



# Indigenous Knowledge and Science: 'Doctors at the Interface'

Mason Durie  
Massey University

**Kia rere arorangi te kāhu pōkere ki ngā  
taumata tiketike**

'To soar and fly to the highest heavens'.





Professor Eru Pomare RACP  
1942-1995



Dr Leo Buchanan RACP  
1941-2017



# RACP 2019

CONGRESS

6-8 May 2019 Aotea Centre, Auckland, New Zealand



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## Tena koutou katoa



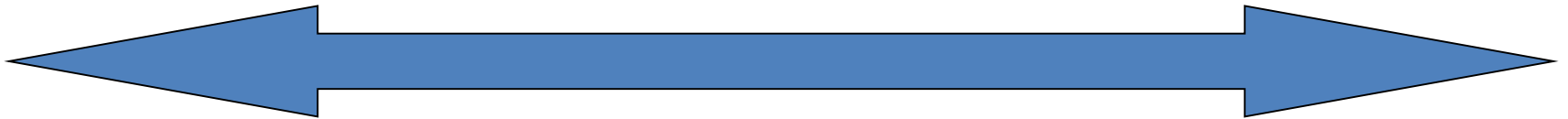
## Greetings



# Living and Working at the Interface

Mātauranga Māori  
Indigenous knowledge

Science

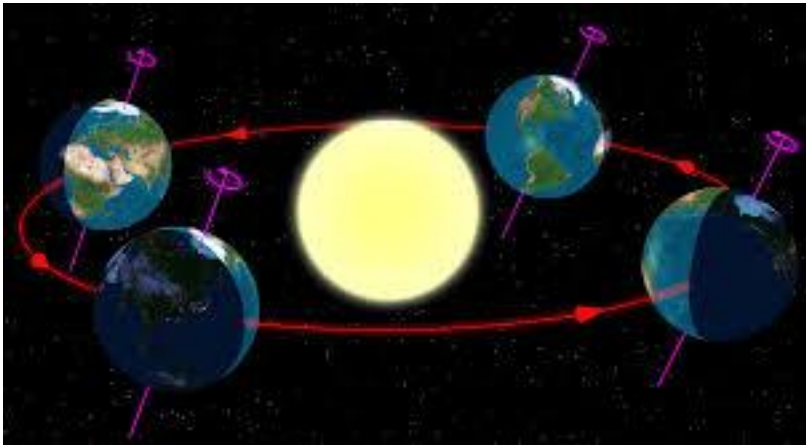
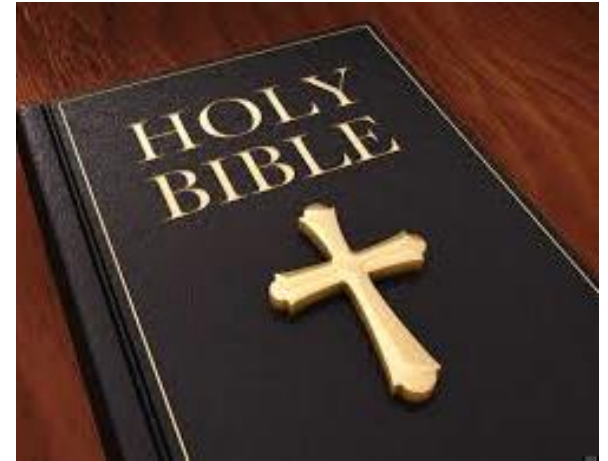


**The Interface**

# A Step Back in Time

## Two Different Bodies of Knowledge

**Faith based knowledge**



**Knowledge based on Science**

# 1603

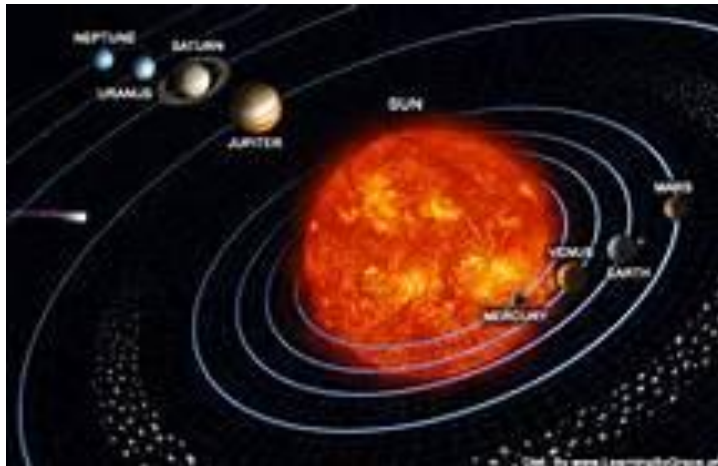
## The Lyncean Academy



- Prince Fedrico Cesi
- ‘... desires as its members, philosophers who are eager for real knowledge and will give themselves to the study of nature, especially mathematics; at the same time it will not neglect the ornaments of elegant literature and philology which like graceful garments adorn the whole body of science’

# Galileo Galilei 1564 - 1642

- the "father of modern observational astronomy"
- the "father of modern physics"
- the "father of science",
- "the Father of Modern Science".





# 1632 Galileo Galilei

## *Dialogue Concerning the Worlds Two Chief Systems*

- Astronomical observations
  - telescopic confirmation of the phases of Venus
  - discovery of 4 largest satellites of Jupiter (Galilean moons)
  - the observation and analysis of sunspots.
- 1610 supported the view of Copernicus - ***the earth travelled around the sun***
- Conflict with Pope Urban VIII
- 1632 Published the *Dialogue*
- 1633 Trial by Inquisition
- Convicted of heresy, placed under house arrest until his death
- The *Dialogue* was banned & other works placed on the list of prohibited books for 200 years
- 1992 Pope John Paul II endorsed Galileo as 'a great scientist'



Pope Urban VIII



Pope John Paul II

# 400 yrs. later: Science is the dominant knowledge system



*Science Made the Modern World,  
and it's science that shapes  
modern culture*



*It's science that drives the  
economy and, more pervasively,  
it's science that shapes our  
culture. We think in scientific  
terms.*

Steven Shapin  
2007

# But in 2019, as in 1632 there are Multiple Systems of Knowledge

## Science



Puhoro STEM Academy

## Religion



Cathedral of the Holy Spirit

## Human Creativity



Ghost of the Huia  
Paul Dibble

## Indigenous Knowledge



Aorangi Marae

## The Humanities

### Jurusprudence

### Commerce .....

# Working Between Two Systems Matauranga Māori & Medical Science

A 1964 Clinical Encounter at the  
Palmerston North Hospital

*Koro  
and  
the House Surgeon*



# THE PATIENT

14 yr Māori girl

- 2 weeks - behavioral changes at school
- 1 week - singing in class
- 5 days – headaches, confused, school refusal
- 3 days – belligerent, ‘excited’
- 2 days – visual hallucinations, garbled speech
- 1 day – seizure, febrile
- 0 day – admitted to PNH
  - semi-comatose, severe neck stiffness

**PD –Delirium secondary to Viral encephalitis**

# The Grandfather (Koro)

- Grandfather (care giver)
- Only visitor
- Shearing contractor
- Spent most of every day at the bedside
- Brought flowers and greenery
- Sat quietly, made few requests

# The House Surgeon

- Māori
- Very recent graduate
- 'Knowledgeable'
- Keen
- But not well prepared for the work ahead

# An initial conversation with Koro

<b>Koro</b>	<b>‘Doctor, is it OK to leave these flowers and these leaves here all night?’</b>
<b>House Surgeon</b>	<b>‘The nurses move them into the corridor at night’</b>
<b>Koro</b>	<b>‘But still close to the room?’</b>
<b>House Surgeon</b>	<b>‘Yes; why? Is it important?’</b>
<b>Koro</b>	<b>‘Doctor these leaves come from our place – kawakawa, karamu and kowhai?’</b>
<b>House Surgeon</b>	<b>‘Will they help her?’</b>
<b>Koro</b>	<b>‘Doctor they are part of her.’</b>
<b>House Surgeon</b> <i>(Thinks)</i>	<b>(Speechless)</b> <b><i>(What’s he talking about?)</i></b>



# A further conversation with Koro

<b>House Surgeon</b>	<b>‘Koro, it seemed to take a long time before your granddaughter was admitted to hospital?’</b>
<b>Koro</b>	<b>‘My own doctor thought she was mental – or just playing up and just trying to skip school.’</b>
<b>House Surgeon</b>	<b>‘Did he give you any advice?’</b>
<b>Koro</b>	<b>‘When I called him about her visions and her strange talking he said he would have her committed to Porirua (Mental Hospital).’</b>
<b>House Surgeon</b>	<b>So what did you do ?</b>
<b>Koro</b>	<b>I didn’t know much about it but I knew she was sick and ought to be in hospital. So I just drove her here.</b>

# A later conversation with Koro

**House Surgeon**

**'Koro you said this morning that you knew what caused the illness.'**

# A later conversation with Koro

**House Surgeon**

**‘Koro you said this morning that you knew what caused the illness.’**

**Koro**

**‘Yes. My moko was the victim of mākutu’**

**House Surgeon**

**‘How do you mean ?’**

# A later conversation with Koro

House Surgeon	<b>‘Koro you said this morning that you knew what caused the illness.’</b>
Koro	<b>‘My moko was the victim of mākutu’</b>
House Surgeon	<b>‘How do you mean ?’</b>
Koro	<b>‘Her mother (my daughter) went to Australia with another man and her husband’s family took their revenge.’</b>

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Koro	<b>‘My moko was the victim of mākutu’</b>
House Surgeon	<b>‘How do you mean ?’</b>
Koro	<b>‘Her mother (my daughter) went to Australia with another man and her husband’s family took their revenge by placing a makutu on my grand-daughter.’</b>
House Surgeon	<b>‘That sounds a little hard to believe. An illness such as this does not develop because of an unseen ‘curse’ or mysterious force.’</b>

# Reversing the Conversation

**Koro**

**'Well Doctor, what do you think caused the illness  
?'**

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<b>Koro</b>	<b>'Well Doctor, what do you think caused the illness ?'</b>
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<b>Koro</b>	<b>‘But did you touch it, or smell it, or taste it?’</b>
<b>House Surgeon</b>	<b>‘No’</b>

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<b>Koro</b>	<b>‘But did you touch it, or smell it, or taste it?’</b>
<b>House Surgeon</b>	<b>‘No’</b>
<b>Koro</b>	<b>‘Doctor I admire your faith in unseen things and your belief in the power of invisible forces.’</b>
<b>House Surgeon</b>	<b><i>(Speechless)</i></b>

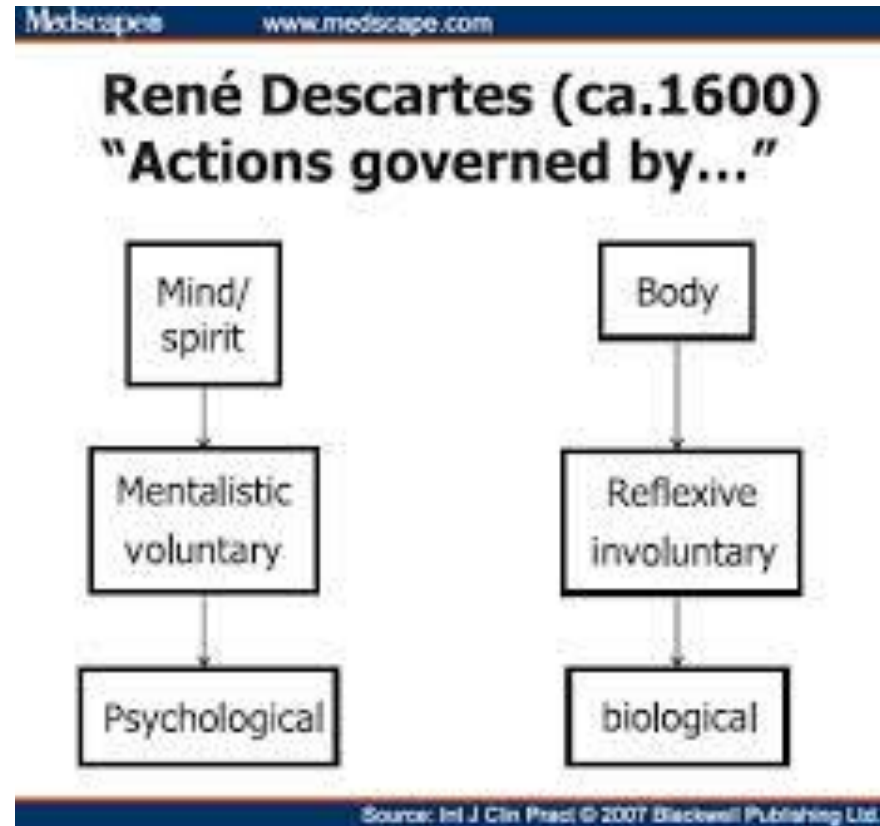
# Five lessons eventually realised from the 1964 conversations with Koro

1. A need to consider the inseparability of mental and physical health (*threat of committal*)
2. A need to understand the environment as a determinant of good health (*the leaves at the bedside*)
3. The importance of whānau for health and intergenerational transfers (*whānau dynamics*)
4. A need to recognise spirituality as part of the journey to wellness (*the mākutū and the recovery*)
5. A need to work within different bodies of knowledge (*mātauranga & science*)

# Lesson 1: the Folly of Cartesian Dualism



**Rene Descartes**  
1596 - 1650

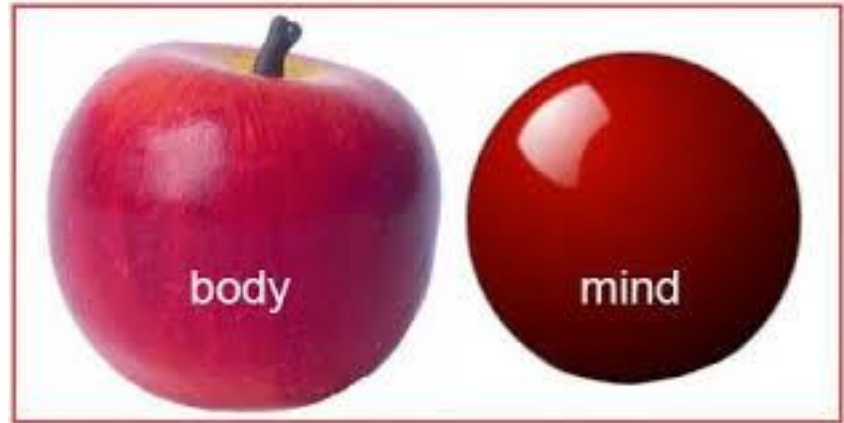


*'I think therefore I am'*

# Cartesian Dualism



Whau Lunatic Asylum  
Auckland



Mental illness  
essentially different  
from Physical illness



Auckland City Hospital

Does the mind body dichotomy hold up against Māori experience?

*There are few if any disorders where both mental and physical symptoms are not present*

# Mind and Body Inter-dependence

## Depression

Symptoms often 'physical'

- Weight changes
- Low energy levels
- Sensitivity to cold
- Abdominal discomfort
- Constipation
- Abnormal sleep patterns

Medication that alters brain function

## Encephalitis

Early and late symptoms are often 'mental'

- Behavioural changes
- Emotional lability
- Thought disorder
- Hallucinations
- Abnormal sleep patterns
- Disorientation



# Mind and Body

## Māori Terms

### English

- Depression
- Anxiety
- Anger
- Dementia

### Māori

- Manawa pouri (sad heart)
- Manawapā (uneasy heart)
- Pukuriri (irate stomach)
- Korongenge (aged tiredness,

Maori terminology for 'mental' experiences is closely linked to 'physical' experience

# Lesson 2 Health & the Environment



## ***Tangata Whenua*** ***(people of the land)***

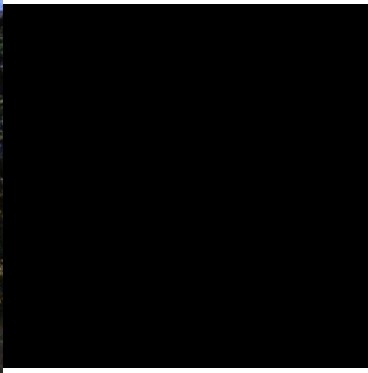
**Māori philosophy regards human health and wellbeing to be inseparable from the natural environment**



**‘Ko au te awa ko te awa ko au’**  
***I am the river and the river is***  
***me***

# Family Connections

## Rangi & Papa



The earth mother and the sky father were forced apart by their children, especially Tane Mahuta

- **Forests & birds**
- **The elements**
- **The seas, waters, fish**
- **Crops**
- **Ferns**
- **Humankind**

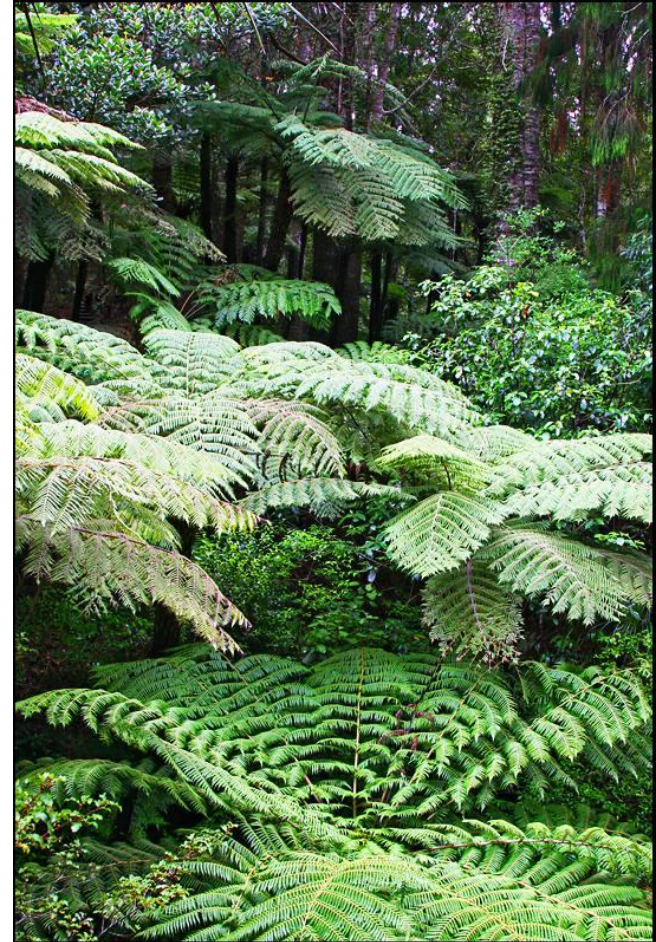
Separation enabled life and light

But the family connection was never lost

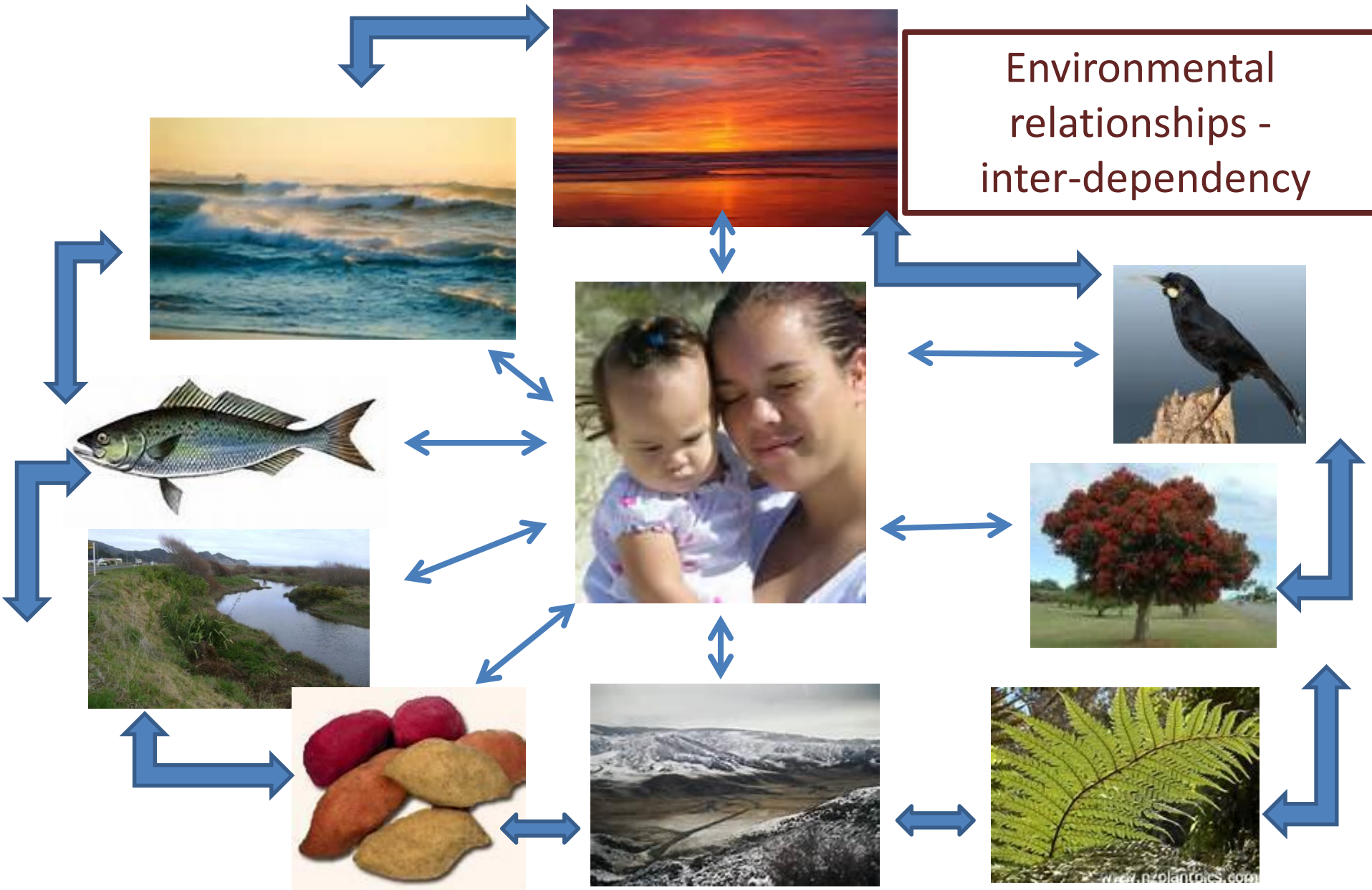
# Ecological world views and bioethics

## The ethics of eco-connectedness

- Synergies between people and the natural environment
- Balance between human endeavours and environmental sustainability
- Longstanding connections between species
- All environmental forms have a unique 'mauri'



# The Whanaungatanga Principle



# Lesson 3 Whānau – families

- Whānau have the potential to shape health over the life span: from new born to old age
- Whānau relationships are inter-generational; any one age group has impact on the others and in turn is impacted by the others



# Whānau Ora 2010

## ❖ Integrated services

- Cross sectoral
- Inter-disciplinary
- Whanau centred
- Social and economic
- Cultural and environmental
- Across the life-span



## ❖ Whanau aspirations, self managing and self directing

## ❖ Outcome focussed

- Indicators that measure outcomes - best results for whānau



# Whānau Ora

Whānau - a starting point for a life-course approach

wahakura



- Carrying the unborn child
- Nurturing babies
- Protecting children
- Guiding rangatahi (teens)
- Supporting mothers and fathers
- Caring for elders
- Building inter-generational relationships & responsibilities across the life-span





# Lesson 4 The Spiritual Dimension

## A Māori health perspective (1983)

### Whare Tapa Whā

Health is restored by:

- ✓ **lifting the spirit** (*taha wairua*)
- ✓ **easing the mind** (*taha hinengaro*)
- ✓ **strengthening the body** (*taha tinana*)
- ✓ **empowering the family** (*taha whānau*)



# TE WHARE TAPA WHĀ

**Hinengaro**



**Wairua**

**Tinana**

**Whanau**

# TE WHARE TAPA WHĀ

- A model for understanding health & wellbeing
- A method for addressing health problems
- A framework for measuring health outcomes
- A basis for evaluating Māori wellbeing

# Measuring Spirituality

## Examples From Hua Oranga Questionnaire

***Q1. As a result of the INTERVENTION do you feel:***

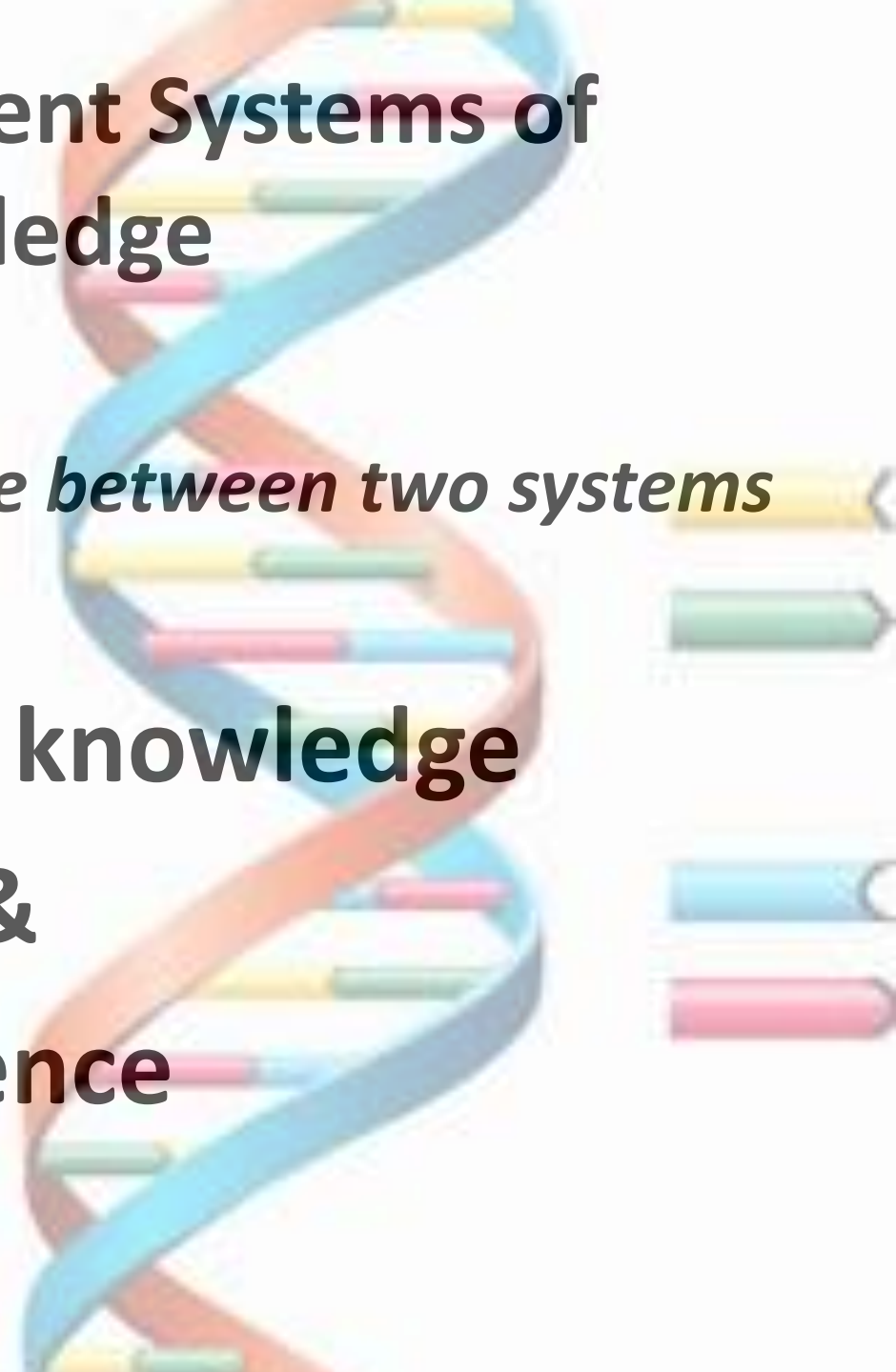
- a) more valued as a person**
- b) stronger in yourself as a Māori**
- c) more content within yourself**
- d) healthier from a spiritual point of view**



# Lesson 5 Different Systems of Knowledge

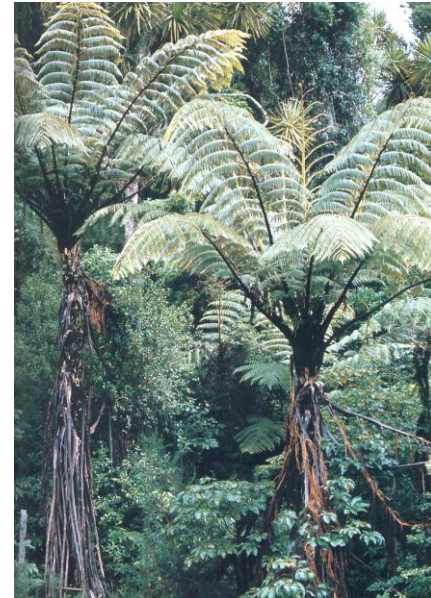
*Working at the interface between two systems*

**Indigenous knowledge  
&  
Science**



# Indigenous knowledge

- Holistic
- Accepted truths
- Based on environmental encounters
- Centrifugal thinking
- Highlights similarities
- Practitioners older
- Time enhances knowledge
- Steadily evolving





# Science

- Analytical
  - Sceptical
  - Measurement & replicable evidence
  - Centripetal thinking
  - Highlights differences
- Practitioners young  
Time ages science  
Knowledge constantly changing

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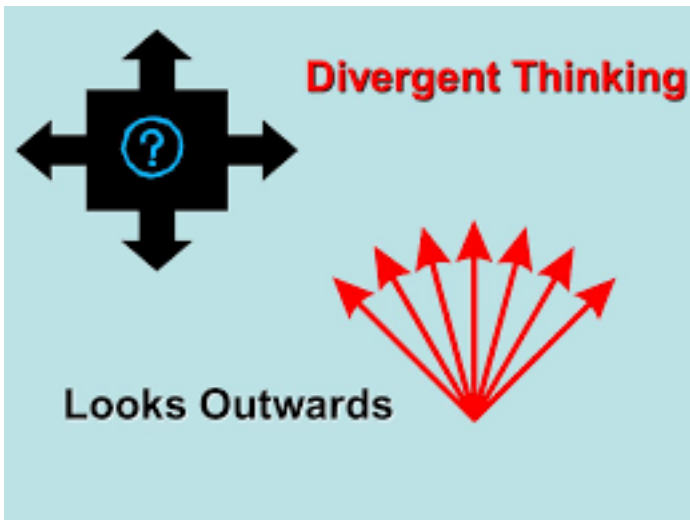
- Analytical
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# Thinking at the Interface

## Centrifugal Thinking

A search for meaning by understanding external relationships



# Marae Protocols for Negotiating Relationships

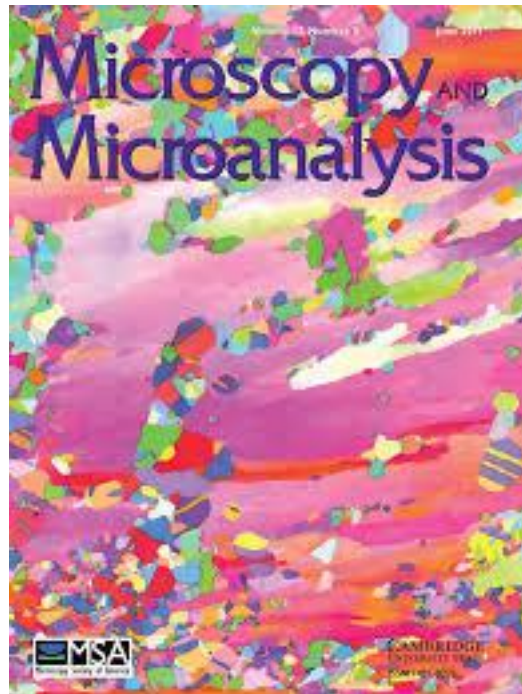
- Visitors are understood by their ancestors, their own lands, rivers & mountains and their connections with others
- i.e the individual is known by what lies outside rather than intrinsic personal characteristics



# Ways of Thinking

## Centripetal Thinking

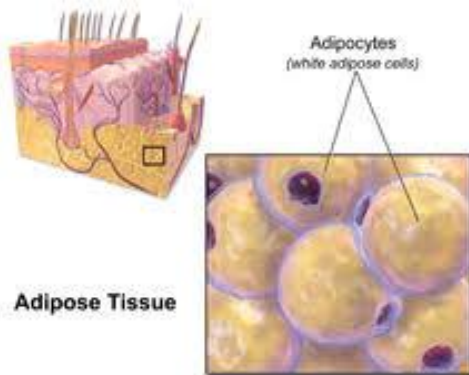
A search for meaning by dividing larger bites into smaller bites



# Ways of Thinking

## Centripetal Thinking

Understanding comes from analysing the parts that make up the whole

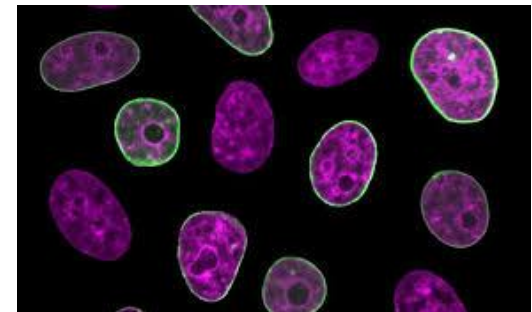


***Organs***

***Tissues***

***Cells***

***DNA ...***



# Ways of thinking



What's gone wrong inside you ?

*Or*

What went wrong in the world outside  
you ?



What's inside these pills?

*Or*

Where do these pills come  
from?



What is your name ?

*Or*

Who are your people ?

# A microscope or a telescope ?



*A search for the inner truth*



*A search for the truth beyond*

# Health Inequities

- Providing accessible, effective and culturally relevant treatment (*the microscope*)
- Recognising and addressing the determinants of poor health that lie beyond the patient (*the telescope*)



# The Five Lessons Taught by Koro

1. A need to consider the inseparability of mental and physical health (*threat of committal*)
2. A need to understand the environment as a determinant of health (*the leaves*)
3. The importance of whānau & families for health and intergenerational transfers (*whānau - families*)
4. A need to recognise spirituality as part of the journey to wellness (*the mākutū and the recovery*)
5. A need to work within different cultures and different bodies of knowledge (*mātauranga & science*)





# Opportunities & Challenges for Doctors



## ADDRESSING:

- ✓ Body & mind & spirit
- ✓ The person & the whānau/family
- ✓ The illness & the environment
- ✓ The diagnosis & socio-economic circumstances
- ✓ The clinical & the cultural
- ✓ The grandparent & the grandchild
- ✓ The whānau & inter-generational links



Most children in poverty in NZ are Maori and Pacific Islanders

Roughly half the children in poverty in New Zealand are NZ European. Poverty can be experienced in households of any ethnicity. The rates are higher for Maori and Pasifica.



# Working at the Interface

Each body of knowledge has its own validity.  
'Enlightenment' comes when two bodies of  
knowledge can be applied to understanding

# Working at the Interface

The question is not which is better but how can indigenous knowledge and medical science work alongside each other for a more relevant and authentic understanding

# Working at the Interface

Doctors need to be cognisant of cultural differences in the ways illness is perceived, discussed, explained & managed.

# Working at the Interface

Doctors also need take into account the socio-economic inequities that so often define indigenous realities

# Working at the Interface

Inequities in standards of health between indigenous and non-indigenous populations require approaches that encompass:

- ❖ **social & economic policies as much as the classification of illness**
- ❖ **education and employment as much as assessment & diagnosis**
- ❖ **housing & incomes as much as treatment & rehabilitation**
  - ❖ **cultural perspectives as much as medical science**

# Working at the Interface

- Each body of knowledge has its own validity.
- Indigenous knowledge and medical science can work alongside each other
- Doctors need to be cognisant of cultural differences
- Inequities in standards of health between indigenous peoples and other populations require approaches that lie beyond the patient.

# Back to 1964

<b>House Surgeon</b>	<b>‘Koro your granddaughter has made a great recovery</b>
<b>Koro</b>	<b>‘I knew she would.’</b>
<b>House Surgeon</b>	<b>‘Did you?’</b>
<b>Koro</b>	<b>‘Yes. Her mother called. They have fixed things up in the whānau and the makutu has been lifted. But how is that virus thing?’</b>
<b>House Surgeon</b>	<b>‘That’s been lifted too’</b>



# End of the Case Study

House Surgeon	<b>'You can take her home now. Call me if there are any problems'</b>
Koro	<b>'Doctor, I have learned a lot from you.'</b>
House Surgeon <i>(thinking)</i>	<b>That's ok.</b>  <b><i>(Koro I have learned much more from you)</i></b>
Koro	<b>'Thank you Doctor. Kia ora' (<i>'stay well'</i>)</b>
House Surgeon	<b>'Kia ora Koro'</b>

# RACP 2019

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# KIA ORA

# Stay well