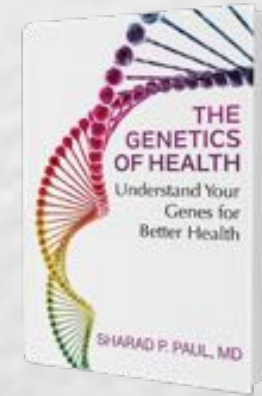
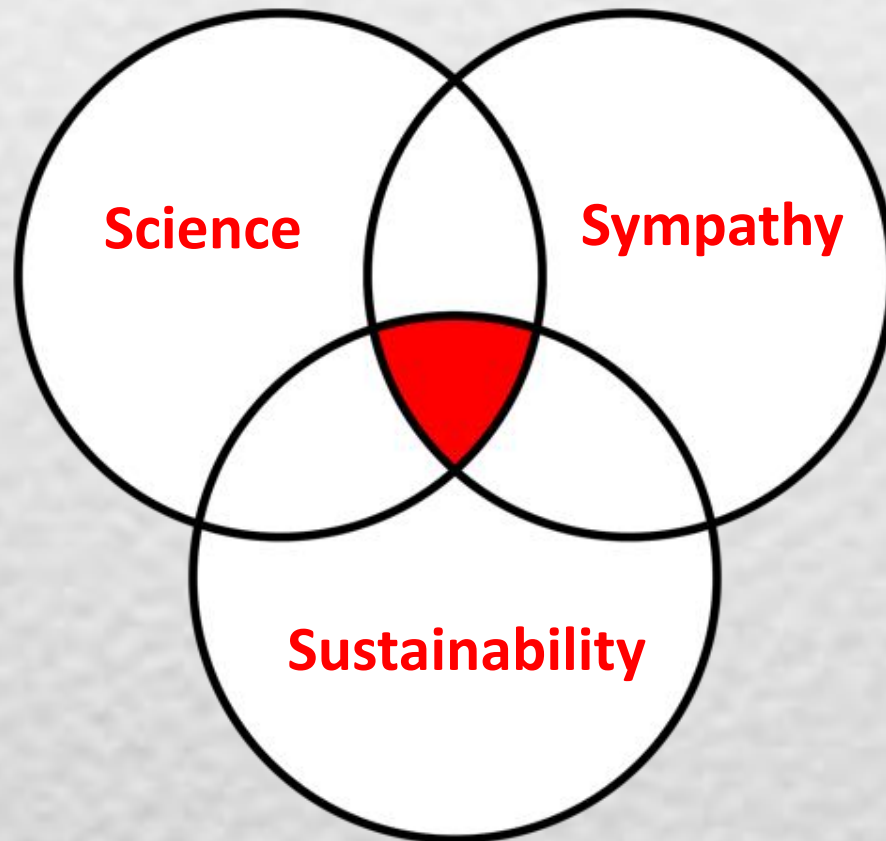


My Skin Surgery Clinic in Auckland, New Zealand





“Just as law doesn’t translate into justice, medicine isn’t health unless each of us takes personal responsibility”



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