

2020 REDFERN ORATION

PLANETARY HEALTH: Protecting and promoting health in the Anthropocene epoch

Professor Tony Capon
Director

Twitter: @MonashMSDI

#SDGs

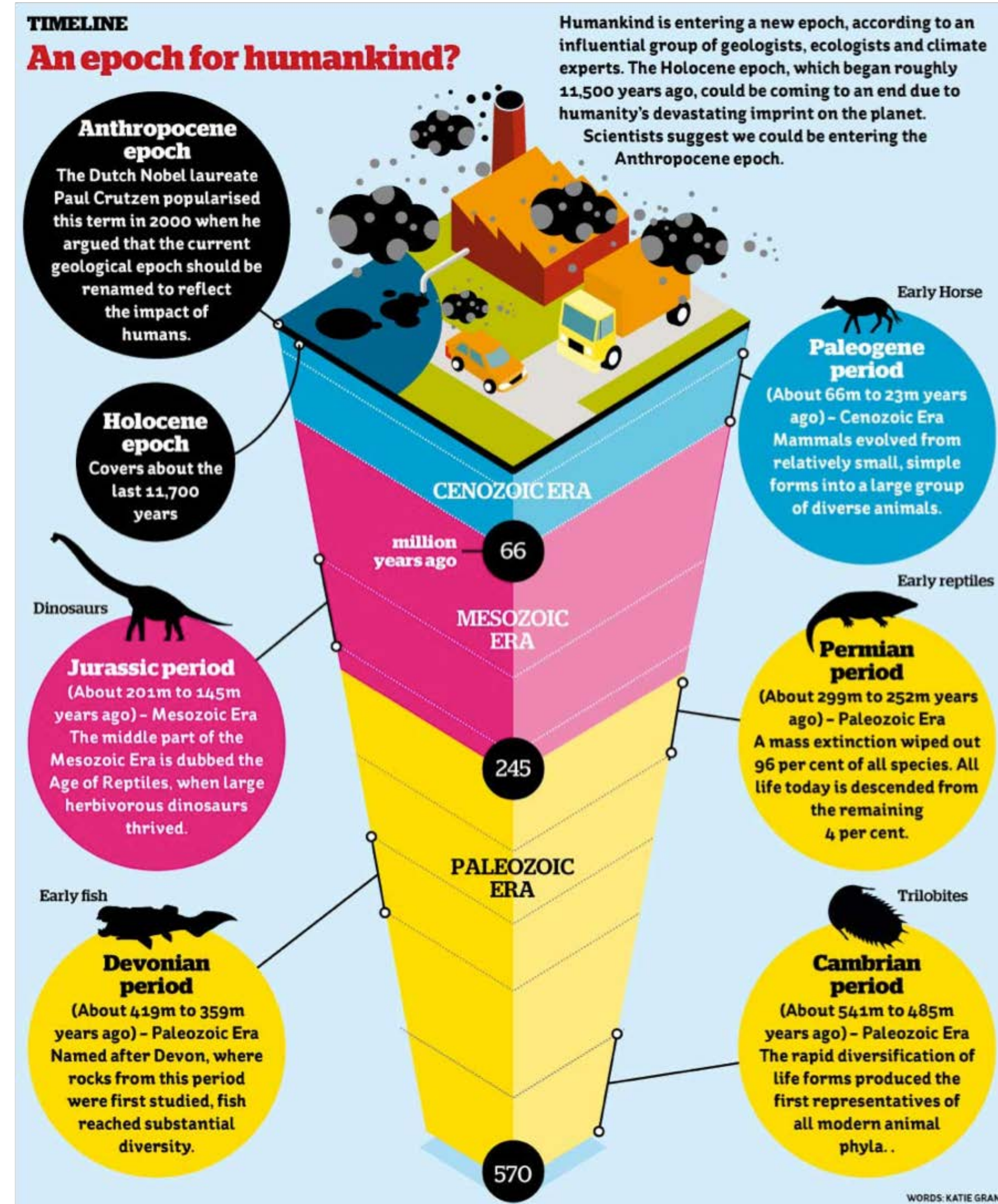
Photographic copy of a
portrait of William Redfern,
painted by George Marshall Mather in 1832.
Freeman & Co. copy, ca. 1926.
Photo © SLNSW P3 / 62



This talk

1. The Anthropocene epoch
2. Some relevant history
3. The Rockefeller Foundation–*Lancet* Commission on Planetary Health
4. Thinking ecologically about health
5. What should physicians do?

The Anthropocene epoch



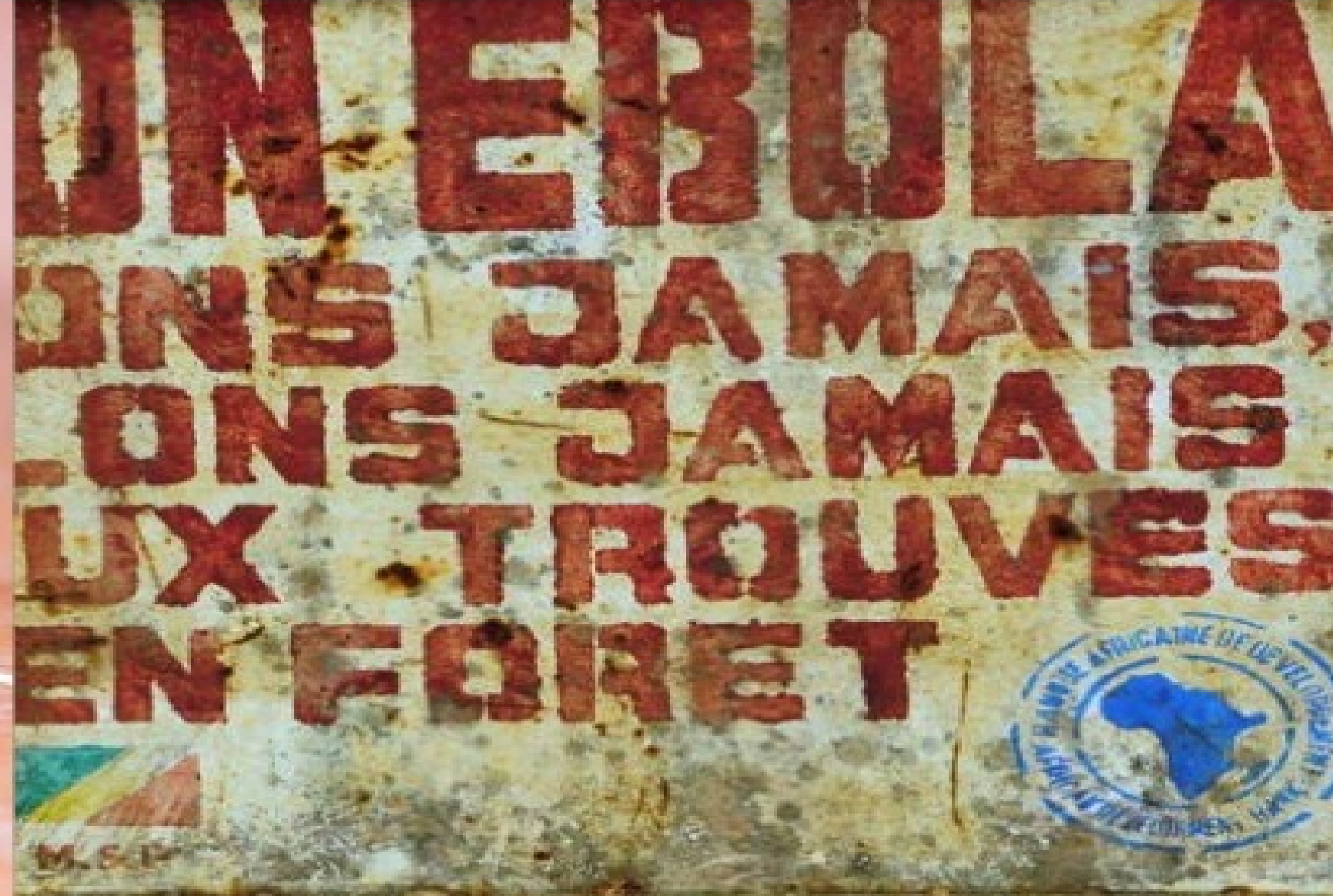
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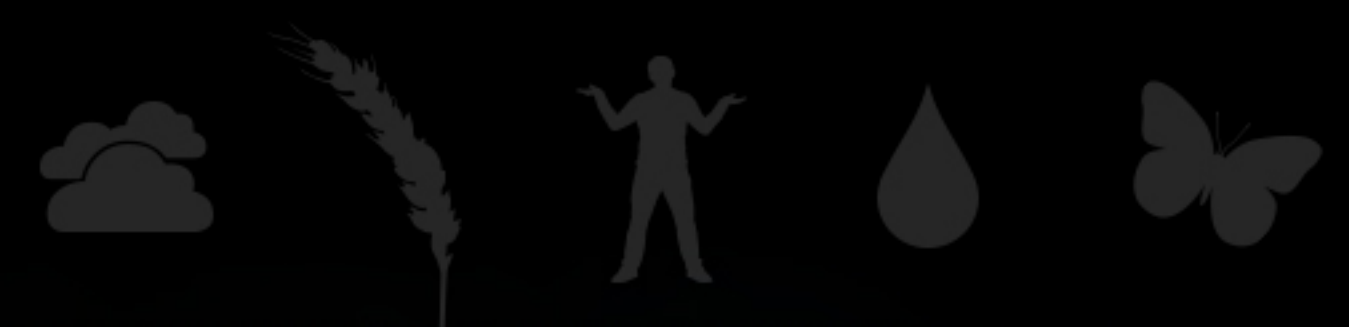


THE LANCET

Commission on Planetary Health

THE
ROCKEFELLER
FOUNDATION





Safeguarding human health in the Anthropocene epoch:
report of The Rockefeller Foundation–*Lancet* Commission on
planetary health

Commissioners:

Prof Chris Beyrer

Dr Fred Boltz

Prof Anthony Capon

Dr Alex Ezeh

Prof Gong Peng

Prof Sir Andy Haines (Chair)

Dr Richard Horton

Dr Sam Myers

Dr Sania Nishtar

Dr Steve Osofsky

Prof Subhrendu Pattanayak

Dr Montira Pongsiri

Dr Agnes Soucat

Dr Jeanette Vega

Dr Derek Yach

Dr Sarah Whitmee
(Commission Researcher)

Building on other work including One Health, EcoHealth and the Brundtland Commission

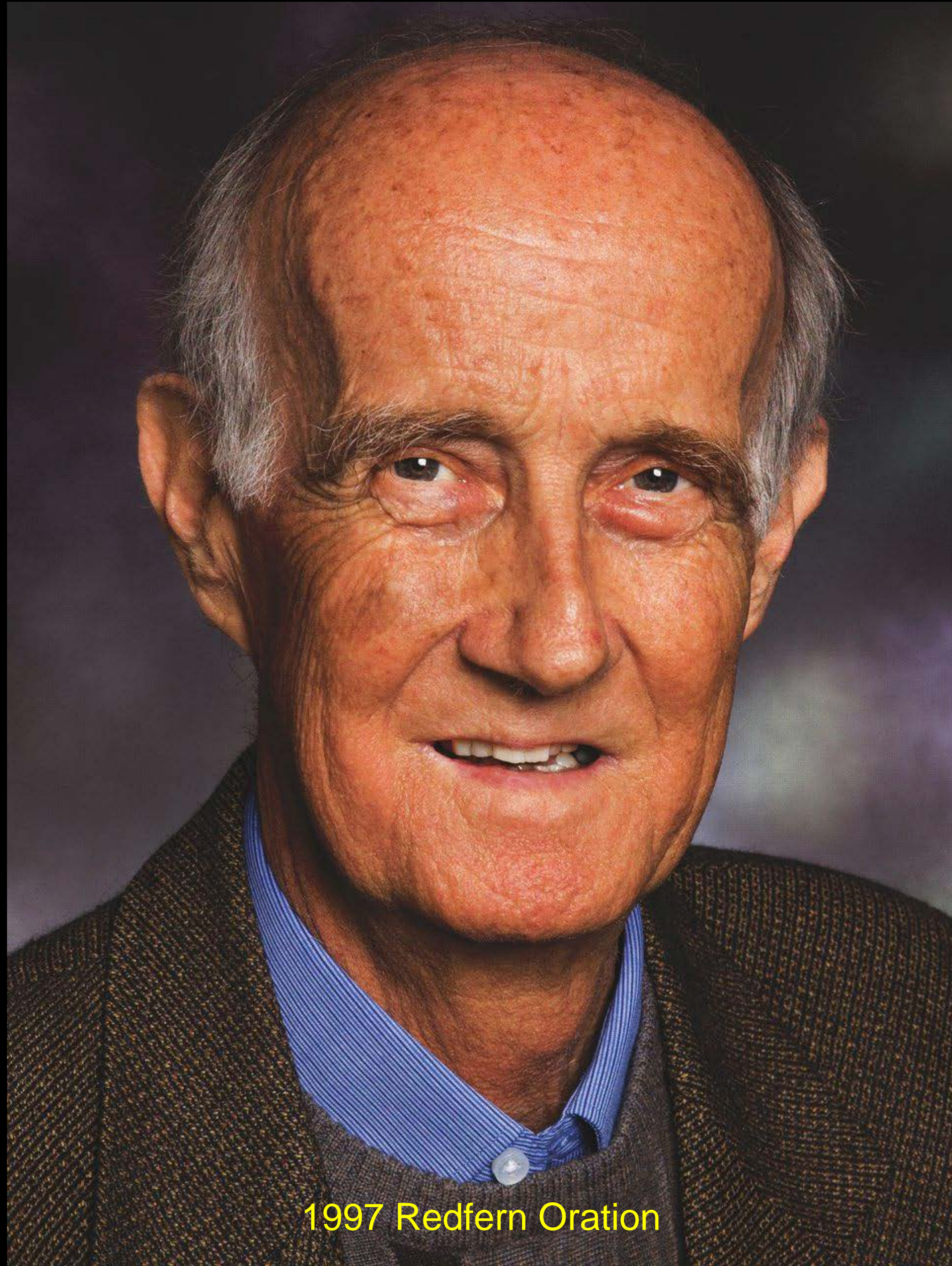
OUR COMMON FUTURE

THE WORLD COMMISSION

ON ENVIRONMENT

AND DEVELOPMENT

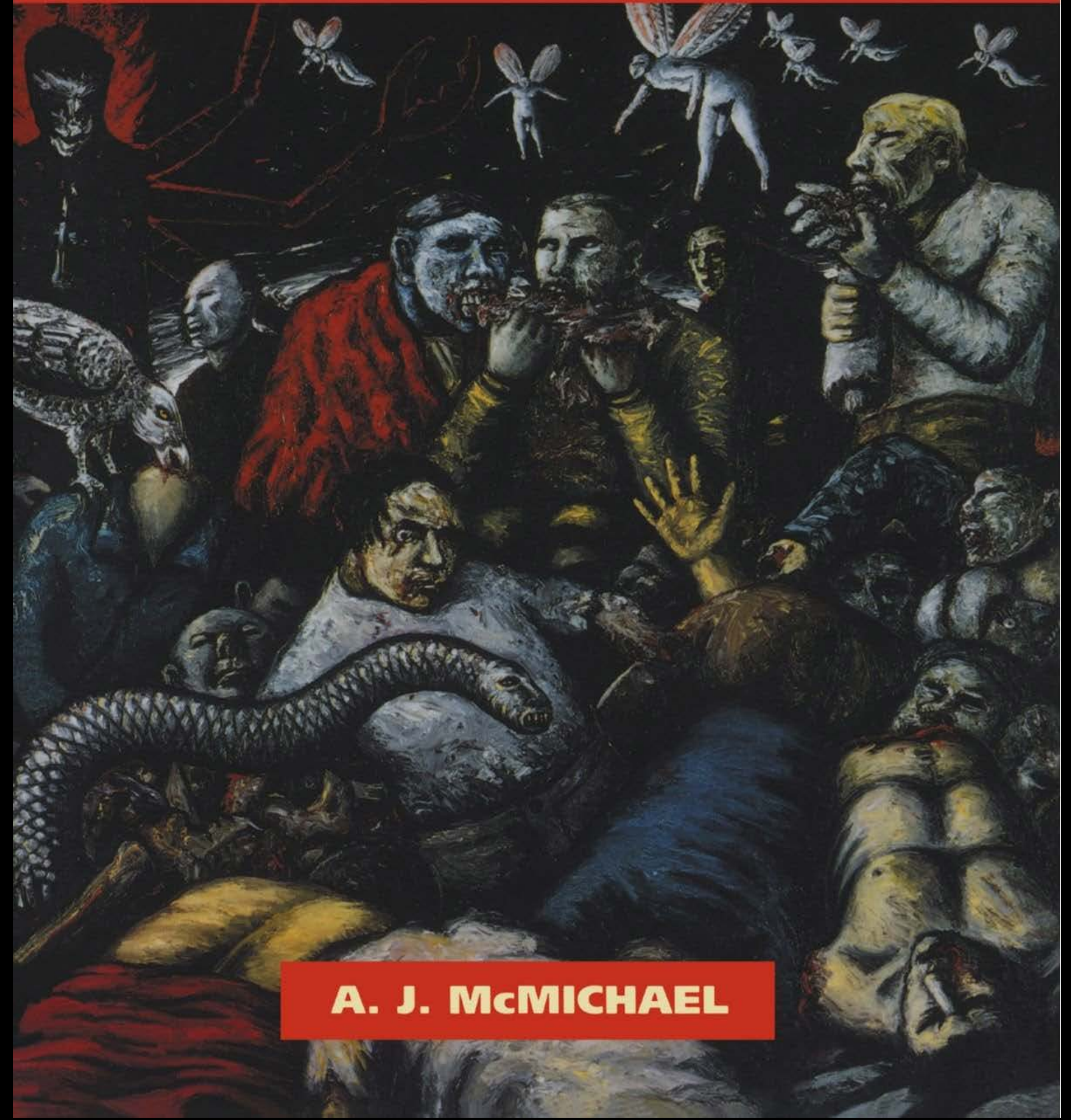




1997 Redfern Oration

PLANETARY OVERLOAD

Global Environmental Change and
the Health of the Human Species



A. J. McMICHAEL

Hippocrates

circa 400 BC



ON AIRS, WATERS, AND PLACES

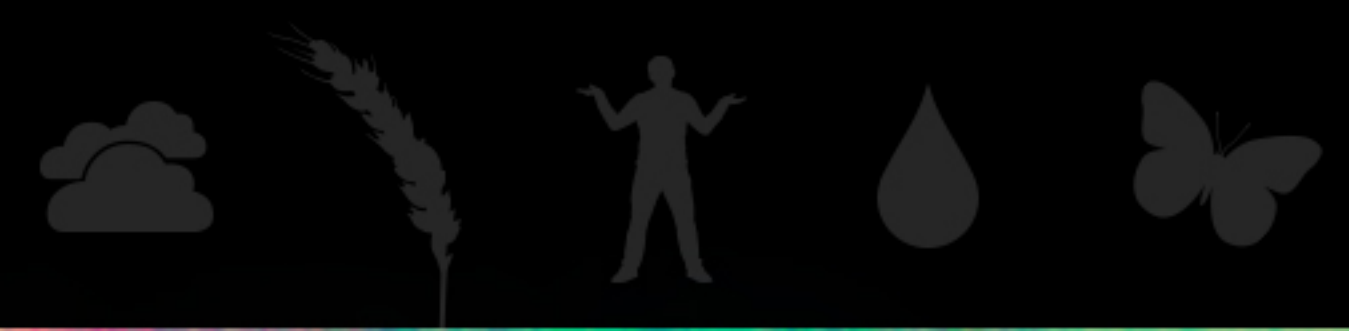
Translated by E. V. Rieu

HIPPOCRATES



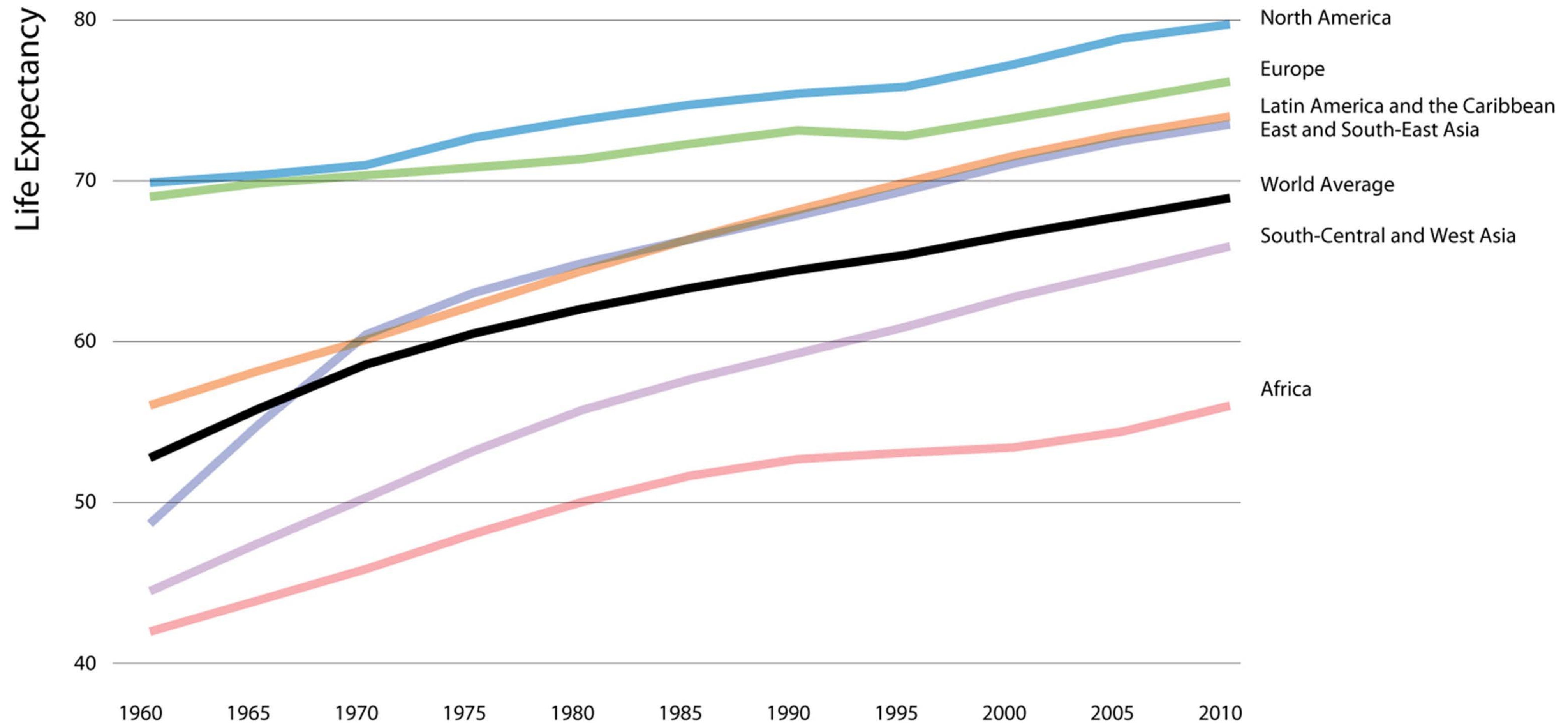
WAIORA

Promoting Planetary Health and Sustainable Development for All
Promouvoir la santé planétaire et le développement durable pour tous
Promover la salud del planeta y el desarrollo sostenible para todos
Te Hāpai Hauora ā-Ao me te Whanaketanga Tūturu mō te Katoa



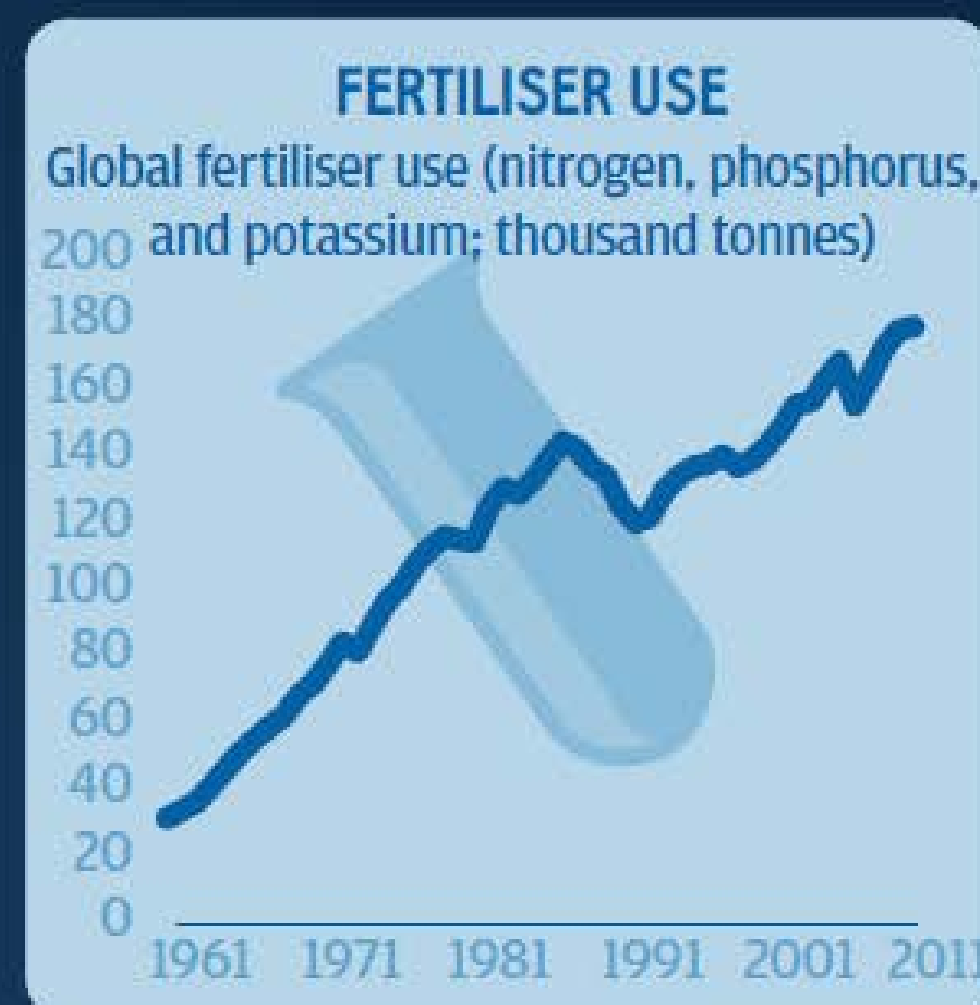
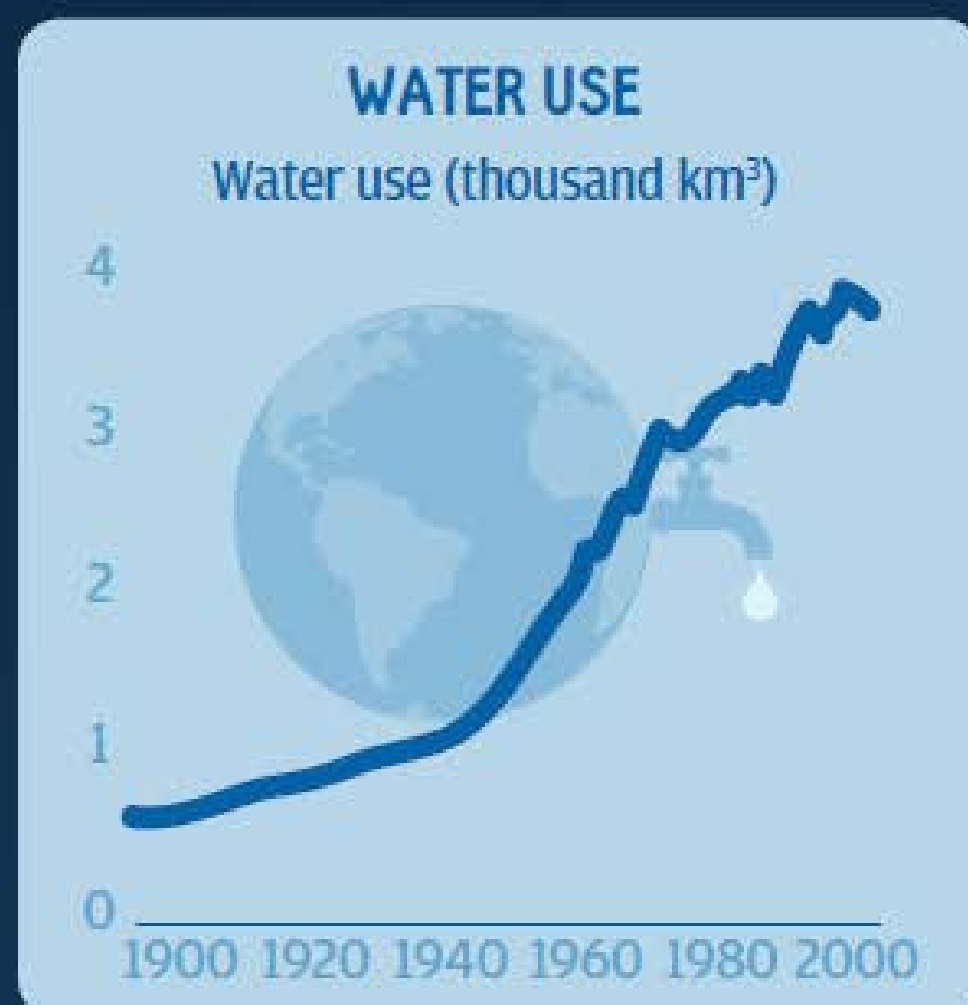
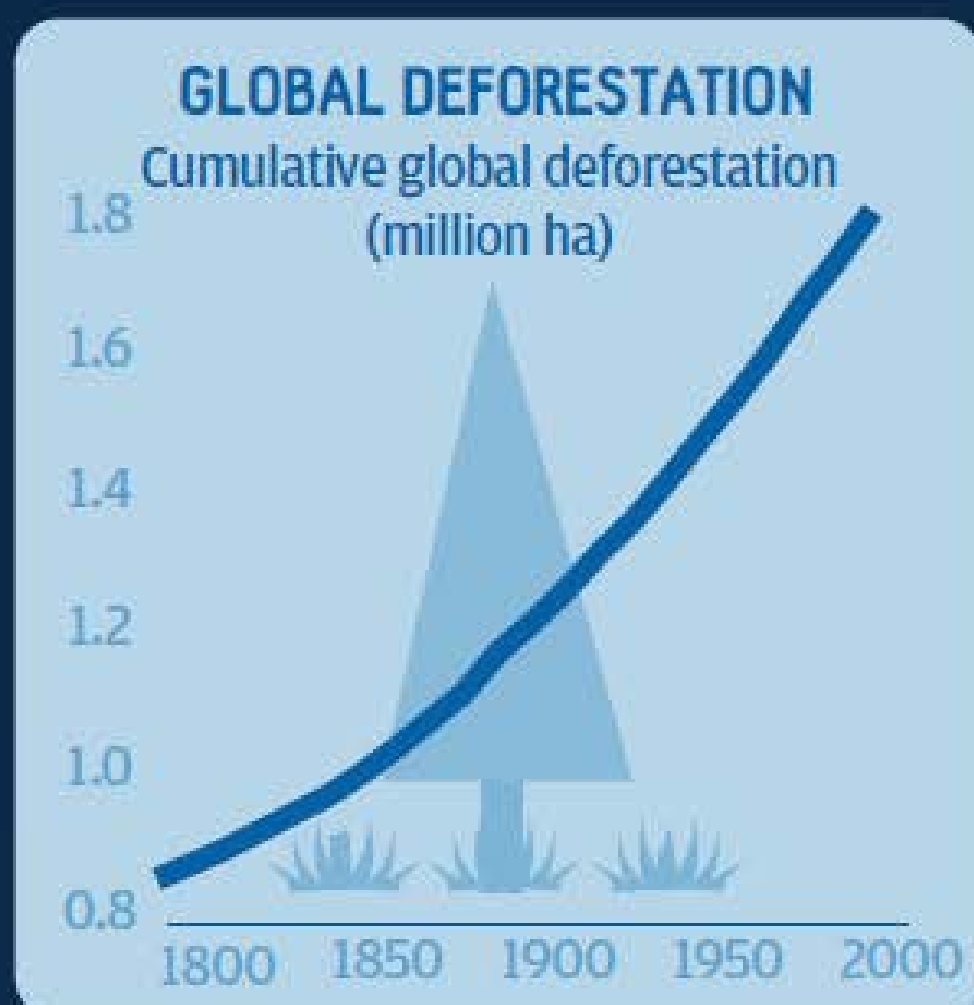
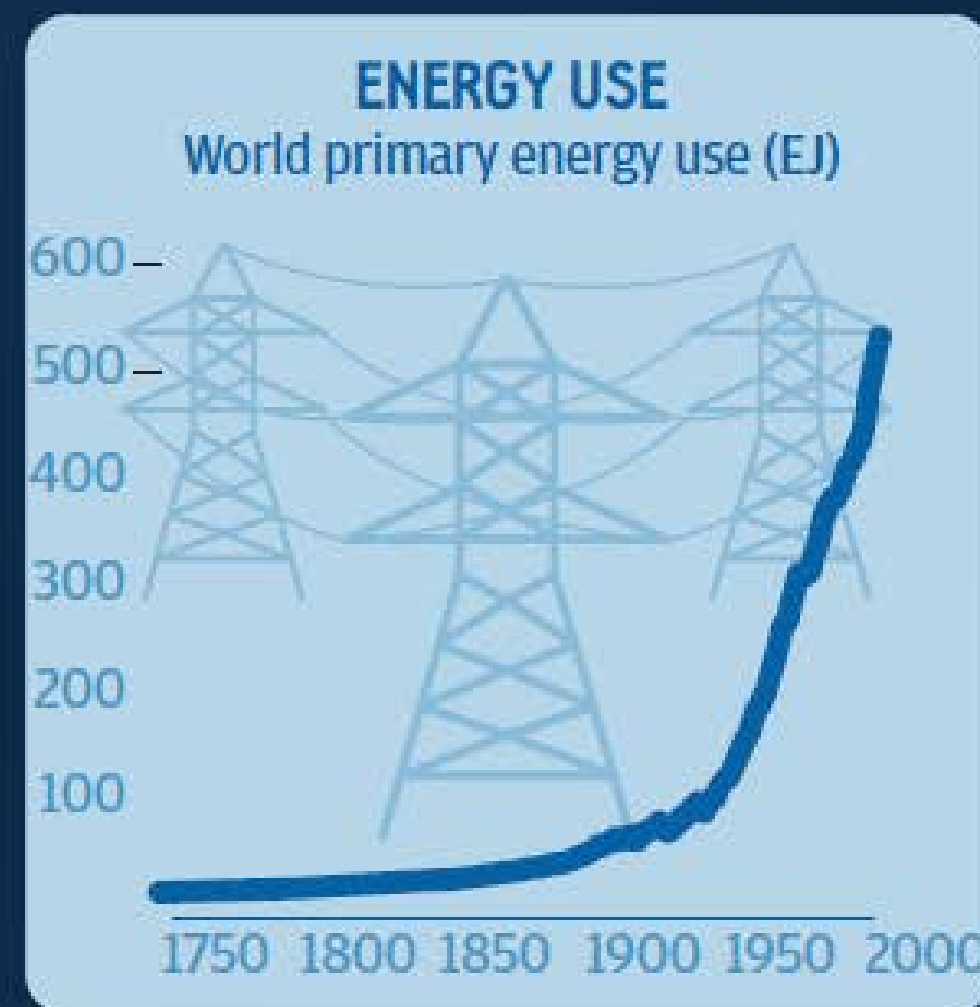
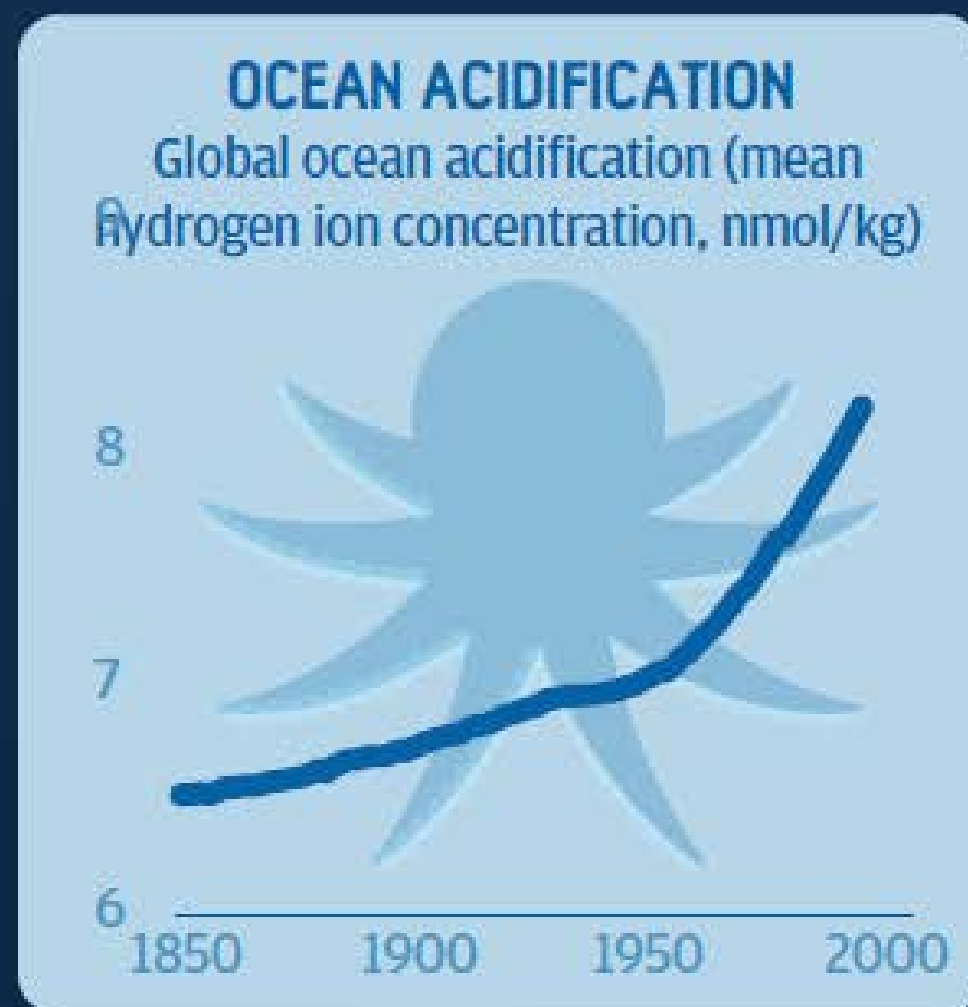
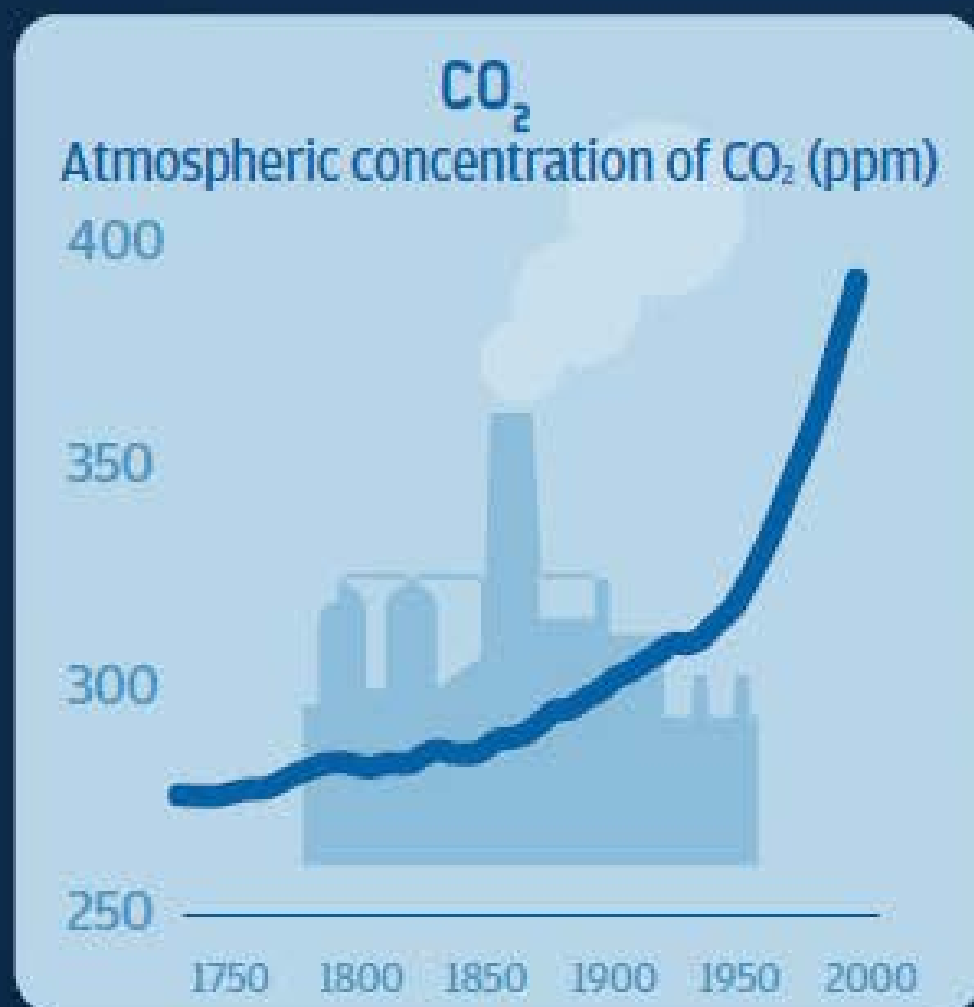
By almost any measure, the human population is healthier than ever before

(World Bank, 2011)





But in achieving this, we've exploited the planet at an unprecedented rate





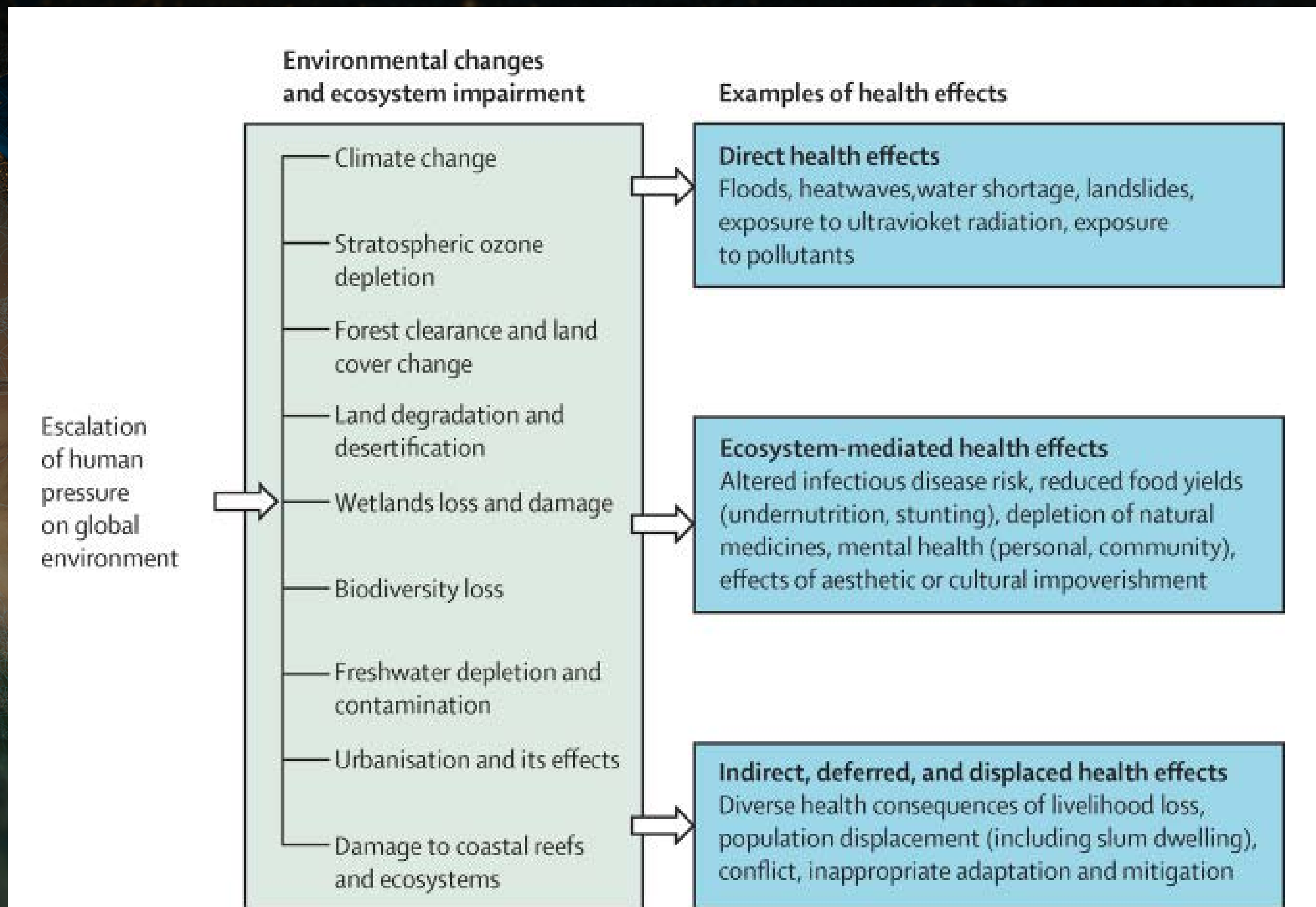
What is Planetary Health?

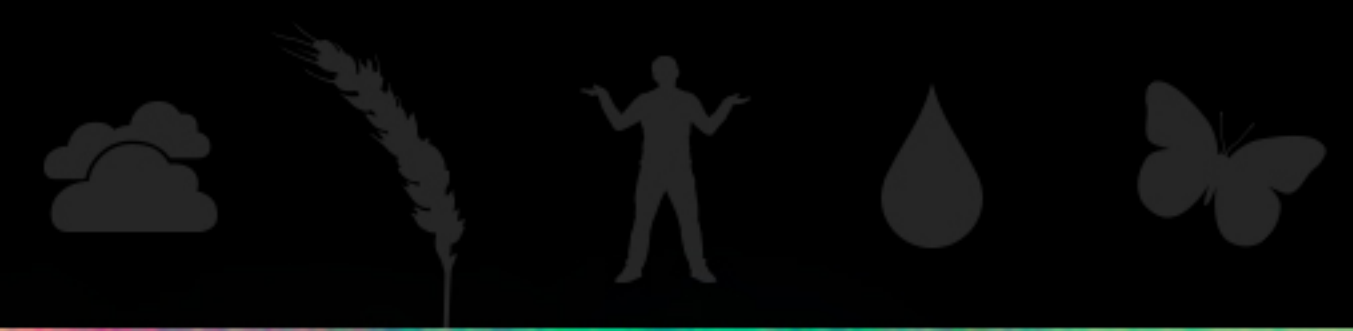
“ Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends. ”



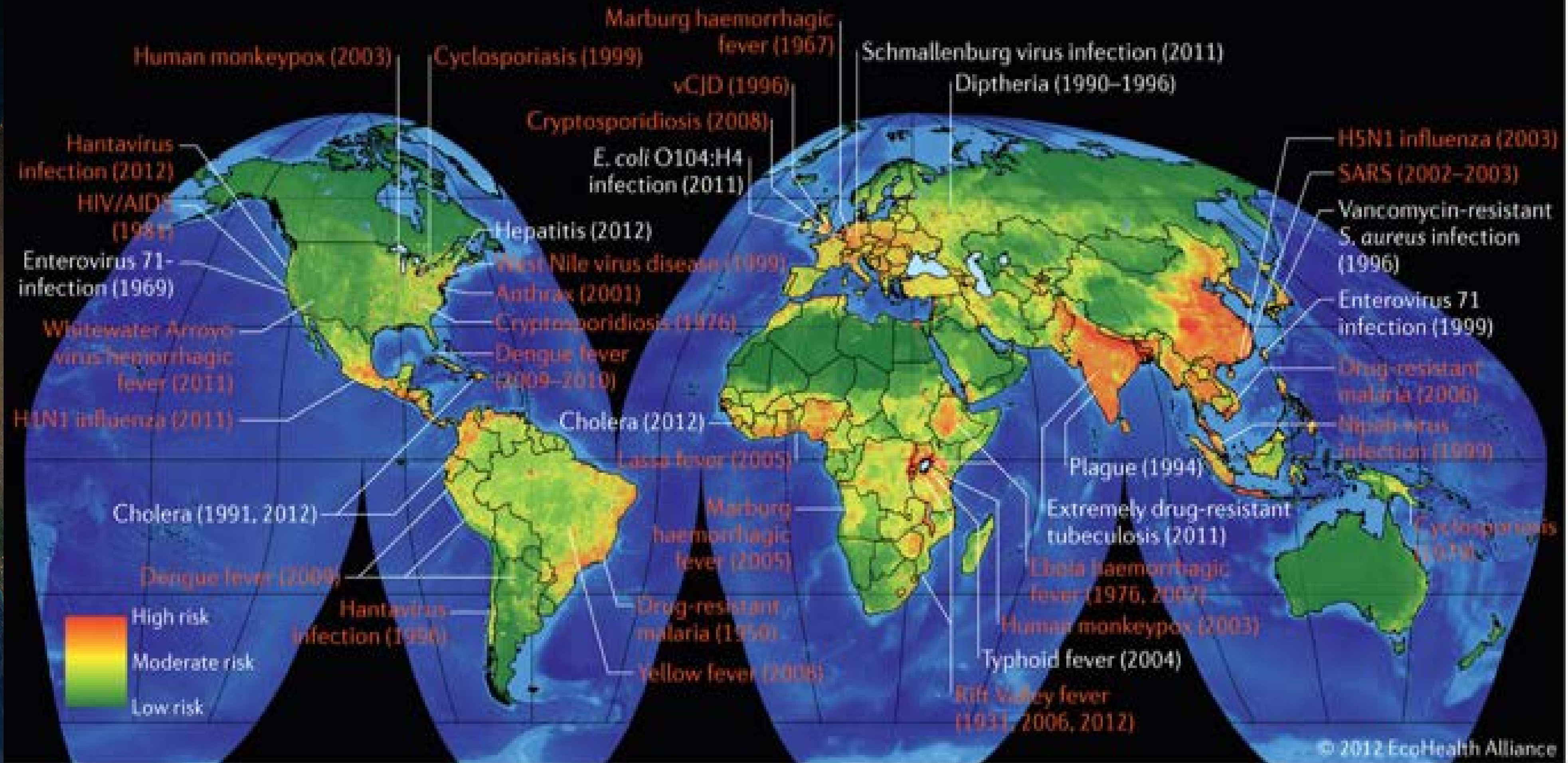
Links between environmental change and health

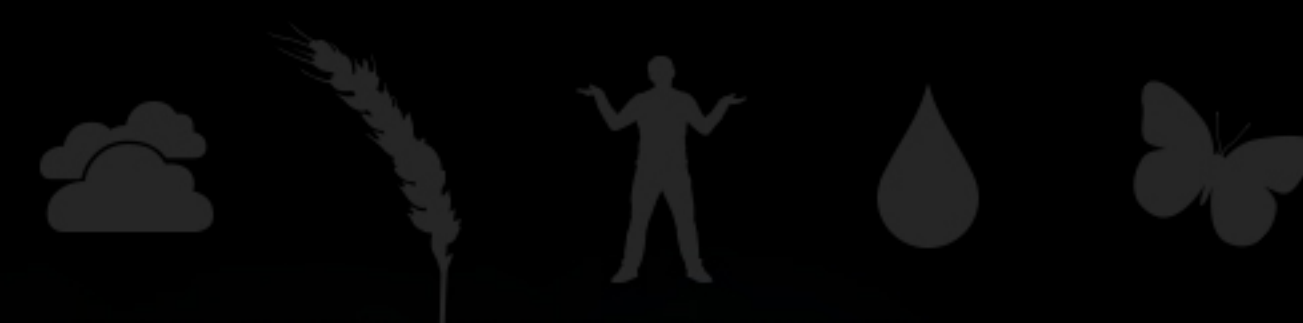
(Millennium Ecosystem Assessment, 2005)





Emerging diseases



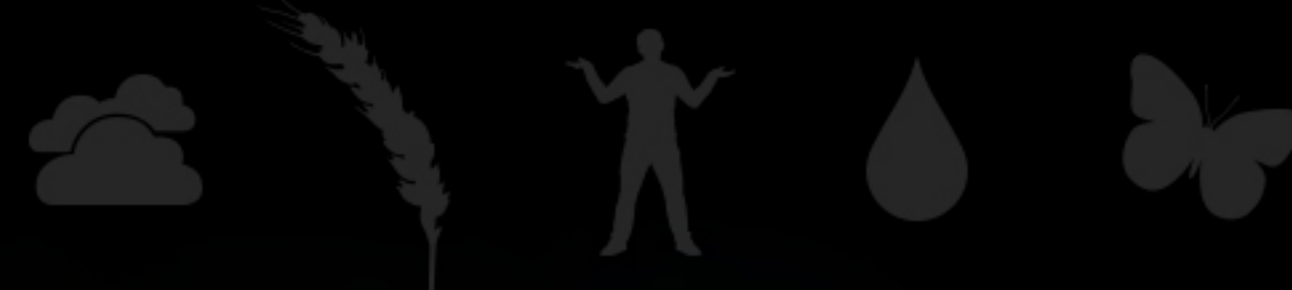


Estimates of air pollution deaths

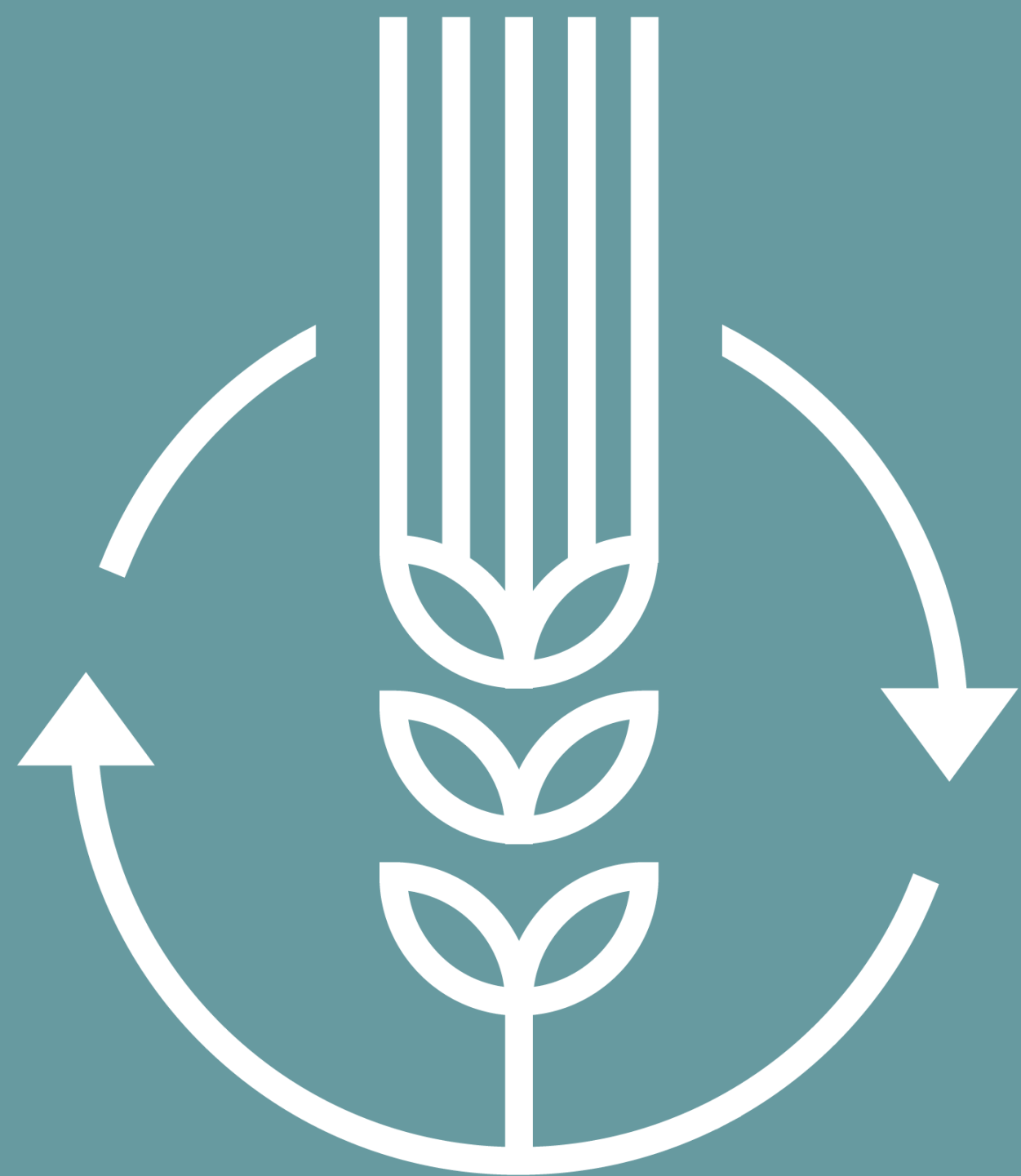
(WHO 2014; Lim et al, Lancet 2012)

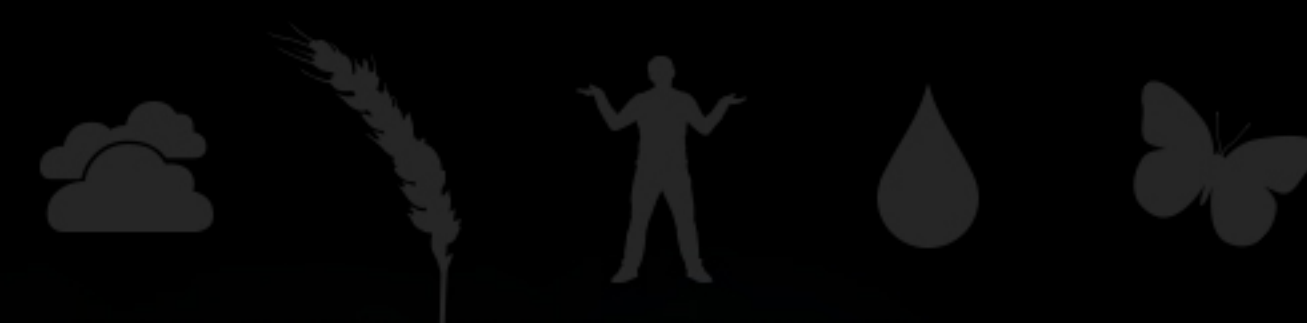


- Ambient particulates >3 m deaths p.a.
- Household from solid fuels >4 m deaths p.a.
- >7 million in total



Meeting the challenges





Forest Conservation Reduces Disease Risks: Examples from the Brazilian Amazon



Malaria transmission

- (-) fewer vector breeding sites.
- (-) larger vector predator populations and greater diversity of mammalian species (promoting dilution effects)
- (-) microclimate inhibits anopheline mosquitoes.

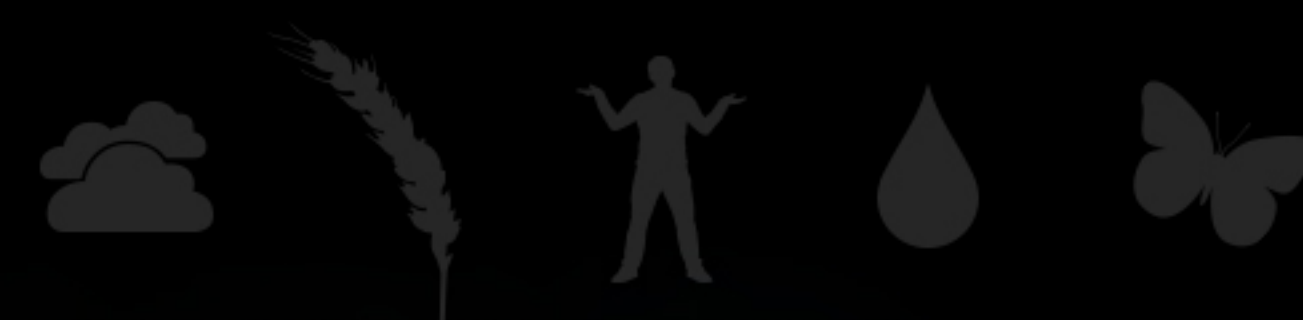
Acute Respiratory Infections (ARI)

- (-) forests may filter air particulates .
- (-) fewer fires and lower smoke emissions
- (-) reduced collection and burning of biomass fuel

Diarrhoea

- (-) forest may reduce flooding and filter pathogens from surface water

Bauch, Birkenbach, Pattanayak and Sills PNAS 2014



Increasing access to modern family planning

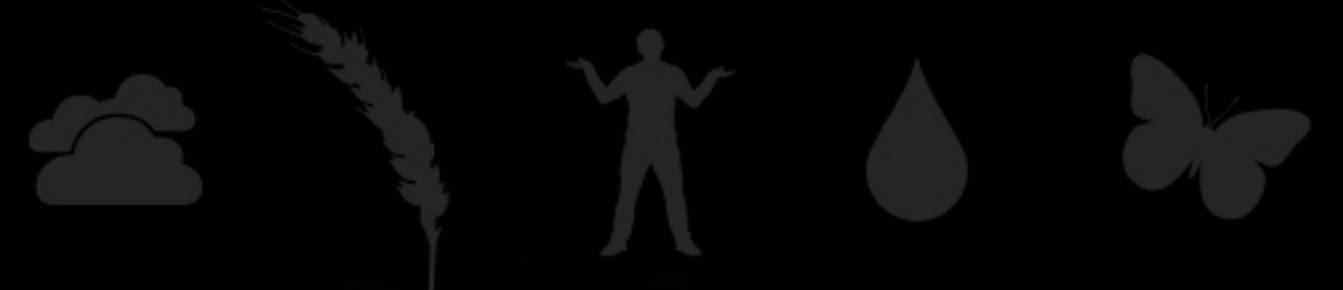
More than 200 million women who want to avoid pregnancy are not using effective contraception

Access to family planning could cut maternal deaths by around 30%

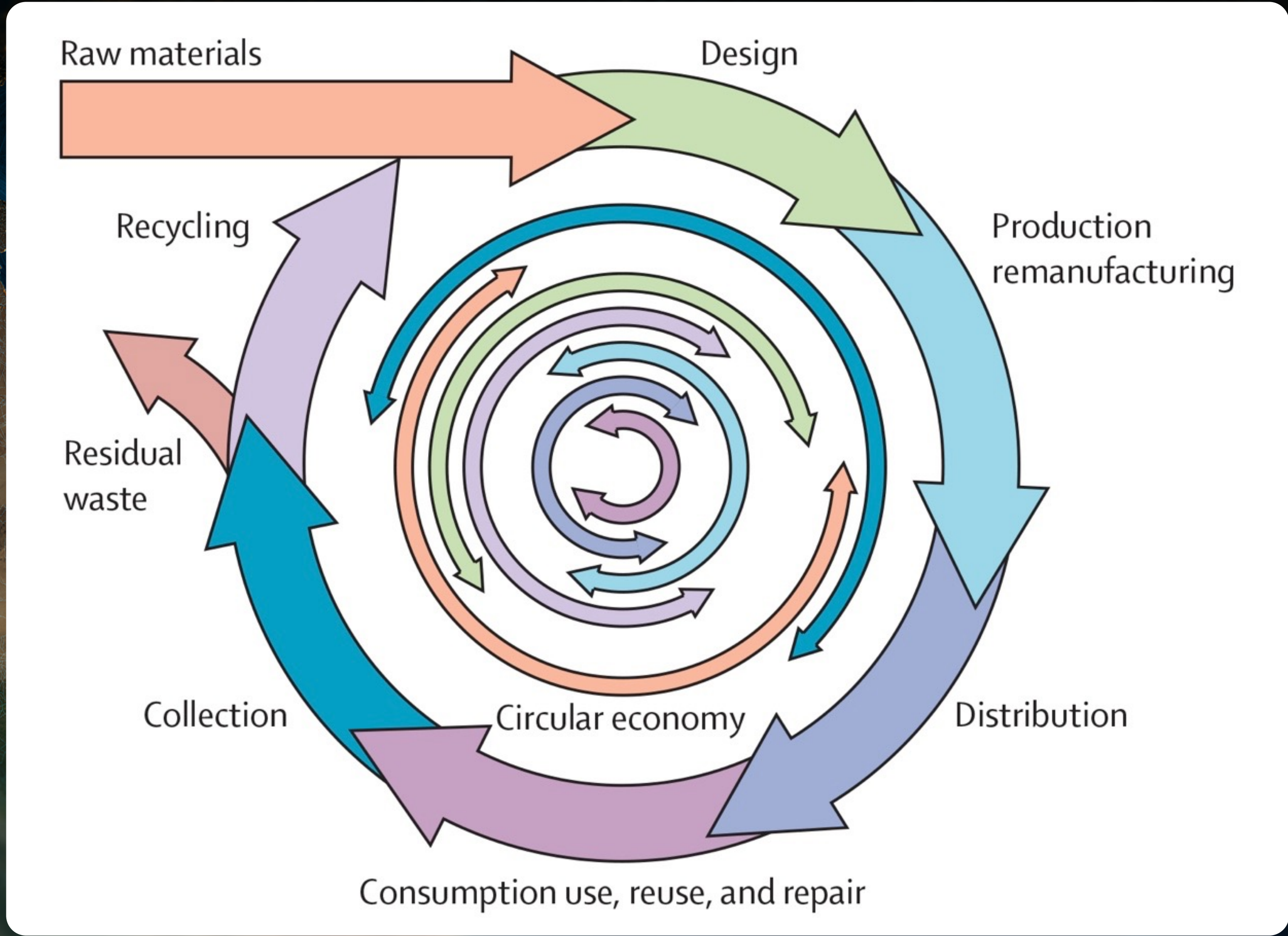
FAMILY PLANNING

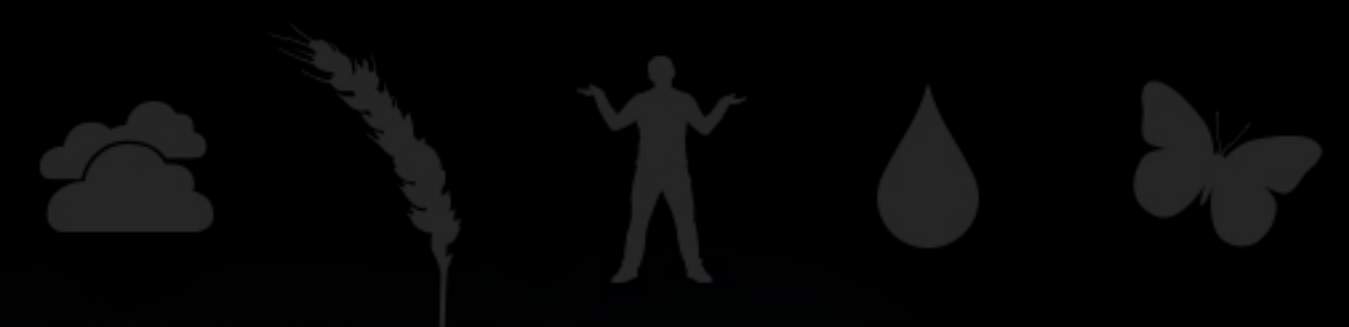


Meeting the needs for modern contraception in low-income countries would cost only an additional \$5.3 billion per annum



Circular economy





Solutions lie within reach and require a redefinition of prosperity to focus on quality of life and improved health for all, together with respect for the integrity of natural systems

- Conceptual challenges: Failures of imagination (e.g. genuine progress measures)
- Governance challenges: Failures of implementation (e.g. wellbeing of future generations)
- Research and information challenges: Failures of knowledge (e.g. transdisciplinary research)

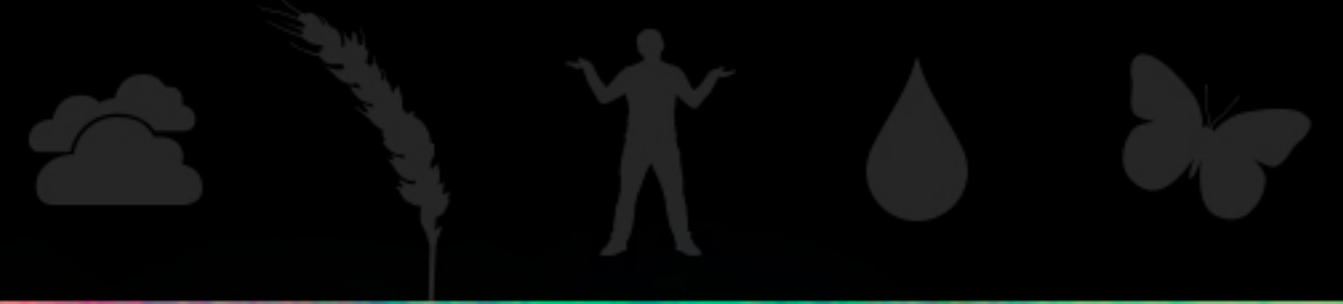
Beyond disciplinary silos in research

(Adapted from Lawrence, 2004)

Multidisciplinary refers to research involving more than one discipline where each specialist contributes using established concepts and methods

Interdisciplinary refers to research involving more than one discipline where there is modification, or mixing together, of disciplines to develop new ways of understanding complex problems

Transdisciplinary refers to bringing disciplinary knowledge together with know-how from policy, practice and Indigenous people to create a hybrid which is different from the component parts: 'Transcending' disciplines



<http://www.thelancet.com/commissions/planetary-health>





SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE DEVELOPMENT GOALS

HEALTH IN THE SDG ERA



World Health Organization

WWW.WHO.INT/SDGS



Our planet, our health

We're committed to understanding and tackling the threat to our health posed by a dramatically changing world. We also want to ensure that any solutions protect, nurture and sustain our planet.

Our planet, our health has been a strategic priority for us since late 2015.

- [Why it's a priority for us](#)
- [What we're doing](#)
- [What we want to achieve](#)
- [Our advisory panel and funding committee](#)

Why it's a priority for us

Our health is closely linked to the environment we live in. But we're placing too many demands on our planet. Natural systems that we rely on – from clean air to fresh water, biodiversity to a stable climate – are under threat.

As researchers discover more links between our health and the environment, we become better equipped to come up with ways to reduce these threats. There are already opportunities for change, but more research and action is needed.

We're well placed to act, because:

- we're an established and respected funder of population and other health research

NEWS

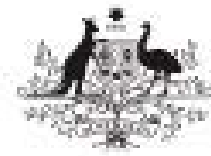


[More population health news](#)

CONTACT US

If you have any questions, contact the team:

OurPlanetOurHealth@wellcome.ac.uk

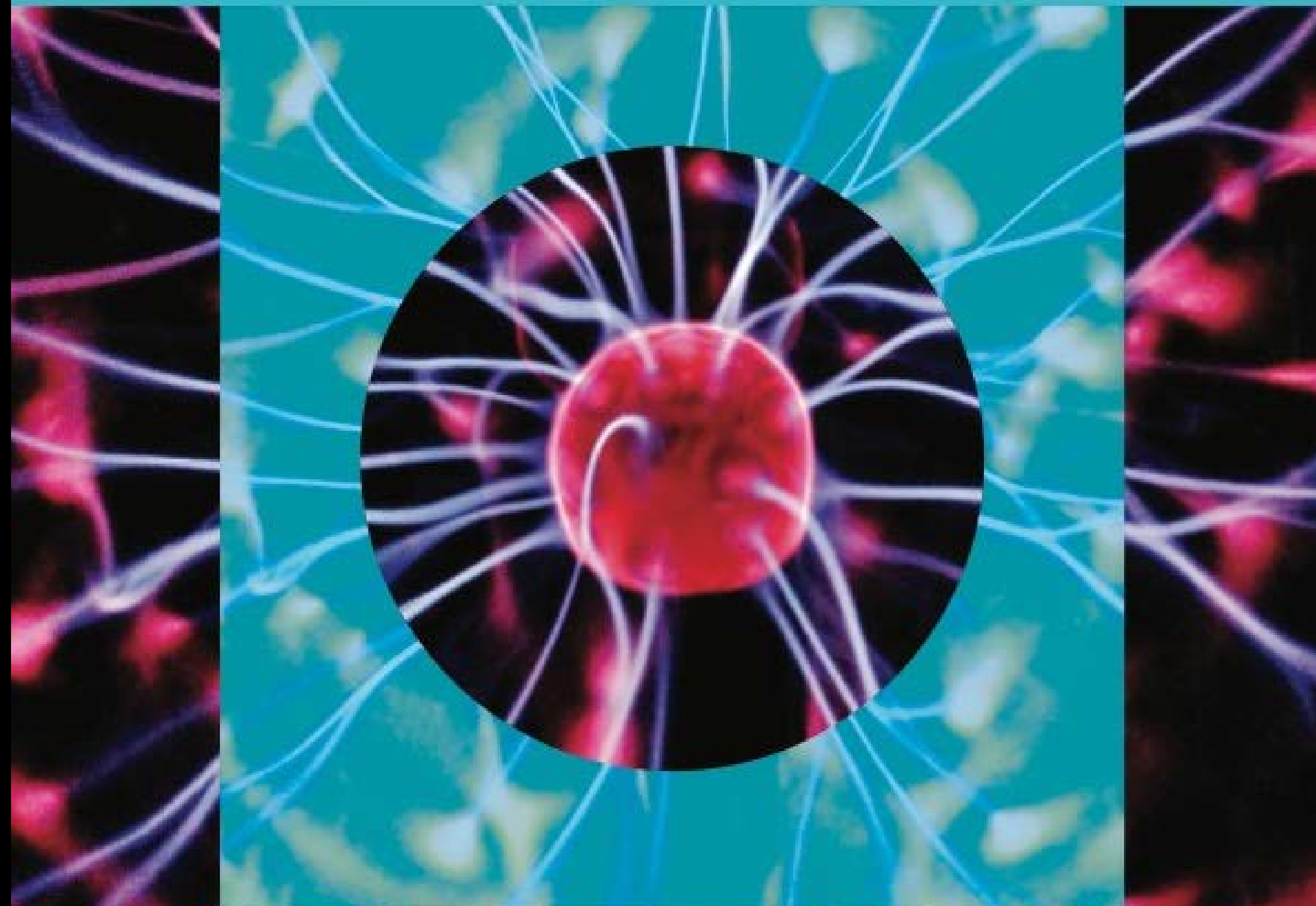


Australian Government
National Health and Medical Research Council

BUILDING
A HEALTHY
AUSTRALIA

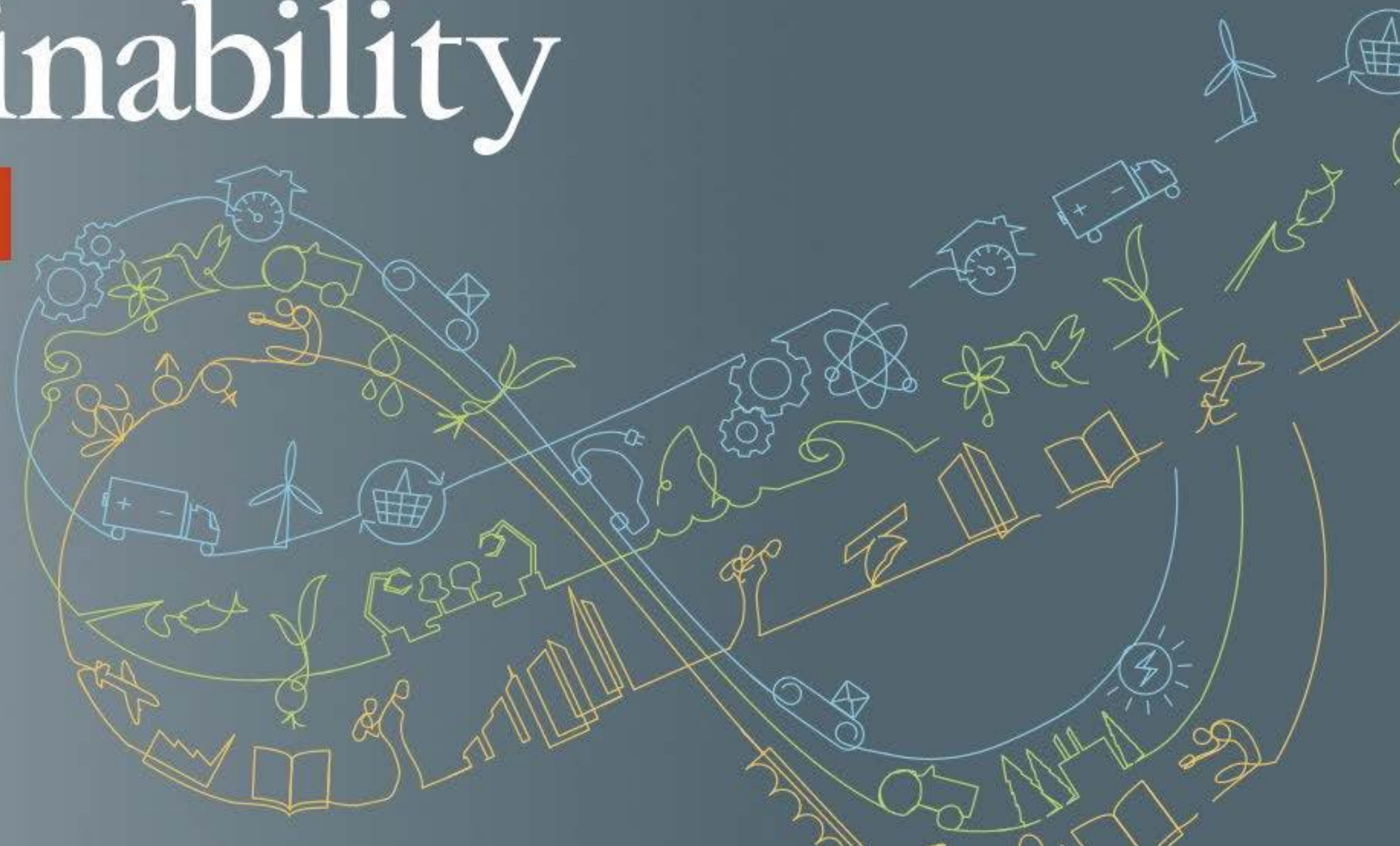
Corporate Plan 2019-20

National Health and Medical Research Council



nature sustainability

new in 2018



a nature research journal

THE LANCET Planetary Health

Volume 1 - Issue 1 - April 2017

www.thelancet.com/planetary-health



Comment

Climate change, global stability, and planetary health

See page e10

Articles

Drought and hospital admission and mortality in USA

See page e17

Articles

Water scarcity and effect of healthy diets in India

See page e26

‘Human ecology’ as a way of understanding patterns of human health—alongside ‘epidemiology’ as a core method in health research

STEPHEN BOYDEN

THE BIOLOGY OF
CIVILISATION

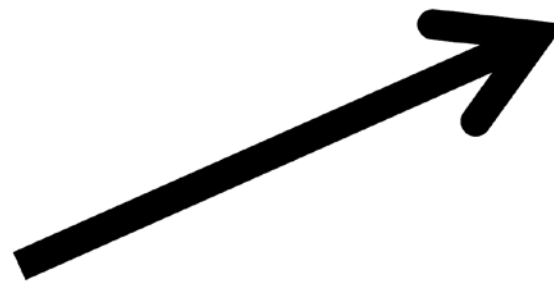


understanding

human culture as

a force in nature

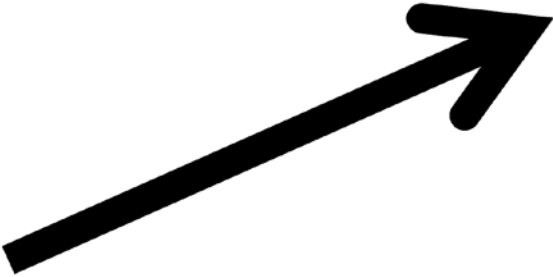
Human
activities



Health of
people

Behavioral
risk factors

Health of
people



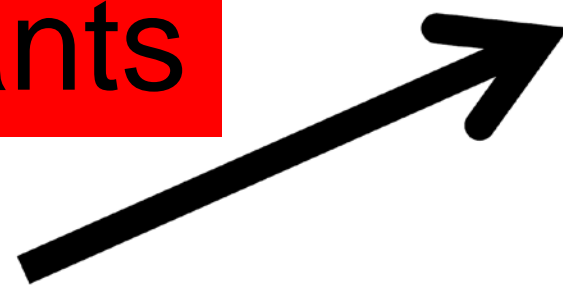
Human
activities

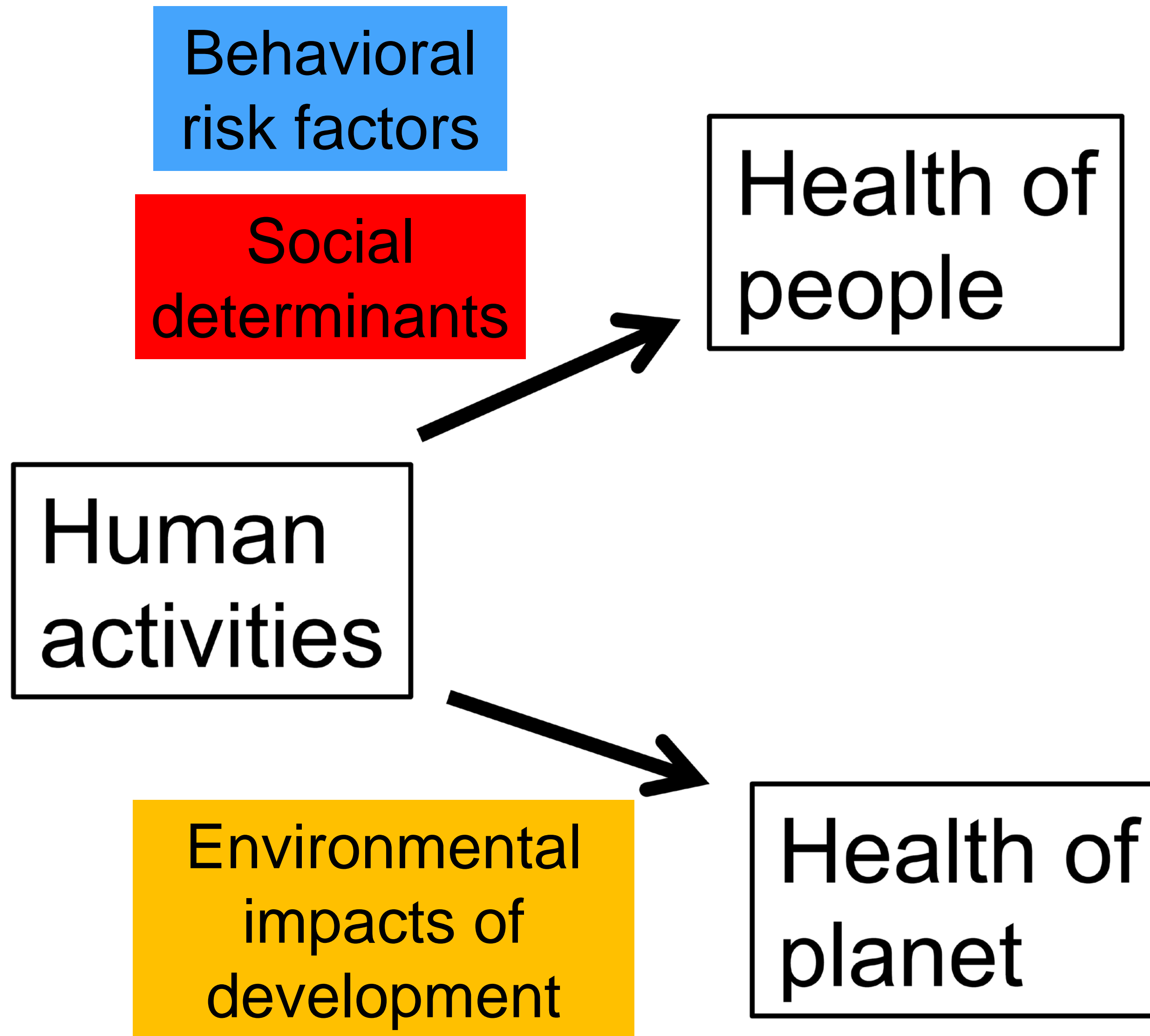
Behavioral
risk factors

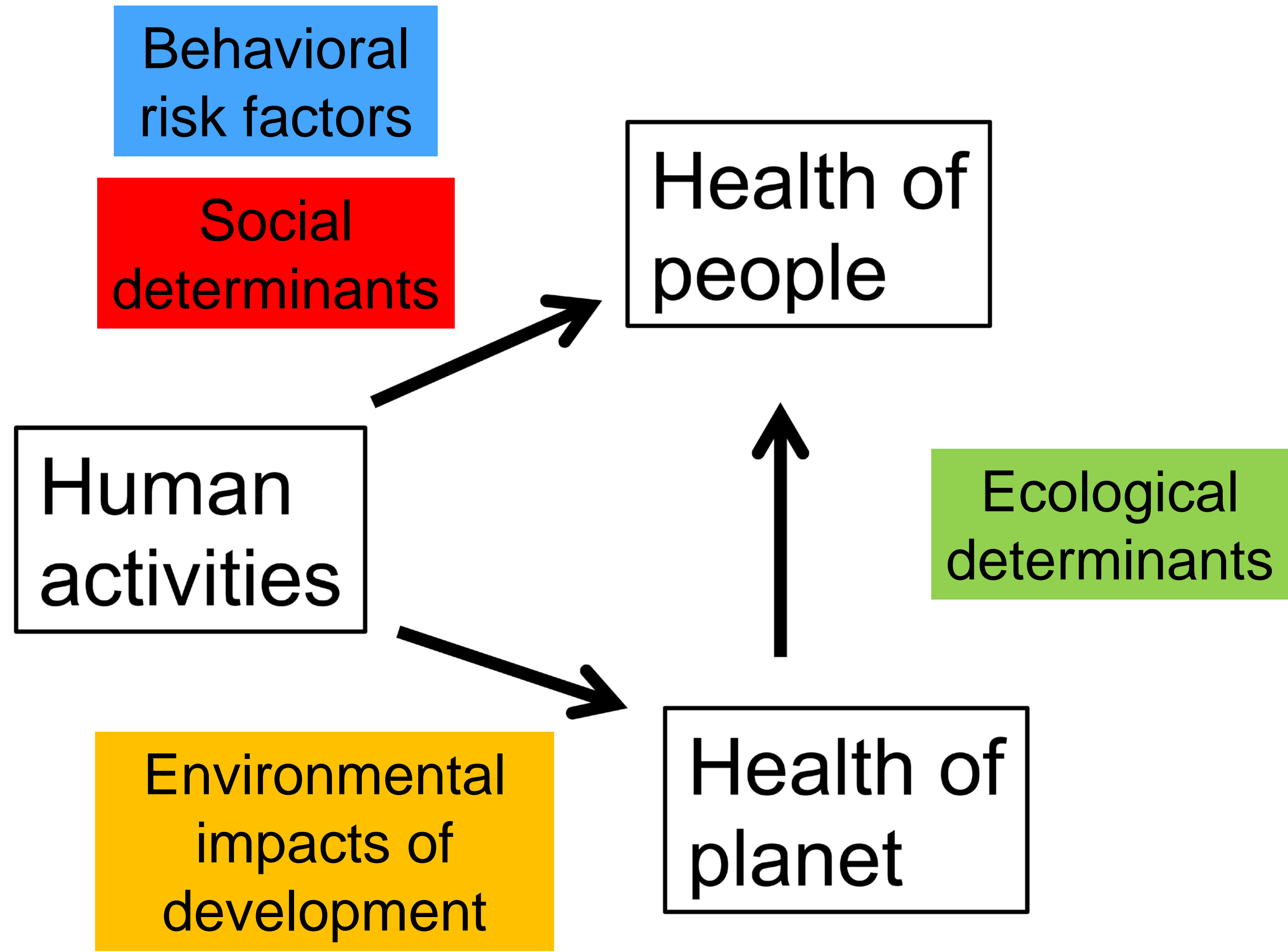
Social
determinants

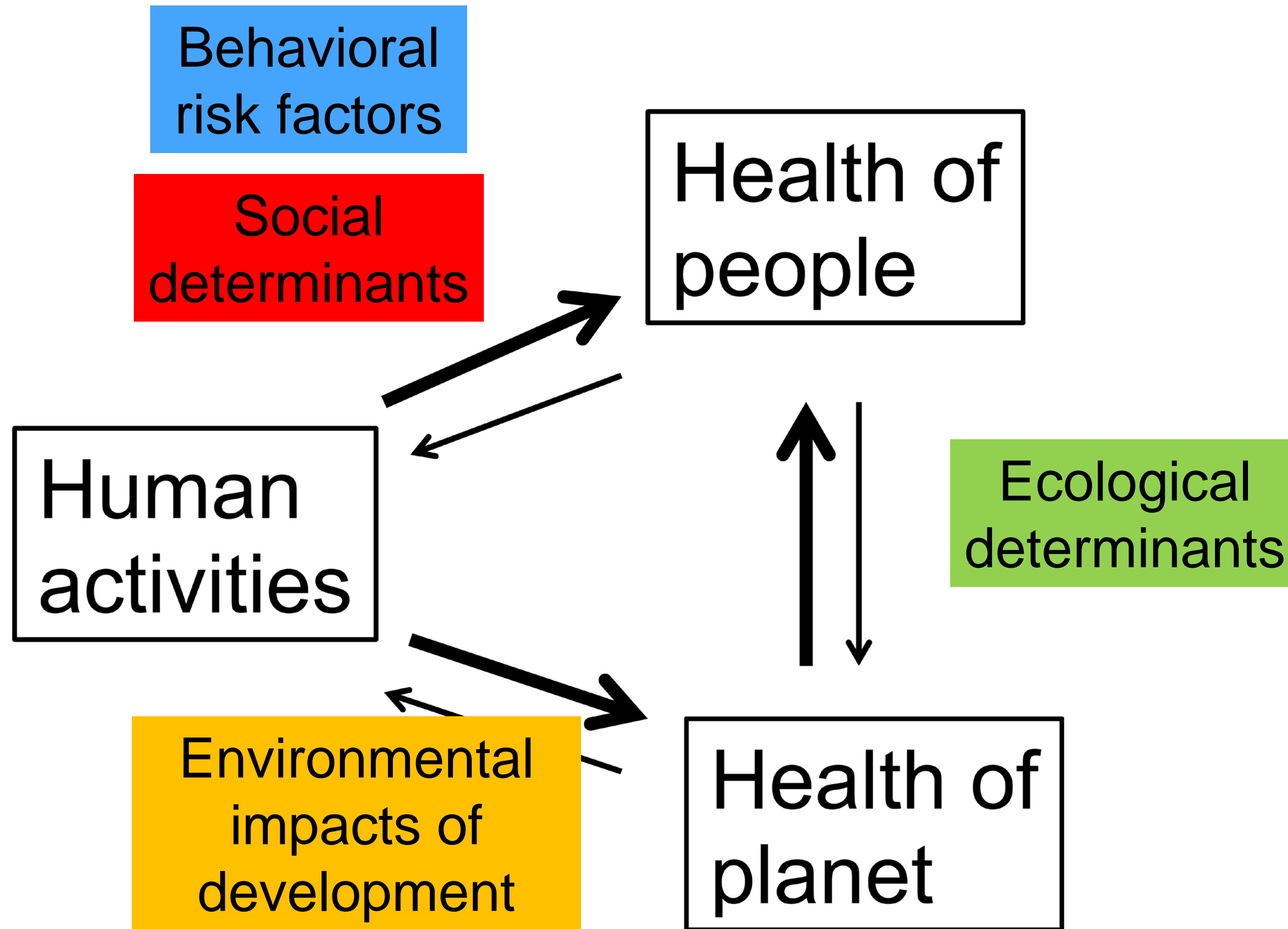
Human
activities

Health of
people



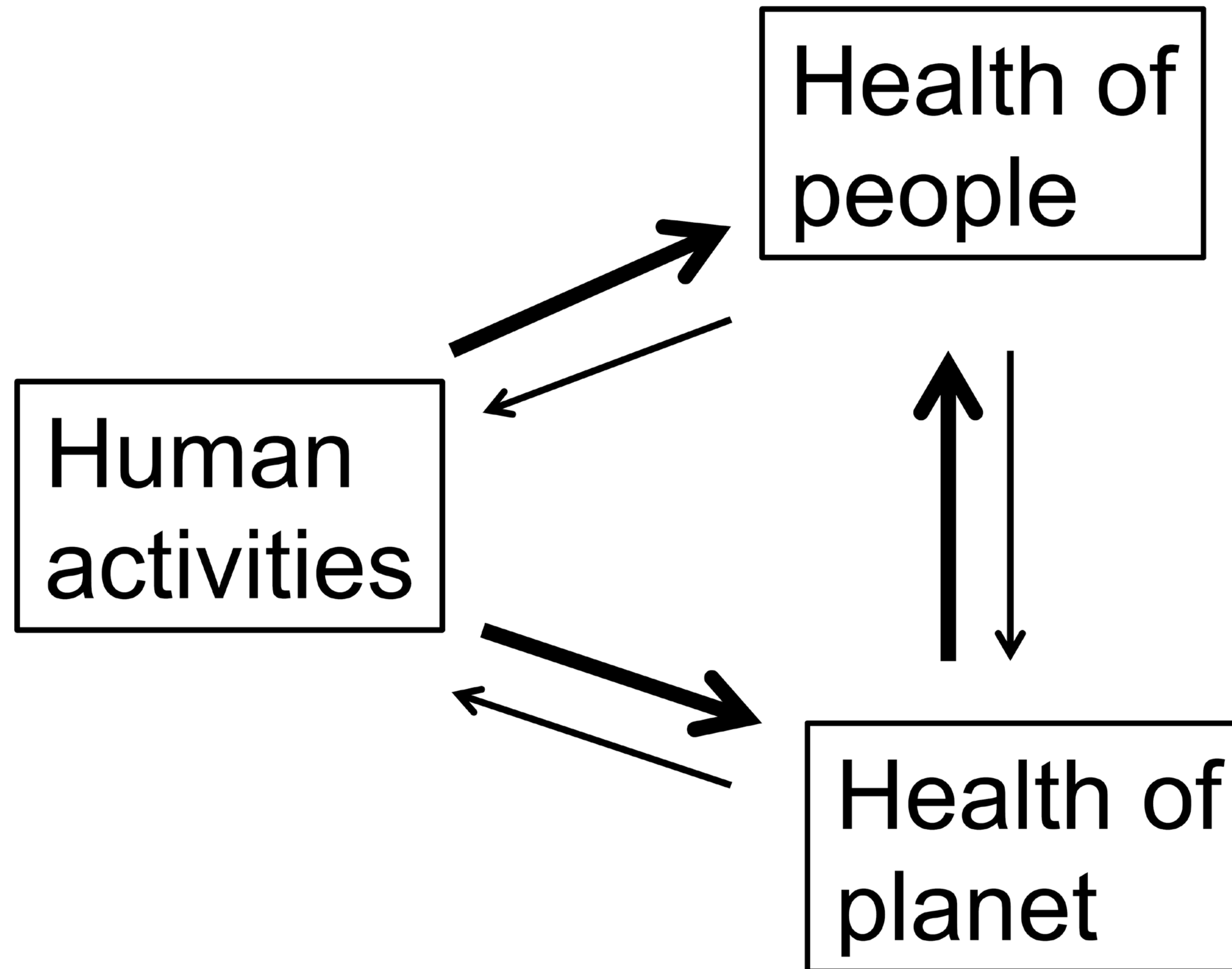






Boyden's Biosensitivity Triangle

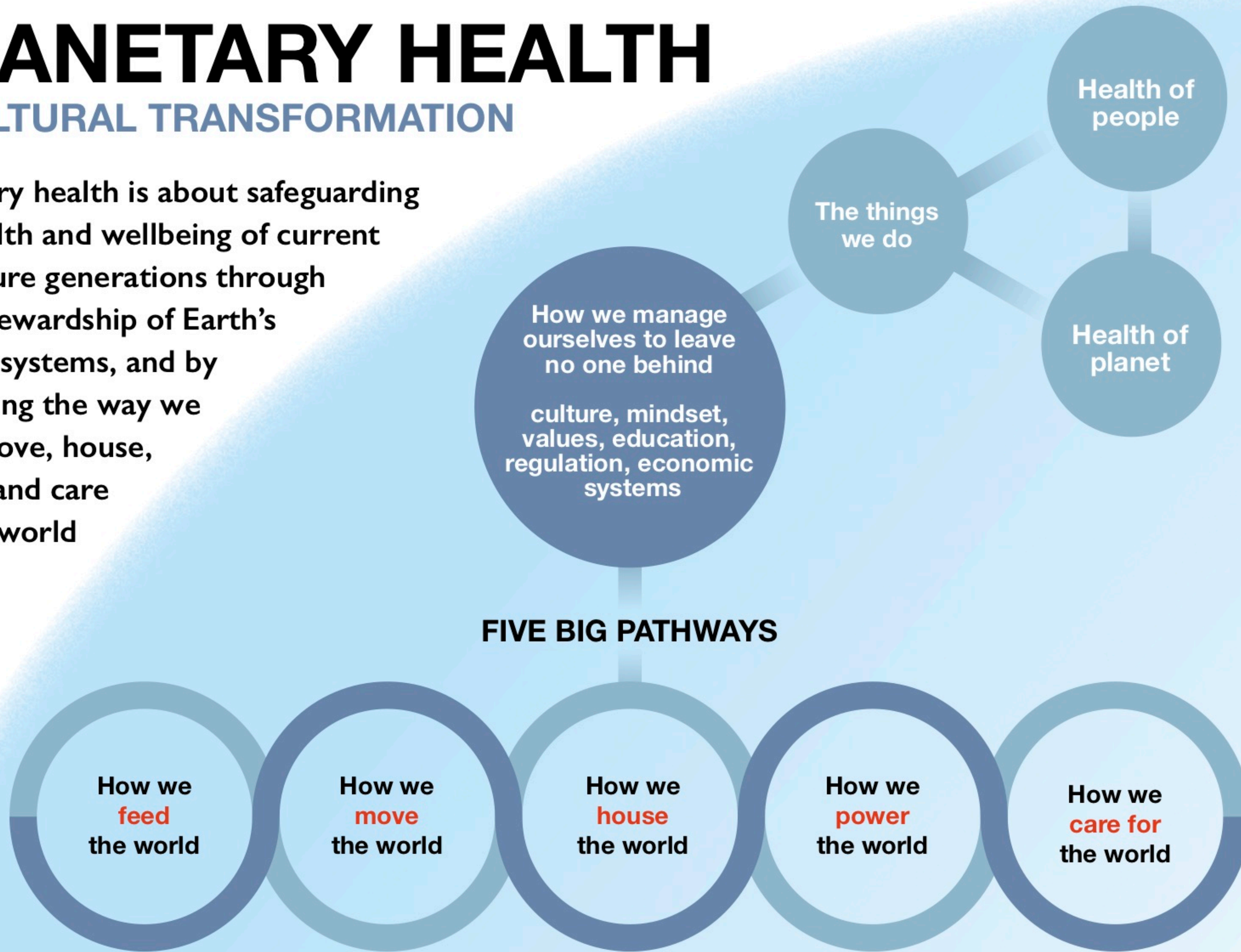
<https://press.anu.edu.au/publications/bionarrative>



PLANETARY HEALTH

A CULTURAL TRANSFORMATION

Planetary health is about safeguarding the health and wellbeing of current and future generations through good stewardship of Earth's natural systems, and by rethinking the way we feed, move, house, power and care for the world



Our future depends on the health of our natural world

What should Physicians do?

1. An eco-social approach: Recognising ecological, economic and social determinants of health
2. Systems thinking: Acknowledging the interdependence of all species (including those we cannot see)
3. Intergenerational health equity
4. Indigenous and local knowledge (ILK): Transdisciplinary
5. In sum, we need to bring a 'planetary consciousness' to health research, training, policy and practice