alliance for natural health
Health creation faculty

CO-CREATING BEHAVIOUR AND COMMUNICATION MAGIC

Saturday, **24 September** 2022**,** 8:45 AM - 5:30 PM [BST]

The Mandolay Hotel, 36-40 London Road, Guildford, Surrey, GU1 2AE, United Kingdom.

with

David Charalambous
Behaviour & Communication Dynamics Expert

Rob Verkerk PhD
Ecological Health Scientist

Meleni Aldridge
Integrative Medicine Practitioner

BEHAVIOUR AND COMMUNICATION MAGIC
EVENT SCHEDULE

TIME	DETAILS	FACILITATOR
09:30 - 09:40	Welcome & introduction	Rob Verkerk
09:40 - 09:50	Scene setting: the nature of being human	Rob Verkerk
09:50 - 10:10	Our human continuum and the conditions needed to flourish	Meleni Aldridge
10:10 - 10:25	The blueprint of divide and conquer and how to overcome it for successful collaboration	David Charalambous
10:25 - 10:30	Energy break	Rob Verkerk
10:30 - 10:50	Empowering our lives - re-writing our story – group/breakout work	David Charalambous
10:50 - 11:05	How life can set your brain and body on fire – mapping resolutions	Meleni Aldridge
11:05 - 11:25	MORNING TEA BREAK (20 min)	
11:25 - 12:05	Take Back Control - a simple, powerful, practical and universal model for understanding behavioural science	David Charalambous
12:05 - 12:35	Mapping our behaviours - *experiential*	David Charalambous
12:35 - 12:50	How to release behavioural blocks	David Charalambous
12:50 - 13:15	How to get things done – squashing procrastination	David Charalambous
13:15 - 14:15	LUNCH (60 min)	
14:15 - 14:45	Supercharge your communication	David Charalambous
14:45 - 15:15	Successful communication in action exercises – group/breakout work	David Charalambous
15:15 - 15:35	AFTERNOON TEA BREAK (20 min)	
15:35 - 16:05	Designing messages that make a difference	David Charalambous
16:05 - 16:20	Bodily pathways and processes for healthy behaviours and effective communication	Rob Verkerk
16:20 - 16:25	Energy break	Rob Verkerk
16:25 - 16:40	Protocols for empowered and effective behaviour and communication	Rob Verkerk
16:40 - 17:20	General Q&A	*All*
17:20 - 17:30	Putting it all together and take-homes (synthesis)	Rob Verkerk
17:30 - 18:00	CLOSE AND NETWORKING (up to 30 mins)	

David Charalambous
Behaviour & Communication Dynamics Expert

https://reachingpeople.net

About David Charalambous

David Charalambous is the founder of Reaching People. His background involves 25 years consulting to multinational clients and one on one with individuals from all walks of life. These include mums and dads through to athletes, high performers and business leaders. David has been fortunate to work with notable people, one interesting project related to sustainable communities and included Bruce Lipton and Graeme Sait (sustainable farming expert). David skills include NLP, EFT, General Semantics, System Theory, Process Mapping, Dynamics and Communication. He has built a unique model of communication bringing together models form numerous fields to form a unique and simple to explain systems. These models have been shown to various experts globally and have been recognised in providing significant value in understanding human behaviour, especially as it relates to communication. This allows for the development of powerful messaging and creating the conditions for successful dialogue.

Meleni Aldridge
Integrative Medicine Practitioner

About Meleni Aldridge
Meleni Aldridge has been immersed in the field of natural and integrative medicine for over 30 years. She is a practicing clinical psychoneuroimmunologist, functional medicine practitioner, certified Metabolic Balance coach and DNALife Practitioner. For 11 years, before joining the Alliance for Natural Health International (ANH-Intl), Meleni lectured at St Mary's University College, Middlesex on the Sport Rehabilitation programme. In July 2005, she joined the ANH-Intl. In her role as executive coordinator, in which she remains today, she works closely with Dr Robert Verkerk, executive and scientific director, positively shaping the scientific and regulatory environment required to facilitate the future development of natural and sustainable healthcare. Meleni combines broad knowledge of the natural and integrative health sector with a deep understanding of the regulatory framework in the UK and Europe. Meleni is not only an experienced nutrition and lifestyle practitioner with over 30 years of experience, she has also triumphed over her own autoimmune thyroid journey. Her passion for the power of nutrition and lifestyle interventions to ignite the body's miraculous self-healing pathways is a major driver behind her professional endeavours. Meleni is also the editor and co-author of the new book, RESET EATING — guidance for resetting health and resilience by turning what and how you eat into powerful medicine — published 28th March 2022.

Rob Verkerk PhD
Ecological Health Scientist

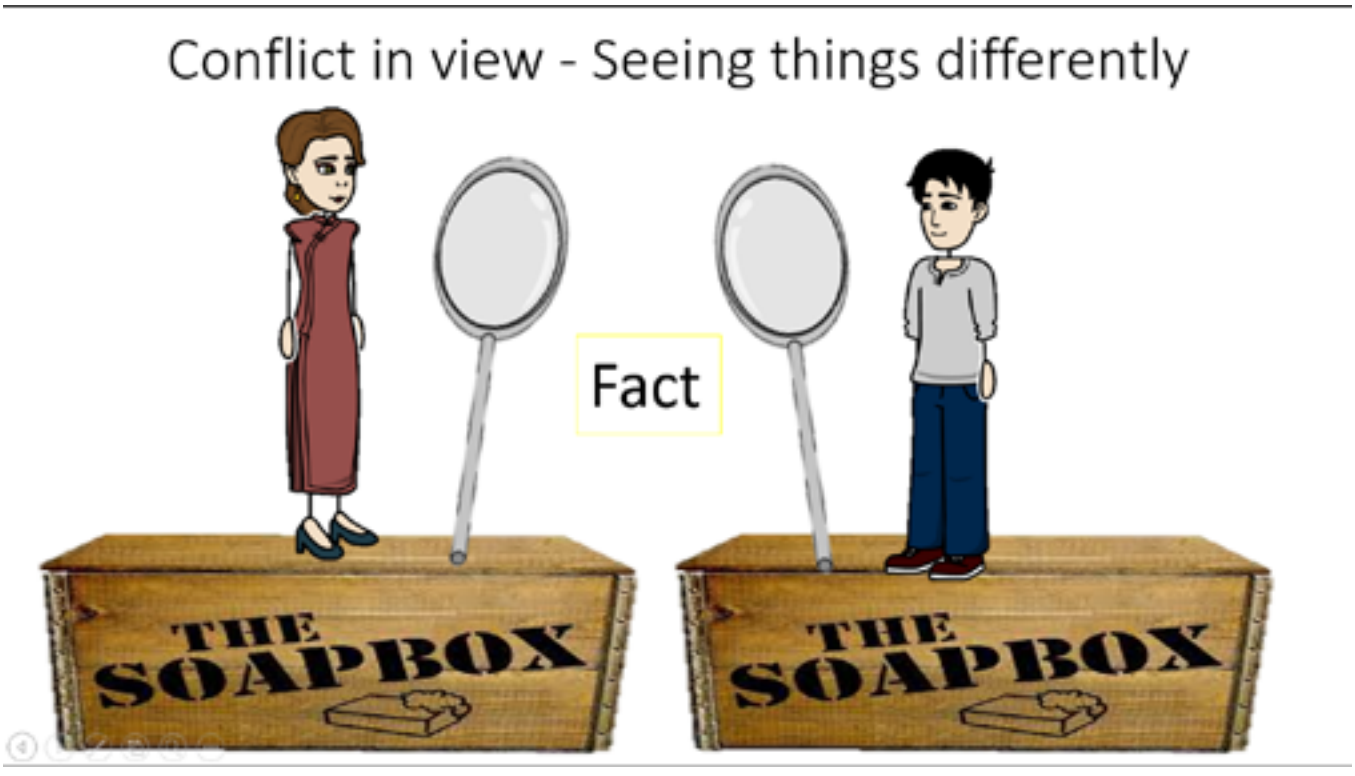
About Robert Verkerk PhD

Over the last four decades working in non-profits, academia and as a consultant, Rob Verkerk has developed an intimate relationship with the tightropes that span between science and law, between academia and industry, between corporations, governments and the people — and not least — between our species' internal and external environments. He holds a first degree in ecology, and masters and doctorate degrees from Imperial College London in sustainable agriculture, where he also worked as a postdoctoral research fellow for 7 years. Rob's work has taken him to all the corners of the earth and his recognition of human co-dependence on nature, as well as the human propensity to exploit and destroy it, has helped him devote his life to finding better ways of working with, rather than against nature. Rob is firmly of the view that nature-based solutions hold the key to human and planetary sustainability. In 2002, Rob founded the Alliance for Natural Health International (ANH-Intl) and has acted as its executive and scientific director ever since. His passion for natural health, his background as an ecologist, and the 'whole systems' thinking that permeates all aspects of his work make his vision for health creation and regeneration unique. He has directed legal actions to protect the right to natural health and has campaigned on diverse issues including against toxins in the food supply, in drinking water and in the environment, as well as against genetically modified foods, gene editing and transhumanism. He has been among the leading scientists exposing the distorted science during the COVID-19 crisis as well as in risk analysis as used by drug and food regulators. He is a recognised pioneer in the development of novel, scientifically rational risk-benefit assessment approaches as well as a new, sustainable model for community-based health regeneration. He is also the scientific director of the Alliance for Natural Health's US office (www.anh-usa.org) and a Fellow of the American College of Nutrition. Dr Verkerk has authored some 60 papers in scientific journals and conference proceedings and contributes regularly to magazines and other popular media. He is an accomplished and inspirational speaker and communicator on a wide range of issues relating to challenges and solutions as they relate to scientific, medical, political, social and environmental aspects of healthcare, agriculture, human nutrition and the environment.

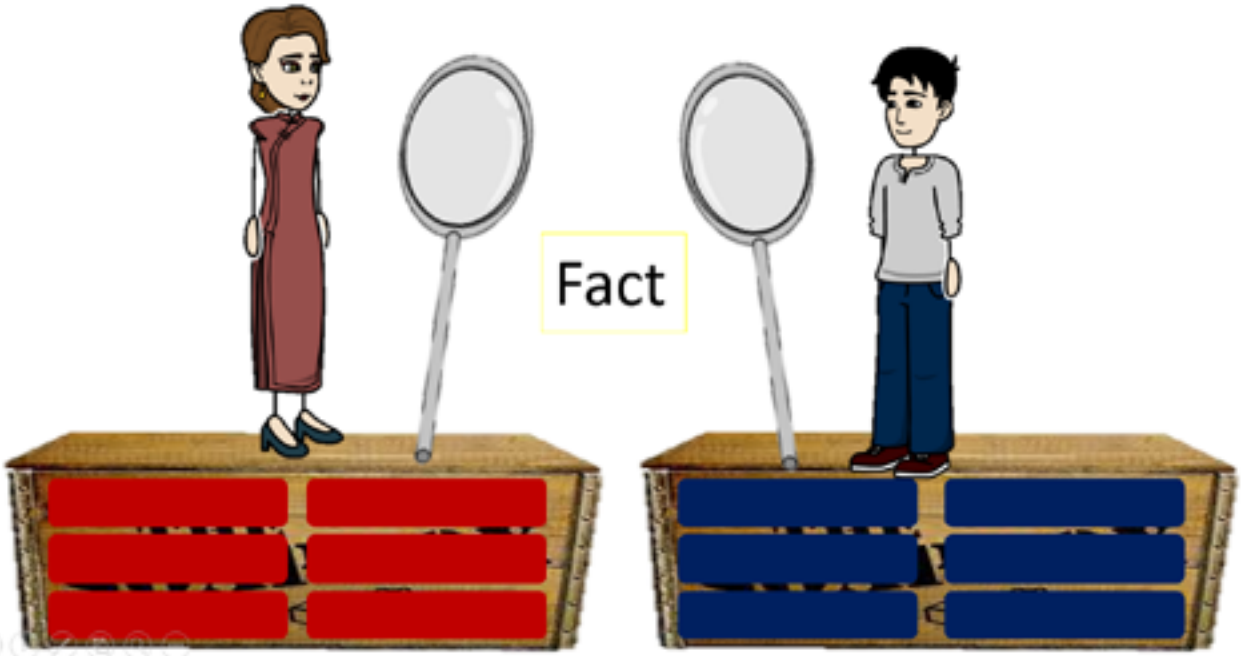
David Charalambous
Behaviour & Communication
Dynamics Expert

The Blueprint of Divide and Conquer

Being divided on issues and within groups is a major problem we face in the world today. Wars, conflicts, oppression and many other negative results and actions are caused by us feeling and acting on division.
The finer details on drives this division are surprising and also have simple solutions if we are able to address them and look within ourselves and explore.
In this presentation, we review 10 key points regarding prejudice and conflict, along with solutions to the problem of divide and conquer. Understanding these 10 points are key.
Before we look at the 10 points, we want to understand what drives differences to begin with.



Conflict in view - Seeing things differently



British Psychologist – Henry Tajfel

Wanted to understand what created conflict and prejudice

1) There was no baseline

Components of Divide / Prejudice

Blue Team

Orange Team

2) 3 Elements needed to create prejudice / divide

Components of Divide / Prejudice

3) Tendency to orientate to the caricature of the group
We over generalise people in a group

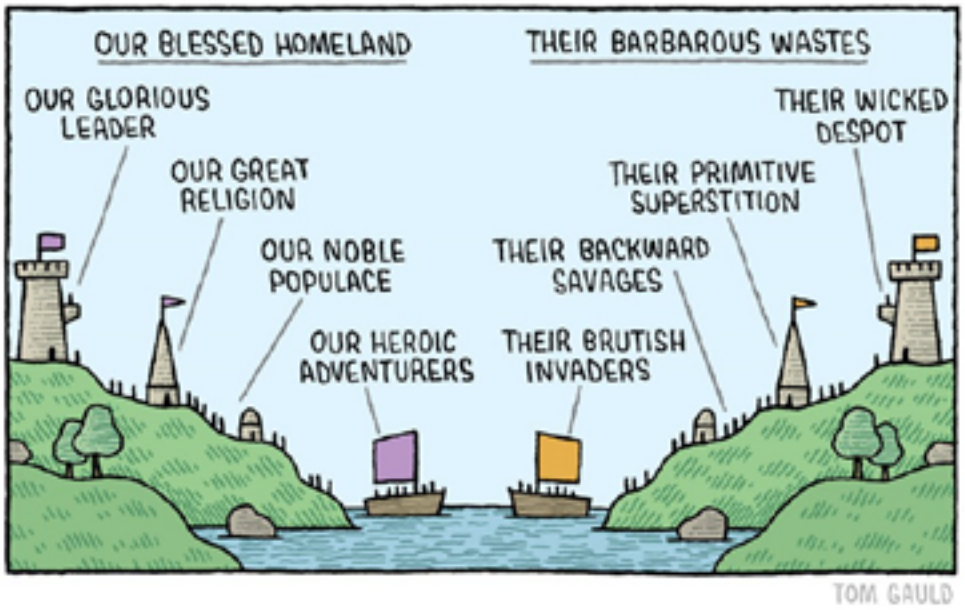
Components of Divide / Prejudice

4) New Norms kick in, people start behaving as the group behaves

Components of Divide / Prejudice

5) Groups are more suspicious and more aggressive than individuals, de-individualisation

Components of Divide / Prejudice



6) In group bias

Components of Divide / Prejudice

7) Out group bias

Components of Divide / Prejudice

8) Conflict arises from the categorisation, what happens when we categorise ourselves the same?

Components of Divide / Prejudice

9) Just putting people together is not usually an effective strategy

Re-writing Our Story

Those that tell the stories rule society – Plato
A large body of research is now suggesting that the stories that will tell ourselves have a profound effect over our lives. When we tell stories they will get altered through the belief systems that we hold. This exercise of re-writing our story allows us to be the editor, with conscious awareness and then have another person assist us in transcending our own limitations.

Exercise – Re-Writing Our Story

Roles A & B

A – Expresses goals and aspirations for the next 12 months

B – The Journalist, list down goals. Then imagine it is 12 months from now, everything that was planned happened and more. Play it back to the person, important to remember it has happened so use past tense.

5 mins each role, then swap when time is called

Resources

How changing your story can change your life – 16 minutes

Wired for Story Video – 17 mintues

Rule the World Paul Furlong

Tall Lady with the Iceburg

Never met a metaphor I didn't like

Wired for Story book

Hero with a thousand Faces

Exercise – Re-Writing Our Story

Roles A & B

A – Expresses goals and aspirations for the next 12 months

B – The Journalist, list down goals. Then imagine it is 12 months from now, everything that was planned happened and more. Play it back to the person, important to remember it has happened so use past tense.

5 mins each role, then swap when time is called

Taking Back Control

Work in progress, the most complex subject known to man. It is also not exact, more art, we are talking about the most complex thing in the universe, we just want to way to get results.

https://yukaichou.com/octalysis-tool/
https://yukaichou.com/gamification-study/8-core-drives-gamification-1-epic-meaning-calling/

Mapping Out Behaviours

Map out either one of your own behaviours or one of the common behaviours of others that has confused you in the past

Mapping Out Behaviours

Map out either one of your own behaviours or one of the common behaviours of others that has confused you in the past

Driver	Forces	Starting Location / Perception	Pathways / Nudges	Destinations	Notes

How to Release Behavioural Blocks

What are you resisting?

Any time we need or want to do something but feel resistance, the question is, what is this resistance.

Often, we will not know until we look in the black box as that part of us unless directly questioned cannot let us know. There are no linguistic properties of this black box directly.

This template, allow us to bring the black box contents into our awareness and allow us to reassess if this information makes sense, or it is needs updating to a more accurate perspective.

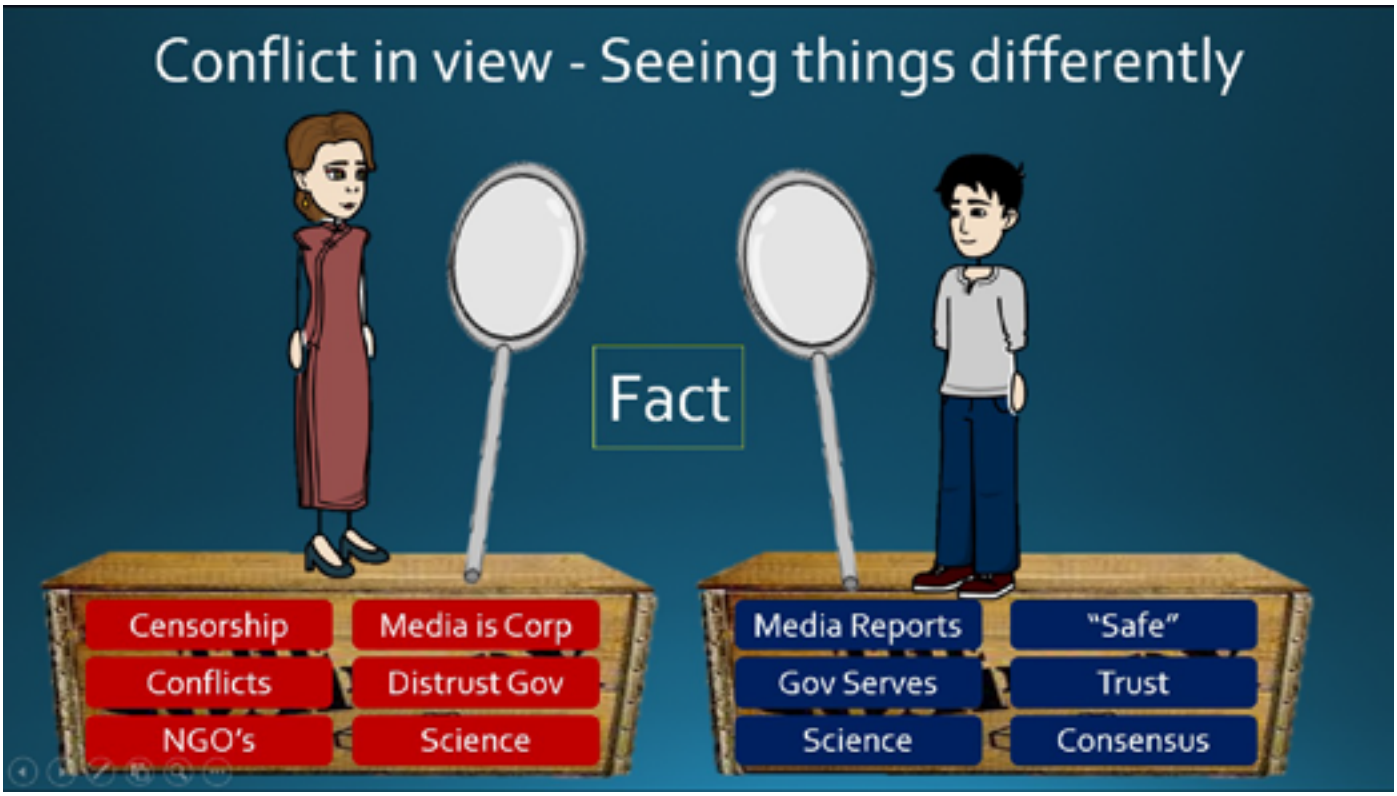
What am I resisting?

Getting material ready for the workshop

Round 1

What are you resisting?	Getting the workshop finished	
I am resisting this because	I am scared of looking silly	
Could you invite this feeling of " " in, in this moment		I accept I am scared of looking silly
Allow yourself to feel this feeling fully, allow it to be heard, honour how you truly feel about this		
As you become aware of this feeling, on a scale of 1-10, how strong is it?	6	
As you welcome this in and feel it, could you let this go?		
Would you let this go?		
When could you let this go?		

How to Get Things Done?



Exercise - Differing Views

Move into Groups of 3 one observer

One person takes the role of challenging the narrative, the other listening

Person challenging question, person defending, use common defence mechanisms to defend the narrative

2 minutes each, switch role

The goal is to see how easy it is to adopt a position

Feedback in room

Exercise – Our challenges

List Blocks

Block / Issue	Notes

Exercise – Triggering Shutdown

Times either I shut down or the other person shut down	What do I think was the reason?

Exercise – Avoid returning disrespect

Roles A&B

A. Pro narrative, argue like a politician using inflammatory terms eg conspiracy theorist, antivax and Covidiot

B. Challenges the narrative – maintain respect, resist hitting back

C. The observer – observe the conversation and your reactions

B's goal is to be dignified throughout: eg: "we have to ask questions, don't we"

Two mins each role, then swap – time will be called.

Exercise – Letting Go

Who are you having a problem with?		
I am having a problem with "A" because …..		
Could you invite this feeling of " " in, in this moment		I accept I feel
Allow yourself to feel this feeling fully, allow it to be heard, honour how you truly feel about this		
As you become aware of this feeling, on a scale of 1-10, how strong is it?		
As you welcome this in and feel it, could you let this go?		
Would you let this go?		
When could you let this go?		

Optional exercise - Emotional clearing

Picture them, as best you can

Approval

Did this person disapprove of something in you?	
How strong is this?	
Did that stir up wanting them to like or approve of you?	
I want you to tune into where you feel this in your body?	
Could you let go of the feeling of wanting approval?	
If you could, would you like to let this go?	
When, is a good time to gently let this go?	

Disapprove in them

Did you disapprove of something in them?	
If so, could you let go of withholding your love for them?	

Control

Did they try to control you? Or did it feel that way?	
Could you let go of wanting to control them back?	
Did you try to control this person or feel this way, if so, just for now, could you let go of wanting to control them	
Could you grant this person the right, to be the way they are?	
Did this person try to influence you or feel like it?	
If so, could you let go of wanting to influence them back?	

Security

Did this person challenge, appose or threaten you? Or did it feel that way, if so, just for now, could you let go of wanting to challenge, oppose or threaten them.	
Could let go of wanting to be safe with them?	
Did you person challenge, appose or threaten this person? Or did it feel that way, if so, just for now, could you let go of wanting to challenge, oppose or threaten them. Could let go of wanting protect yourself?	

Separation

Did this person reject, cut off or in any way try to be separate from you? Or did it feel that way? If so, cold you let go of wanting to be connected to them?	
Did you reject, cut off or in any way try to be separate from them? Or did it feel that way? If so, could you let go of wanting to dis- connect to them?	
If so, could you let go of wanting to reject, cut off or be separate from them? Just for now	
Could you let go of wanting to be separate from them?	
Could you let go of any insecurities that were triggered from speaking with this person?	

Completion

Could you in this moment, only have love for this person?	
Would you allow yourself to have only love for this person, only now? Do you have only love feelings for this person?	

Exercise – Bridging the Divide

Into Groups of 2

One person takes the role of challenging the narrative, the other of defending it

2 minutes each, switch role

The goal is to position that we are on the same side

Feedback in room

Exercise – Evangelical

Roles A & B

A – defends the narrative: sit with your emotions to see how it feels.

B - the challenger: hyper energetic in convincing person A of the truth as you see it.

Have you seen blah blah? Can I send you 3 articles? Don't you know what is going on? Just list them: WEF, Food crisis, digital id etc

Few mins each role, then swap when time is called

Exercise – Cognitive Dissonance

Roles A&B:

A) challenger: make a series of statements /conclusions that you know conflict with the other person's view.

Lockdowns don't work, Masks work, jabs don't work, Ivermectin Works

B) Defends the narrative: bat back the statements - pretending you believe them

A's goal is to trigger inner conflict with clashing ideas.

Two mins each role, then swap – time will be called. (Important to stay focused throughout)

Role A	Role B

Exercise – Show, don't Tell

Roles

A. Challenges narrative: tells a story while the other person listens

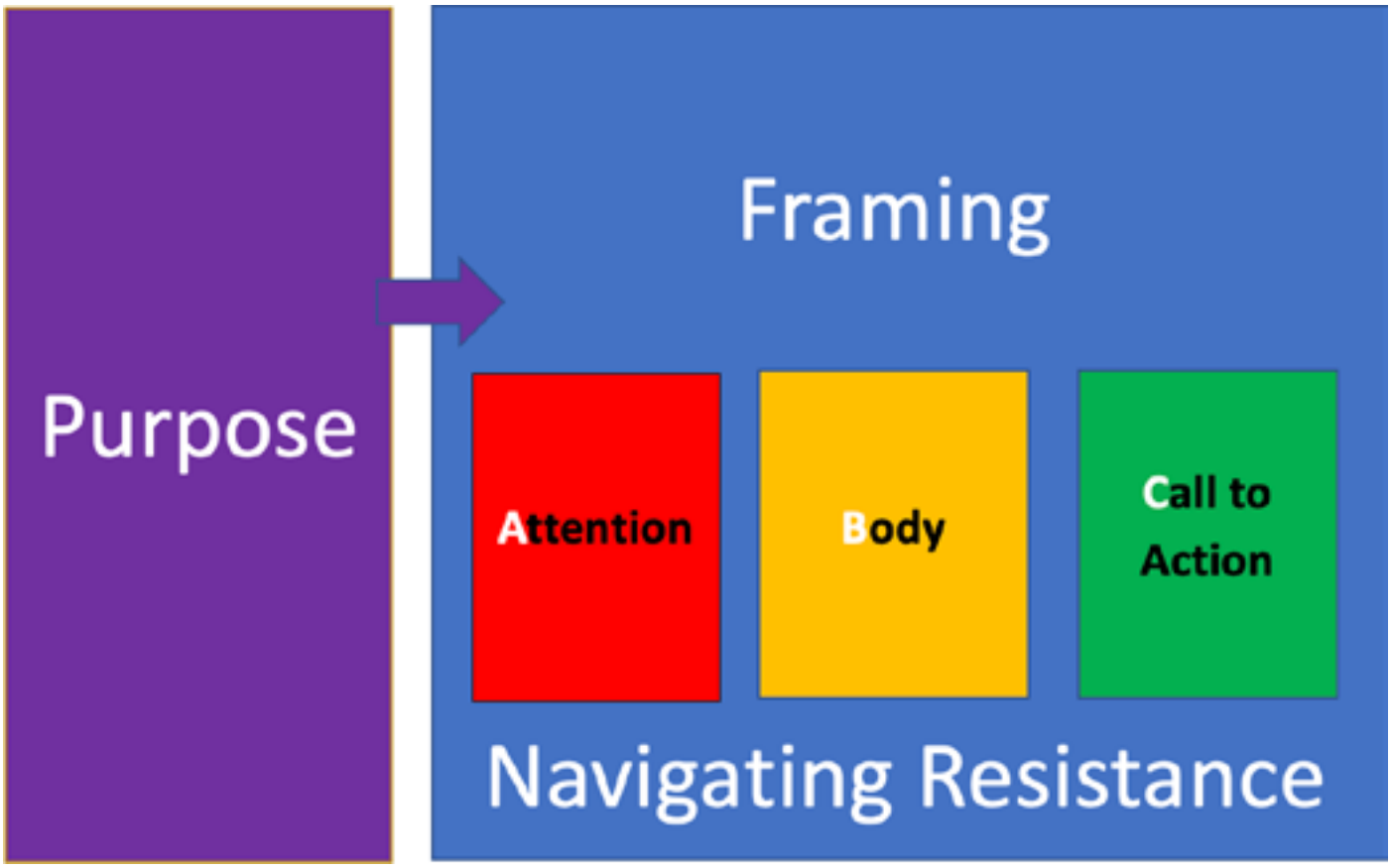
B. Listener: listens to see how it affects your feelings

The goal: to learn how to tell stories that engage and really get attention

Two mins each role, then swap – time will be called, please stay focused as this is key

4 mins to discuss

Designing Messages that make a Difference



Purpose of Message

To know the purpose of our message, the outcome and the audience are essential to a message that will make a difference.

Question	Answer	notes
What do I want to say?		
What outcome / Effect do I wish to have?		
Who are the audience?		

Framing

As one of the most popular concepts in current research on journalism and mass communication, framing refers to the idea that actors like strategic communicators, journalists, but also audience members select some aspects of a particular issue and make them salient while other aspects are ignored

Framing of Message

What is the point you wish to focus on?		
What are the assumptions we wish to show?		
What are the realisations we wish to elicit?		

Attention

Why is attention so important?? Capturing your audience's attention is paramount, if you do not, your message will not land – to standing out amongst all the other messages coming at the other messages coming at the audience at any given time is key.

Why is this relevant to the audience?		
What do they value on this subject?		
What will grab their attention on this?		
How can I grab curiosity?		
What is the loop you wish to open?		

Attention - Additional

Emotions are ley for engagement, they alert us to threat or opportunity. In essence, emotions alert us to something that is important for us to notice. Unless emotions are triggers or needs / core drives, no one will be motivated to do anything.
In this YouTube video by Alex Cattoni she mentions a project that was able to elicit huge engagement by using the 4 emotions below.

https://www.youtube.com/watch?v=sdoj1TVbAJY

1) History or nostalgia

2) Humour

3) Pride of knowledge (when you find out you were right about something)

4) Schadenfreude

Body of Message

Story / Narrative		
Fluency / Clear		
Draw on Emotion		
Authority / Credibility		

What is the message you wish to convey?	

Influence Factor	Description	Source	Link
Reciprocity	People dislike feeling indebted and have a desire to repay the gift / kindness	https://www.researchgate.net/figure/Robert-Cialdini-s-six-universal-principles-of-influence-From-his-talk-You-don-t-have-to_fig1_312916528	https://www.youtube.com/watch?v=HOy-pv1AqYu0
Scarcity	Less quantity equals more demand	https://www.researchgate.net/figure/Robert-Cialdini-s-six-universal-principles-of-influence-From-his-talk-You-don-t-have-to_fig1_312916528	https://www.youtube.com/watch?v=HOy-pv1AqYu0
Liking	People prefer similarities and often listen to those they like	https://www.researchgate.net/figure/Robert-Cialdini-s-six-universal-principles-of-influence-From-his-talk-You-don-t-have-to_fig1_312916528	https://www.youtube.com/watch?v=HOy-pv1AqYu0
Unity	We trust those who are part of our groups and often dismiss those that are not part of our group	https://www.researchgate.net/figure/Robert-Cialdini-s-six-universal-principles-of-influence-From-his-talk-You-don-t-have-to_fig1_312916528	https://www.youtube.com/watch?v=HOy-pv1AqYu0
The remaining 3 principles	These overlap with Mindspace and are covered there in Messenger, Norms and Commitments		https://www.youtube.com/watch?v=HOy-pv1AqYu0

Meleni Aldridge
Integrative Medicine
Practitioner

ARTICLES

Phang Nga mangrove, Thailand

Emotional imbalance: the unspoken ticking time-bomb

How trauma and stress obstruct effective healthy behaviour change

By Meleni Aldridge BSc NutrMed Dip cPNI Cert LTFHE

How many times in your life have you known something wasn't good for you and just gone ahead and done it anyway? Whether it was the food you've eaten, your choice of drinks, activity (or otherwise) or a relationship. We've all experienced what it's like to proceed with potentially self-destructive behaviours in spite of being fully aware of the warning bells going off in our heads. It's as if there's an internal driver demanding that an action be taken despite the consequences.

We all know what that feels like. But it seems that some people are better at veering from the precipice, learning from previous actions and making better choices. Others, it seems, are hardwired to self-sabotaging behaviours and appear powerless to choose a new road regardless of the information in front of them.

This is the very situation we find ourselves in with regard to the state of our underlying health currently. Global obesity, type 2 diabetes, coronary heart disease and preventable cancers are the four biggest chronic disease killers in the Western and industrialised world..

Knowing what's good for us, even having a desire to do what's good for us, appears to be powerless if internal emotional (and psychological) drivers are demanding salve for different, hidden and distant wounds.

Owning our needs

Our immediate physical needs are easy to recognise and acknowledge. We need air to breath, food to eat, water to drink and sleep to rejuvenate if we are to survive. Without these few basic needs the human race would not still be here.

But what of our emotional and psychological needs? They may be less easy to acknowledge, but they are just as powerful drivers of our health and wellbeing and they must also be satisfied if we are to flourish and be healthy as a species. Our emotional and psychological needs are inexorably linked to our biology too, meaning that if they are not satisfied, they are very likely to contribute to disease down the line. That means health care needs to be focusing a lot more on aspects such as purpose and meaning in life, social connection, connection with nature and clarity of mind that have so far not been prioritised in mainstream medicine.

Human Givens

The Human Givens approach is one of several guided approaches that focuses on re-establishing psycho-social balance within an individual. It originated out of the research by its founders, psychotherapists, Joe Griffin and Ivan Tyrell over 20 years ago. The approach provides a holistic, scientific framework for understanding the way that individuals and society work.

The Human Givens framework encompasses the latest scientific understandings from neurobiology and psychology, as well as ancient wisdom and original new insights.

According to the Human Givens Institute, our 9 emotional needs are as follows:

- Security — safe territory and an environment which allows us to develop fully
- Attention (to give and receive it) — a form of nutrition
- Sense of autonomy and control — having volition to make responsible choices
- Emotional intimacy — to know that at least one other person accepts us totally for who we are, "warts 'n' all"
- Feeling part of a wider community
- Privacy — opportunity to reflect and consolidate experience
- Sense of status within social groupings
- Sense of competence and achievement
- Meaning and purpose — which come from being stretched in what we do and think.

How many of your needs are being met at this point in time? If you're a parent, how many are you helping to facilitate in your children?

Research published in 2014 looked at the association of childhood trauma with inflammation (the common 'thread' that links all chronic diseases) in adulthood. The work concluded that men and women may experience trauma differently but share many vulnerabilities which can lead to elevated health risks. And specifically, that emotional eating may be an important target for intervention in people who have suffered childhood trauma.

Our emotional – physical landscape

Emotions are not merely thoughts confined to the mind. We experience them in our bodies, which is why they're 'psychobiological', i.e. they drive our biology. Emotions are direct, often visceral, feelings in the body. The stronger the emotion, the stronger the feeling. The heart-racing blush of new love; the 'butterflies' in the stomach with anxiety; the palm-tingling, sweating, dry-mouth facing an audience for the first time; the rush of nausea when feeling disgusted, are all familiar sensations for us. And of course, the intensity of the fight or flight response to fear or fright. We are so emotionally fine-tuned that we also use somatic language to describe events in our lives – feeling heartbroken, quivering with excitement, having a gut feeling about something or being sick to the pit of one's stomach.

Wired by trauma – the survivor's edge

Early childhood/life trauma creates a chronic sense of internal stress and fear that accompanies one throughout life. Because of the way the brain develops, trauma (even during gestation), hardwires a person for 'survival stress'. This in turn can lead to ways of seeking 'comfort' in different guises, particularly food, as an antidote for the unnamed fear inside.

Trauma is transgenerational too, which is why epigenetics – the impact of environment and lifestyle on your genes – is so important in understanding which are the most appropriate interventions in health care delivery.

Indeed, stress, at any time of life, can cause imbalances in neural wiring which, at the cognitive level, affects comprehension, decision making, anxiety and mood. This imbalance drives changes in the body's physiology via neuroendocrine, autonomic, immune and metabolic changes. If the stress is short term, these changes are temporary. But, if the stress response fails to resolve and the behavioural and metabolic changes persist, appropriate intervention is needed to prevent the creation of disease. Instead of addressing the emotional element downstream, the upstream symptoms are more usually treated and often with drugs alone. These generally only treat the symptoms and often have side effects, sometimes serious.

It's all in your head

Rarely does the mainstream medical community make the connection between our emotional health and our physical health when it comes to addressing metabolic imbalance or chronic disease. Instead, too often, when a clear cause and effect relationship can't be established, patients visiting their GPs are told that their symptoms are psychosomatic and made to feel like they're time wasting.

It's not just mainstream healthcare that's guilty of separating our bodies from our emotions. When it comes to diet and lifestyle, public policy and health advice presupposes that everyone is unencumbered by emotion and able to act on the education they receive. When they don't, a great deal of time, effort and money is spent on finding new, usually more hi-tech, ways to trigger that all important hot button. But what if we're actually seeing an epidemic of emotional pain and not an epidemic of chronic disease? We know the current reductionist healthcare model isn't working in the area of chronic diseases, but how will any health system ever be effective if it doesn't start to prioritise approaches that address emotional health before it manifests into a plethora of downstream diseases?

Creating a positive space for behaviour change

Food being so integral to our survival, as well as to our earliest memories of comfort, love and security, is particularly wired to emotion. Many of us turn to food as an antidote to stress and challenging emotions, or to cope with something unpleasant in our lives. Conversely, many children are still rewarded with sweet treats setting up habits of a lifetime as they're also associated with happy memories.

As a species built for famine and not for feast, our DNA is hardwired to indulge when we are faced with abundance in order that we had stored fat for the lean times. It's how we survived through evolution. The challenge for us now is that we're surrounded by abundance, yet our genes keep telling us to indulge. But emotional and 'survival' hunger are not sated by food.

Dealing with emotional and psychological health is covered in our soon-to-be-released blueprint for a sustainable health system. In conventional, mainstream healthcare there is rarely time to hand-hold people with complex conditions sufficiently or to support them in overcoming the emotional or psychological blocks that may exist. Without addressing these blocks, or emotional health, effective behaviour change may never be possible.

Within the ANH-Intl blueprint for a sustainable healthcare system, and because we recognise the potential of the human body to re-establish balance, our model for restoring and maintaining health, includes what we describe as the 'ecological terrain' – 12 distinct, modifiable, sub-zones of health. Firmly embedded in the ecological terrain are the essential aspects of emotional health.

Now please take a breather for your emotional health. Walk in the forest, connect to nature, scrunch your toes in the sand at the beach or hug someone you care about. Our emotional needs are of paramount importance too.

Emotions: the hidden face of autoimmune disease

Why your emotional landscape may be leaving you at risk — and what to do about it

By Meleni Aldridge BSc NutrMed Dip cPNI Cert LTFHE

The skyrocketing increase in autoimmune disease could soon eclipse heart disease, the no 1 killer in the Western world. The role that gluten plays in autoimmune disease is much more commonly understood now, but gender and the contributory role emotions play in the development of autoimmune disease much less so.

In short, if you're a woman with a challenging emotional landscape, you are up to 10 times more at risk of developing certain autoimmune diseases – and you may know nothing about it for twenty to thirty years. Eighty percent of all autoimmune diseases diagnosed are in women and once the seal is broken so to speak, there is a 75% chance of developing more if the causes aren't fully addressed. This doesn't leave men out of the equation at all, but women are more at risk when it comes to autoimmune disease.

The mind and body at war

There are no winners when the mind and body are at war. Our immune system is like the archer carrying a bow and a quiver of arrows. Everything works perfectly when it takes aim with one arrow at an identified target, but autoimmune problems occur when the quiver is emptied of arrows firing indiscriminately and continuously. This is what happens when early life trauma, chronic stress, unhappiness and heart pain keep the immune system triggered with no end in sight.

The brain communicates with the immune system through the autonomic nervous system and through hormonal activity. Both pathways generate signals that are perceived by the immune system via receptors on the surface of white blood cells and other immune cells. An activated immune system generates chemical messenger signals called cytokines that are in turn perceived by the nervous system. This two-way communication pathway connects the brain and the immune system with our hormones and our entire physiology, which is why it creates the foundation for behavioural influences on immune functions i.e. disease conditions.

Altering perceptions

If this is you, the first step is to recognise that your emotions affect your physical wellbeing and your physiology. You can't be unhappy without your immune system responding in the same way as it does to an infection or a wound because it doesn't differentiate between stressors. You may not be able to reduce your stress because we live in a stressful society and you may not know how to address what's hurting you because it's rooted in early life trauma. But you can reduce your perception (the way you feel) of that stress. Sometimes just knowing that allows you to breathe, pause and accept the 'What Is' of your life.

Early life trauma creates more tissue in the right hemisphere (the emotional side) of the brain, a denser and bigger amygdala (involved in experiencing emotions) and a more reactive, hair trigger stress response. This creates a physiological cascade, detailed above, that affects mood, inflammation, anxiety levels and can make one more prone to obesity. It can become a vicious circle if action isn't taken to break the feedback loop.

As humans we are wired to experience rejection as trauma as it was our survival mechanism to prevent us straying outside of the tribe where we could get hurt or killed. As such, we have all experienced trauma at some time in our lives because we have all experienced rejection. However, the more adverse childhood experiences (ACE) someone has that are unresolved, the more symptoms will be experienced in the body. Additionally, the ability, or desire, to self-care – especially in women – reduces when the ACE score, or the perception of stress from the trauma, is high. Conversely, autoimmunity increases – the risk of hospitalisation with an autoimmune disease is 70-80% higher with an ACE score of 2 or more.

Steps to healing

Ask yourself, what do I need in order for my archer to put its bow and arrows down? Don't censor the response you get, accept the first answer that arises no matter how absurd it may seem.

A hyper vigilant mind and immune system causes something that some practitioners refer to as a 'pregnenalone steal', which leads to hormone imbalance and a leaky gut. The way you feel about (perceive) your stress is what is important though, because we experience feelings first, which affect the brain. Hence, perceived chronic daily stress looks the same on the brain scans as someone with post-traumatic stress disorder (PTSD). The higher your perceived stress score, the worse the symptoms you may be experiencing – or brewing.

This is where mindfulness practices, meditation and heart rate variability training like the HeartMath Institute teach are very important. Victims don't heal, which is why one often needs to hit rock bottom before finding the motivation to choose healing.

Find out your Perceived Stress Score (PSS) by completing the questionnaire in this manual
.
If you are scoring moderate to high stress, I recommend that you visit the links in the Connection and Reconnection section of this manual: find what resonates with you, commit to a practice that fits with your life and take the quiz every few months to check your progress. Even if you're not feeling stressed, developing a daily practice will help you stay present and connected with a functioning 'navigation' system.

Walking free

Freedom comes from connecting the dots in our emotional landscape. Being brave enough to acknowledge the root(s) of our emotional pain, challenges and traumas and then looking clearly at

our beliefs, behaviours, diet, mood and relationships. Once you've established your trauma timeline through the PSS and ACE questionnaires, you can acknowledge 'What Is'. This is often the first step on the healing journey – from misery to motivation.

There are many self-care tools to help you find the eye in your hurricane when it hits – a place of calm and rebalancing to restore resilience. You'll find some pointers in the Connection and Reconnection section.

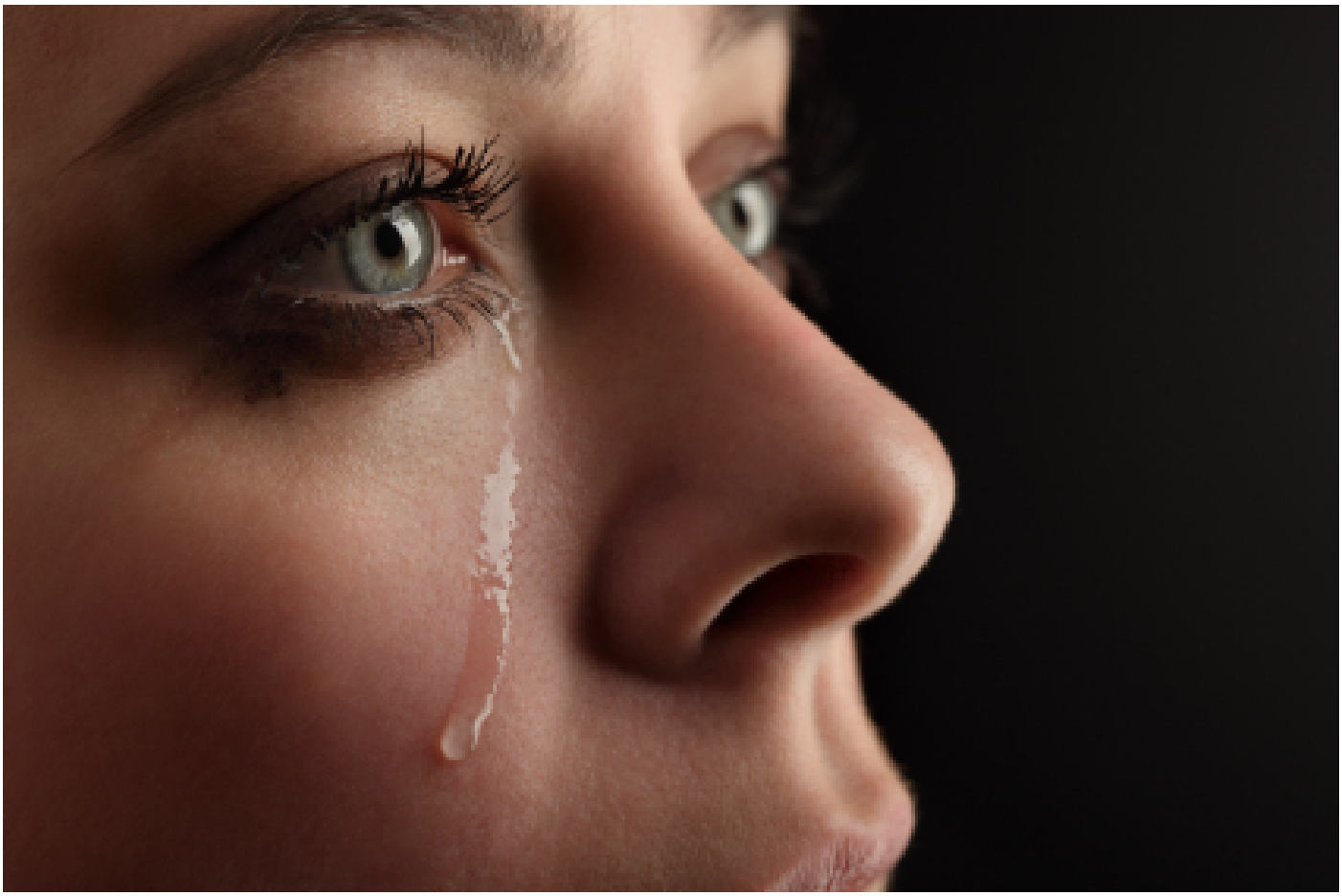
In my view, it's really important to remember that intention is one of the most powerful tools we all possess for self-healing. This is where techniques such as re-framing and forgiving allow us to confront ourselves, therein releasing trauma and experiencing hope again.

It's also been shown that stress is ancestral (epigenetic) and can transfer across the generations, thus, our healing is not always solely for ourselves.

Nature's answer to the blues

Why getting down and dirty in nature could be both prevention and antidote for depression

By Meleni Aldridge BSc NutrMed Dip cPNI Cert LTFHE



Healthy human emotional function requires us to consider something larger than just our individual selves and our family systems. To open ourselves to the idea that we are actually individual nodes within larger interdependent systems, carrying our long and evolved histories with us. As part of that larger interdependent system, one of our most important, but often overlooked, relationships is that with the microbial world.

Loss of contact with 'old friends'

What if the immune system's primary goal is not just to kill germs, but also to offer a system of speaking to the microbial world, with protection as an inherent part of that conversation? How would it change our view of disease if we saw our immune system as another channel of communication, and particularly communication with the small forms of life around us?

Throughout history, humans have interacted with nature and been exposed to a wide range of microbes. Soil bacteria and the microbes and helminths found in animal faecal matter were an integral part of our lives. Our immune systems have had to differentiate between the pathogenic microbes that want to kill us (infections), those that are beneficial to us (gut bacteria) and the neutral ones ('old friends') that cross our paths throughout evolution. And it's these relationships and ancient conversations that are largely responsible for the survival of the human race.

Does sterile mean safe?

The hygiene hypothesis, or the 'old friends' hypothesis as Charles Raison prefers to call it, suggests that one reason for the increasing incidences of chronic inflammatory disorders is the loss of these organisms from the modern environment. Since we evolved with them and they were always a part of our heritage, they had to be tolerated. To tolerate them meant ensuring that co-evolutionary forces enabled them to play an essential role in the development of an intelligent immune system.

Overwhelming data show that the failure of the immune system to respond appropriately to immune challenges leads to much of the immune pathology we see in the modern world. The massive increase in depression, allergies, autoimmune diseases and intestinal and gut dysbiosis, as well as inflammatory conditions, are all evidence of this. Humans were continuously exposed to these 'old friend' microbial organisms from our earliest evolution, through the Neolithic age with the introduction of agriculture and animal husbandry, but our 'relationships' largely ceased as a result of urbanisation.

If we keep using our anti-infectious arsenal indiscriminately, it's no wonder that we are creating a race of superbugs that are already outsmarting the best defences we have. A good start in redressing the balance would be to use antibiotics as a last resort, rather than a first step. Clearing out our kitchen and bathroom cupboards of the multitude of disinfectants and hand sanitisers that many of us have been terrified into buying is also important. As Charles Raison reminds us, "Traditional environments are full of 'old friends', but in the modern world you lose this commensal communication line and the inflammation ramps up".

Depression – a conversation gone wrong

Depression is probably the most demonstrative way that people exhibit their failure to cope with adversity. And worryingly, depression is on the rise, being classified as a 'global crisis' by the World Federation of Mental Health as far back as October 2012. Considered solely a brain disease by many, depression is also intimately linked with systemic inflammation and immune challenges. Persistently high levels of inflammatory markers are common in sufferers of depression, even when infection is absent.

The things that depress us in the modern world are often rooted in conversations that have gone wrong, such as fighting with someone or losing a life partner who has been your close confidante. But what is less commonly recognised is that our immune systems evolved with microbes as their partners in dialogue, and that they have now been lost. Granted, we've generally come off worst when those conversations have gone wrong! However, the conversations with our 'old friends' enabled us to create a more intelligent immune system. A system capable of creating many modulating or regulatory T cells to restore calm once the 'snipers' of the immune system had taken out the dangerous pathogens quietly and safely.
Raison's research shows that children whose immune systems were 'trained' by 'old friends' early in life experienced lower levels of inflammation. The link between depressogenic triggers and inflammation also appeared to be broken. A very good reason for letting your kids play in the mud and spend time outdoors!

Atomic bombs, snipers and collateral damage

Imagine your innate immune system is like an atomic bomb. Crude, but very effective at taking out invaders – at a price. This kind of immunity comes at a huge energy cost, causes a lot of collateral damage and requires a massive clean-up operation afterwards. Alternatively, your adaptive immune system is like the stealth sniper. Cheap from an energy perspective, and effective if you have sufficient numbers that are trained to recognise and take out many different types of invaders.

However, even the snipers need to be told to stand down by the modulating cells when the job is done, to allow order and normal function to be restored.

Throughout evolution, the 'old friends' in our environment trained these modulating cells to restore the immune reaction to its normal baseline, dampening inflammation and suppressing autoimmune reactions. With the loss of our 'old friend' relationships, our immune systems have struggled to maintain sufficient regulatory T cells, and so have relied more and more on the crude 'atomic bomb' strategy. Emerging research is showing that depression could well be part of the collateral damage from the innate immune system.

Understanding the importance of our microbial relationships in supporting healthy emotional function is vital if we're to understand why depression is so prevalent in modern societies. Psychiatric diseases are not just diseases of the brain, but disorders of the entire system: a system that includes the microbial world just as much as your family and life system. These disease states should be viewed more as disordered quantum particles within disrupted communication pathways. Once the conflict has been resolved and the cooperation restored, healthy human emotional function can return. Just as all becomes well in one's world once a row with a spouse is resolved.

Surviving the future

In our modern world – where we are deodorised, sanitised and disinfected to within an inch of our lives – we may have thought we eliminated some of the pathogens responsible for major epidemics. Unfortunately, the writing is on the wall and they are now coming back. Humans may take hundreds or thousands of years to make an evolutionary change, but microbes, due to their extremely high reproductive capacity, take a matter of months.

If we are to survive the future, we may have to seriously rethink our conversations with the microbial world and reinstate some of our ancient relationships. We need to remember that our 'old friends' were integral to a robust and flexible immune system; an immune system capable of conversing with a host of different pathogens, and differentiating friend from foe, without maintaining a costly and constant inflammatory vigil.

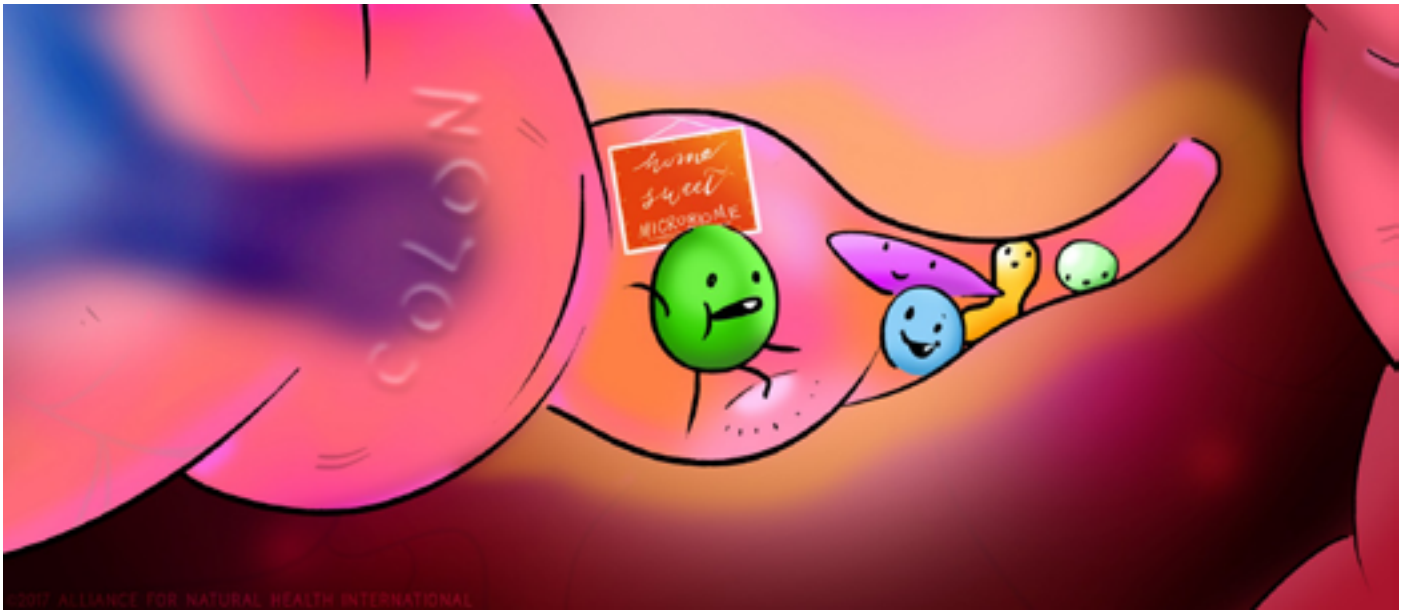
Nature exists all around us. Now, there's an incredibly powerful reason to get down and dirty again with the soil, own pets, visit farms and play in the leaf mould at the end of autumn. Your emotional health may be at stake if you don't!

Related article: The misguided and dangerous 'war on germs'

The gut brain connection

Using the intelligence within your colon for mood modification

By Meleni Aldridge BSc NutrMed Dip cPNI Cert LTFHE



Would it surprise you to find out that mood management is one of the prime functions, not only of our brains and neurotransmitters, but also of the non-human microorganisms that inhabit our gut? During our ancestral past, it appears we used to have around 160 different species of microbes (bacteria, fungi, viruses, worms and parasites) resident in our gut. Today, those of us living in the developed world have reached crisis point with our microbial diversity.

In looking at the diversity of indigenous populations, we have a benchmark to see that we have lost keystone species that are essential butyrate producers. Butyrate is a short chain fatty acid with many varied effects, but none more so than being a potent regulator of gene expression.
It's not just chronic disease spiralling out of control, mental health issues are now commonplace and continuing to rise at a swift pace. Mainstream medicine is still focused on disease management strategies, like drug therapy, for symptoms. But what about strategies that address the cause(s) of what ails us and resolves the health challenge at its core?

Our internal ecosystem

We are an entire ecosystem unto ourselves and just like the coral reefs or the rainforests, we need to maintain the delicate balance for the system to flourish. Allow disruption to creep in and the system fails. Our relationship with the trillion plus microbes that inhabit our healthy guts is wholly mutualistic (not just commensal). We must live in harmonious cohabitation to keep our gut microbiota in its naturally diverse, complex and intelligent system within us if we are to optimise our physical and emotional health, as well as our resilience.

Our microbiome is a unique fingerprint of each of us – even in identical twins. What and how we eat is one of the most important determinants of the diversity of our microbiota. Not just because our food provides nutrition, but because of the metabolites produced by the microbiota that then act as signalling molecules for the multitude of metabolic and related processes that are needed to keep us well. Knowing this, how can we not question whether our diseases of civilisation are just symptoms of our microbiome being out of ecological balance?

Depression – a symptom of a disordered gut?

An altered ecosystem can increase the risk of depression because stress impacts the microbiota negatively. We now know that that relationship is bi-directional. So, the way we eat, rest, move and feel emotionally has a direct impact on our gut microbiome creating a suite of negative effects – depression being one of them. How? Because the immune, hormonal and nervous systems act as the ***language translators*** between the intestinal mucosa (mucous lining), the microbiota (the microorganisms themselves) and the brain. Hence, a properly functioning microbiome can modulate the stress response and help us to be more stress tolerant and resilient.

New evidence suggests that depression may also be transmissible. A study in 2016 showed that faecal transplants from clinically depressed human patients given to laboratory rats, created depressed rats. How this may affect babies born to depressed mothers is yet to be seen, but this finding shouldn't be ignored.

Known mood modifying mechanisms involving the gut microbiome are as follows:

- An excess production of internal toxins (lipopolysaccharides - LPS) created from the outer shells of gram-negative bacteria without sufficient species diversity to offset the effects. The overuse of NSAIDs e.g. ibuprofen, increases LPS concentration. As does binge drinking which creates a high level of internal toxins in the blood stream detectable for up to 5 hours after the drinking session.
- Lower than normal levels of butyrate production, which can be made by 30-40% of the bacteria in healthy people. Amongst its many effects, butyrate enhances gut integrity and can also prevent depression from occurring, but only when more is made than is needed by the colon cells. Eating a standard Western diet (low in fibre, prebiotics and resistant starches, but high in meat and unhealthy/refined polyunsaturated and saturated fats e.g. trans fats) will not provide this protection.
- Production of neurotransmitters e.g. serotonin, aka the 'happy hormone' (90% is produced in the gut) and disruption of the tryptophan pathway in the brain. This also creates brain inflammation because the blood-brain barrier is compromised, which can induce depressive-like behaviour. Dopamine, noradrenaline and serotonin must be balanced to maintain an even, happy mood.
- B vitamins (involved in creating neurotransmitters) – produced by the microbiota and colon cells, but only if the right foods are eaten. Again, the typical Western diet will not provide this.
- Insulin resistance from poor blood sugar balance.
- Intestinal permeability – lack of anti-inflammatory species can create a microbiota that increases gut permeability

DIY fixes you can start today

Given that a build-up of toxins in the gut, and the body beyond, from an excess of LPS in circulation is at the heart of depression or depressive-like behaviour, the following are some simple, yet effective, DIY fixes:

- Change to a high fibre diet (30 grams plus a day for adults, comprised of a variety of soluble and insoluble sources) and eat fibre with every meal to prevent metabolic endotoxaemia – the internal toxicity created by excess LPS
- Lower dietary fat intake – sat fats particularly increase uptake of endotoxaemia
- Eat more oily fish (e.g. mackerel, sardines, salmon) and take an omega 3 (DHA/EPA) supplement as fish oil has been shown to decrease LPS absorption. Algal DHA/EPA supplements are now available for vegetarians and vegans.
- Look at labels and avoid eating highly processed and ready-to-eat foods because they often contain high levels of dietary emulsifiers which can damage the integrity of your intestinal wall

- Avoid binge drinking (2ml vodka / kg body weight – 65kg person = 4.3 drinks). Moderate drinking (e.g. 2-3 drinks / day in men) does not increase LPS.
- Cut out fruit juices and fructose-rich drinks, but eating a couple of pieces of whole fruit per day is good for you
- Add a prebiotic supplement (e.g. FOS, GOS or IOS) to your daily regime of healthy eating to decrease the toxic load both in the gut and the rest of the body
- Add a probiotic supplement, not because they colonise, but because they interrogate the intestinal microbiome and encourage it to better behaviour which can re-establish the correct signals between the gut and the brain
- Take a few minutes multiple times per day to close your eyes and zone out. This is instantly calming as it takes you into an alpha brain wave state and will also calm your gut bacteria.

Appendix: trusting your microbial intelligence

The researchers and clinicians speaking in this stream agreed that depression is an inside to outside problem that is exacerbated by dysbiosis (imbalance of the gut microbiome). The loss of keystone species that we have evolved with is an important contributing factor, as is the dumbing down of our dietary diversity.

I'll leave you with what I feel is an exciting piece of information regarding emerging science on the true role of the appendix. Long thought of as a defunct, functionless remnant of our evolutionary progression, it appears that this organ that is so often removed if it plays up, does actually perform an incredibly important function in the body.

The appendix is actually a key immunological organ, located in a protected area at the base of the large intestine, very close to the junction of the small intestine. Due to the ileocaecal valve (ICV), it has little contact with food particles, faecal matter or any infectious diarrhoea and is now considered to be somewhat of a 'safe house' for good bacteria and is also involved in the formation of biofilm. This is the bacterial layer that sticks to the gut mucosa and creates the intelligent internal interface with the rest of the body. New studies from Professor Luis Vitetta's group that show a distinct link between depression, appendectomies and antibiotic use. Without the 'safe house' of the appendix, people may struggle to repopulate their gut microbiome or generate the biofilms necessary for a healthy gut and immune system.

Whilst there is still so much we don't know, we may just have uncovered one giant piece of our gut puzzle. Isn't it time to trust to our internal intelligence down under? For more information on the importance of the appendix for our immune system, check out *Kooij et al's* 2016 review.

1. **PERCEIVED STRESS SCALE**

2. **ADVERSE CHILDHOOD EXPERIENCES (ACE) - CDC-Kaiser Permanente Adverse Childhood Experiences Questionnaire**

Prior to your 18th birthday:

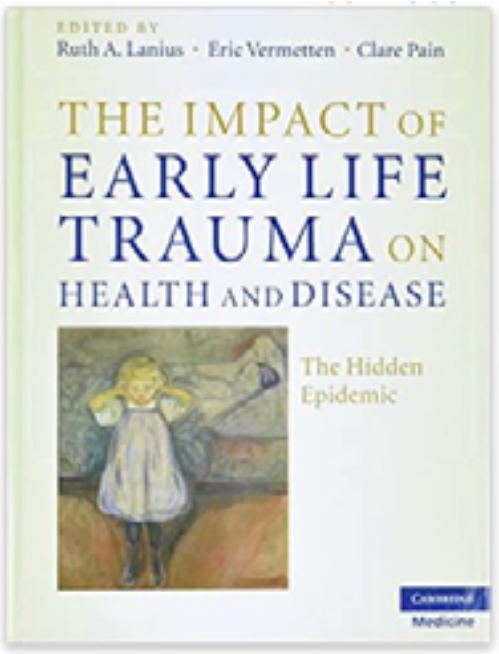
Did a parent or other adult in the household often or very often… Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt?
No___If Yes, enter 1 __
Did a parent or other adult in the household often or very often… Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured?
No___If Yes, enter 1 __
Did an adult or person at least 5 years older than you ever… Touch or fondle you or have you touch their body in a sexual way? or Attempt or actually have oral, anal, or vaginal intercourse with you?
No___If Yes, enter 1 __
Did you often or very often feel that … No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other?
No___If Yes, enter 1 __
Did you often or very often feel that … You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
No___If Yes, enter 1 __
Were your parents ever separated or divorced?
No___If Yes, enter 1 __
Was your mother or stepmother:
Often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
No___If Yes, enter 1 __
Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?
No___If Yes, enter 1 __
Was a household member depressed or mentally ill, or did a household member attempt suicide?
No___If Yes, enter 1 __
Did a household member go to prison?
No___If Yes, enter 1 __
Now add up your "Yes" answers: _ This is your ACE Score

ACE Impacts
The ACE study on over 17,000 people from diverse backgrounds and ages found that the higher your ACE score, the higher your risk of health and social problems. Note that there are other types of trauma that exist, that could contribute to an ACE score, so it is conceivable that people could have ACE scores higher than 10; however, the ACE Study only measured 10 types.
The main take home is that as your ACE score increases, so does the risk of disease as well as social and emotional problems. The researchers found that with an ACE score of 4 or more, the impacts on health can start to get serious. Some key facts from the study to illustrate this is that

the likelihood of chronic pulmonary lung disease increases 390%; hepatitis 240%; depression 460%; attempted suicide by 1,220%.

Further ACE information:
Video: Dr Vincent Felitti: Reflections on the Adverse Childhood Experiences (ACE) Study

Article: The Adverse Childhood Experiences Study - the largest, most important public health study you never heard of - began in an obesity clinic



Book: Ruth Lanius, Eric Vermette, Clare Pain (Eds). *The Hidden Epidemic: The Impact of Early Life Trauma on Health and Disease.* 2010. Cambridge University Press. 329 pp.

3. **POSITIVE CHILDHOOD EXPERIENCES (PCE) Questionnaire**

To find out what positive childhood experiences you have, answer the following questions. How much or how often during your childhood did you:

1. Feel able to talk to your family about feelings?
2. Feel your family stood by you during difficult times?
3. Enjoy participating in community traditions?
4. Feel a sense of belonging in high school?
5. Feel supported by friends?
6. Have at least two non-parent adults who took genuine interest in you? and
7. Feel safe and protected by an adult in your home?

PCE Impacts
PCEs are critical to creating lifelong mental, emotional, and relationship, health and resilience. PCEs help to balance out ACEs. Evidenced by research from Dr Michael Baglivio and Dr Kevin Wolff who found that whilst high ACE scores were associated with increased reoffending in juvenile offenders, high PCE scores were associated with decreased repeat offending. Juveniles that had 4 or more ACEs, but 6 or more PCEs were over 20% less likely to reoffend and be reconvicted.

Further PCE information:

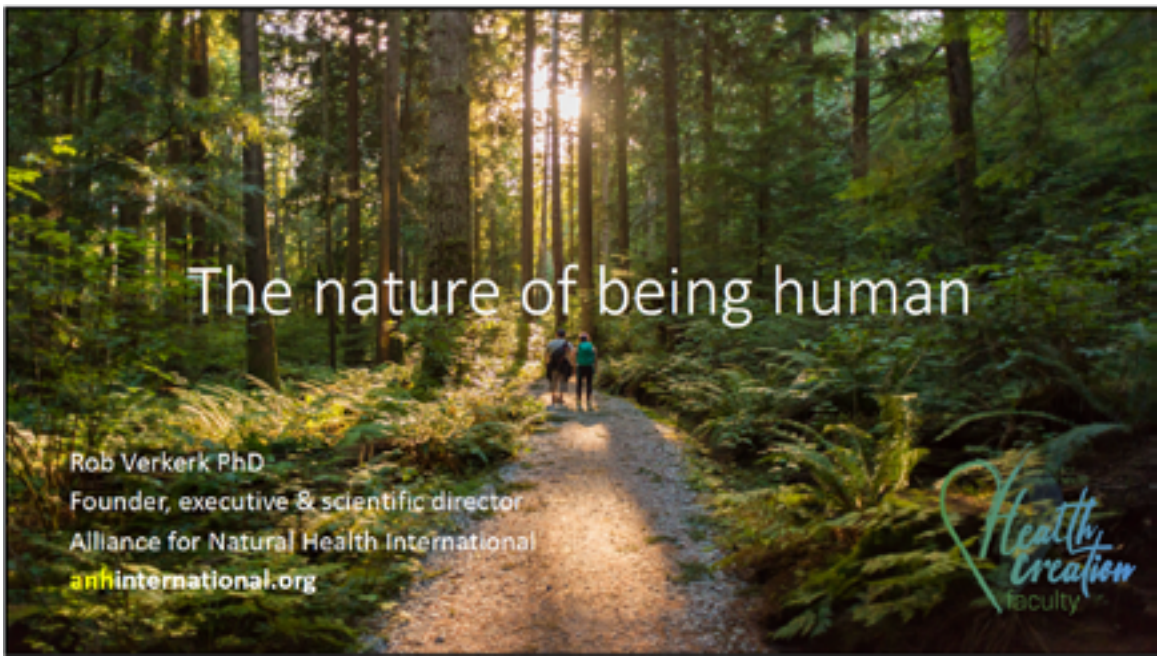
Journal article: Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample

Connection and reconnection

Conscious Coherence Resource Guide

RESOURCES:
PRESENTATION 1

Rob Verkerk PhD
Ecological Health
Scientist

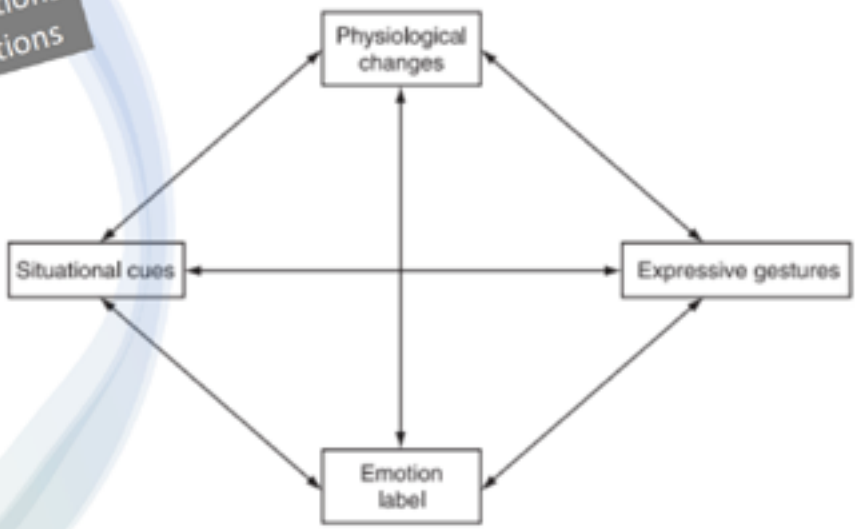


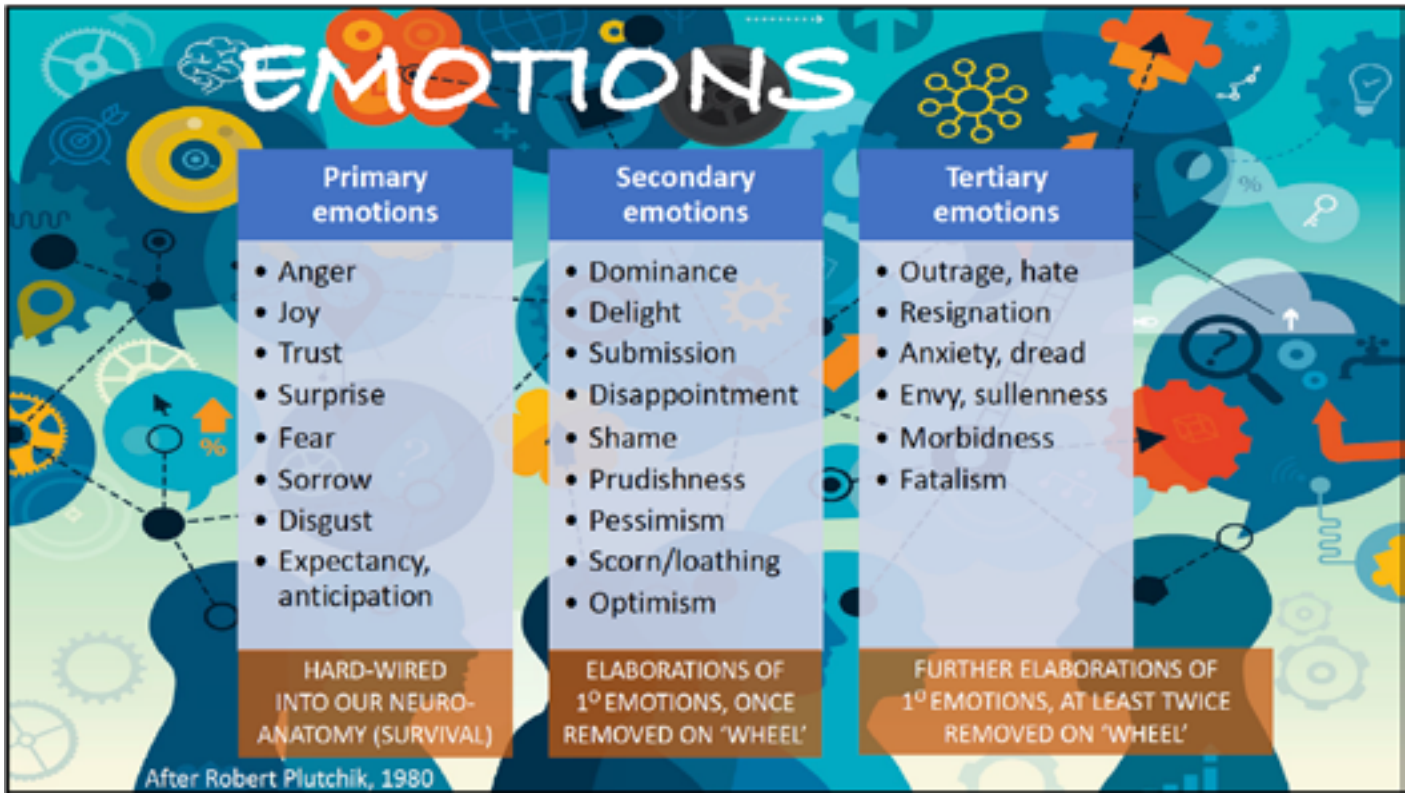
EMOTIONS → FEELINGS, STATES OF AROUSAL

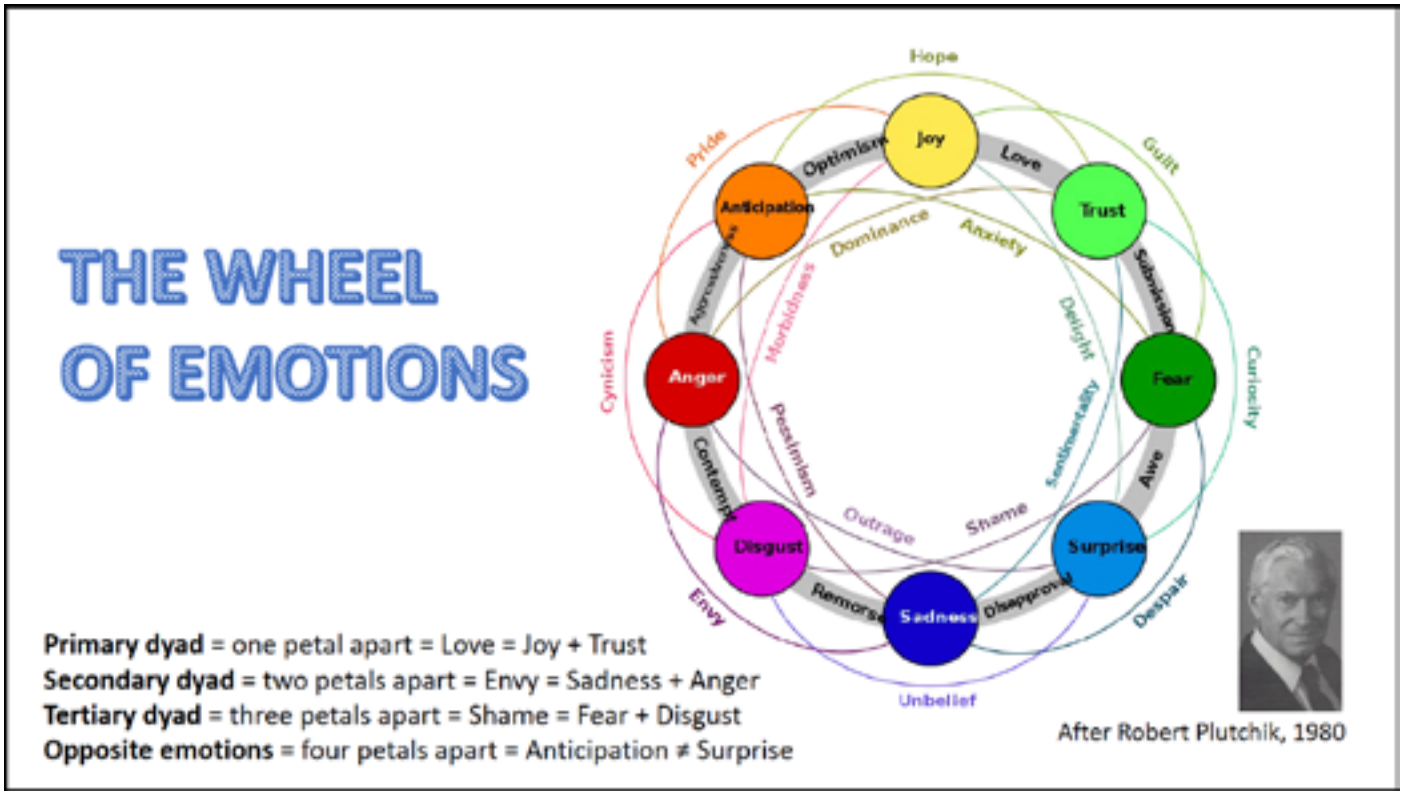
English language: 48 recognised emotions
Internationally: 128 recognised emotions

After Peggy Thoits (1990)

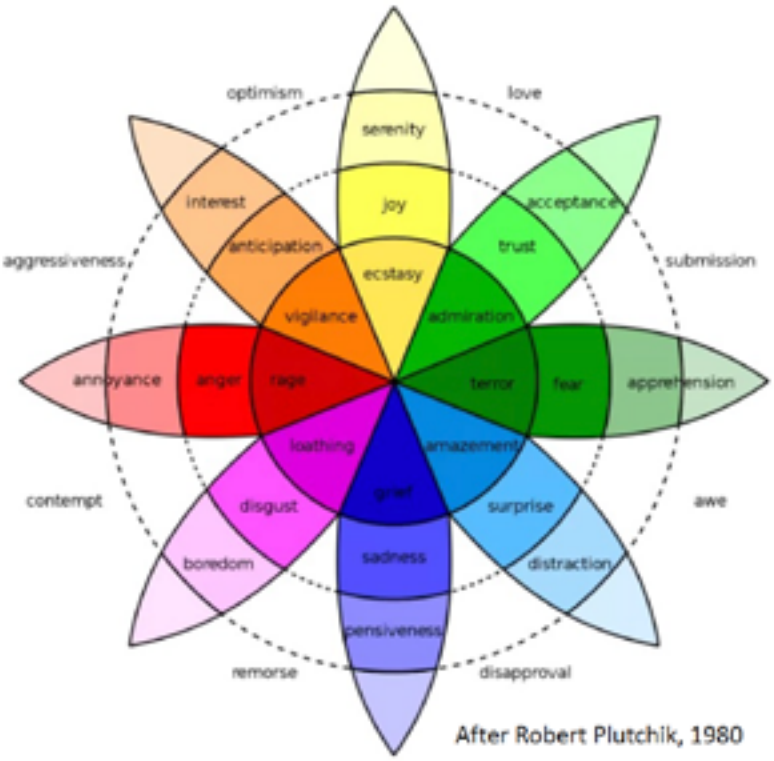
ELEMENTS OF EMOTIONS




EMOTIONS
Primary emotions
• Anger
• Joy
• Trust
• Surprise
• Fear
• Sorrow
• Disgust
• Expectancy, anticipation
HARD-WIRED INTO OUR NEURO-ANATOMY (SURVIVAL)
Secondary emotions
• Dominance
• Delight
• Submission
• Disappointment
• Shame
• Prudishness
• Pessimism
• Scorn/loathing
• Optimism
ELABORATIONS OF 1° EMOTIONS, ONCE REMOVED ON 'WHEEL'
Tertiary emotions
• Outrage, hate
• Resignation
• Anxiety, dread
• Envy, sullenness
• Morbidness
• Fatalism
FURTHER ELABORATIONS OF 1° EMOTIONS, AT LEAST TWICE REMOVED ON 'WHEEL'
After Robert Plutchik, 1980

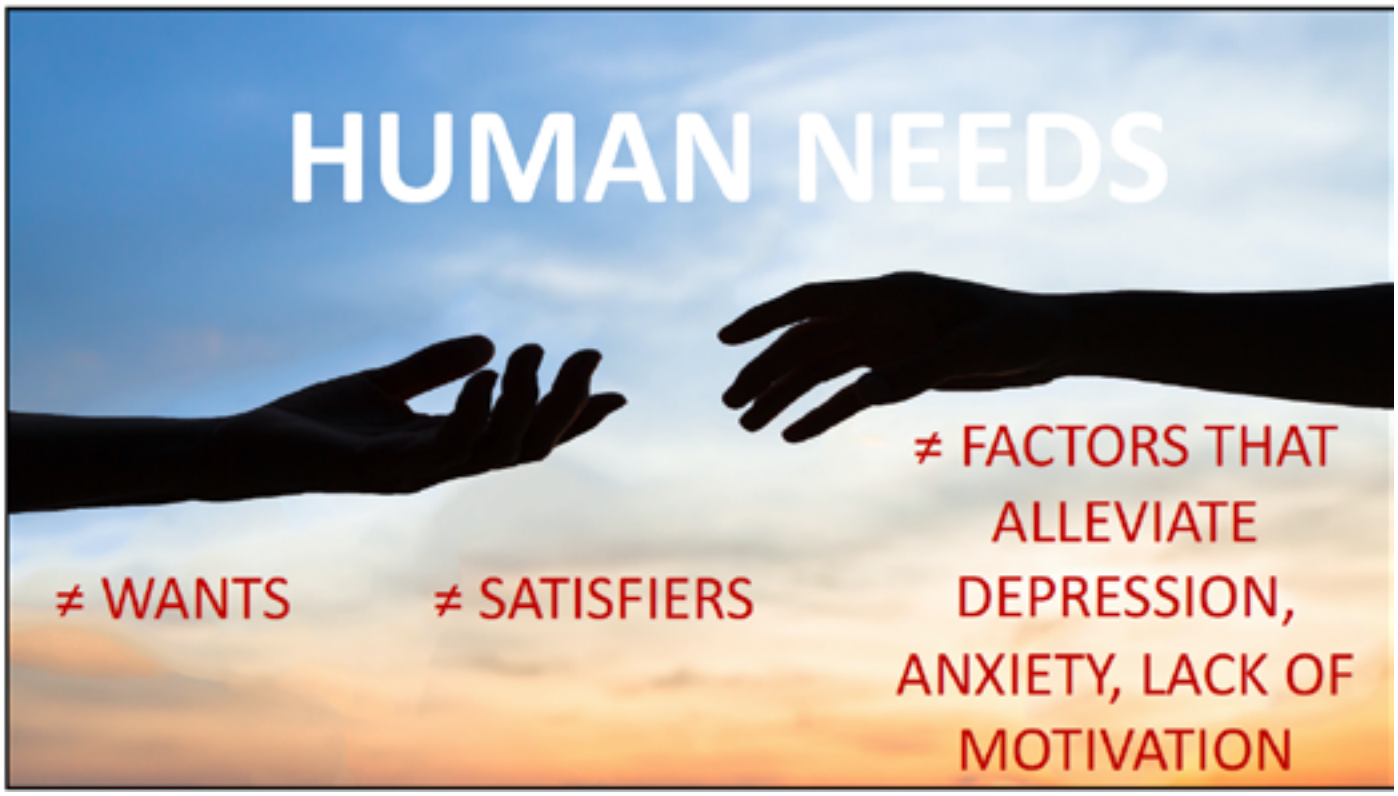

THE WHEEL OF EMOTIONS
Hope
Pride
Guilt
Cynicism
Curiosity
Envy
Despair
Unbelief
Joy
Trust
Fear
Surprise
Sadness
Disgust
Anger
Anticipation
Love
Optimism
Dominance
Anxiety
Delight
Morbidness
Pessimism
Outrage
Shame
Remorse
Contempt
Awe
Disapproval
Primary dyad = one petal apart = Love = Joy + Trust
Secondary dyad = two petals apart = Envy = Sadness + Anger
Tertiary dyad = three petals apart = Shame = Fear + Disgust
Opposite emotions = four petals apart = Anticipation ≠ Surprise
After Robert Plutchik, 1980

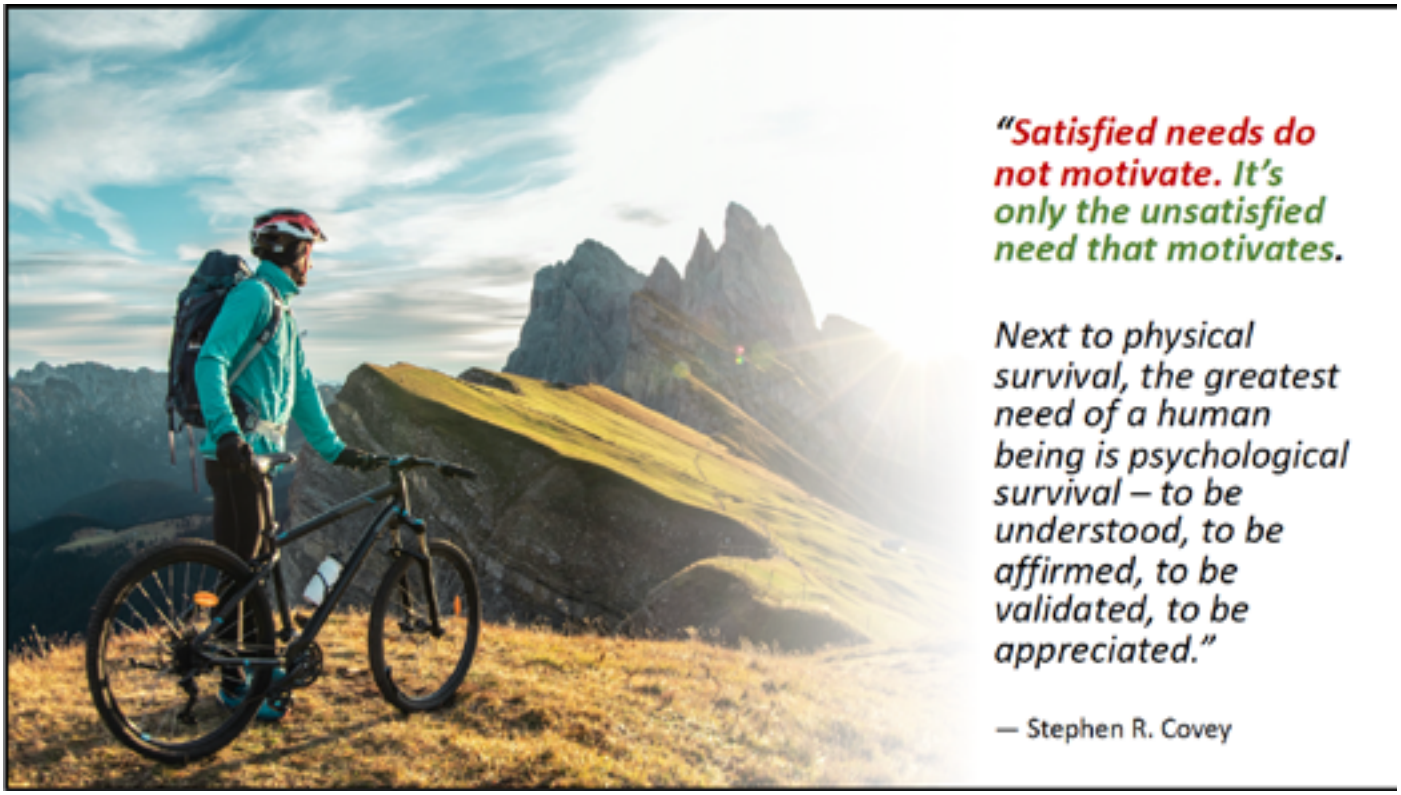
THE PETALS OF THE WHEEL OF EMOTIONS ("The Circumplex Model")



Credit: www.envisionyourevolution.com

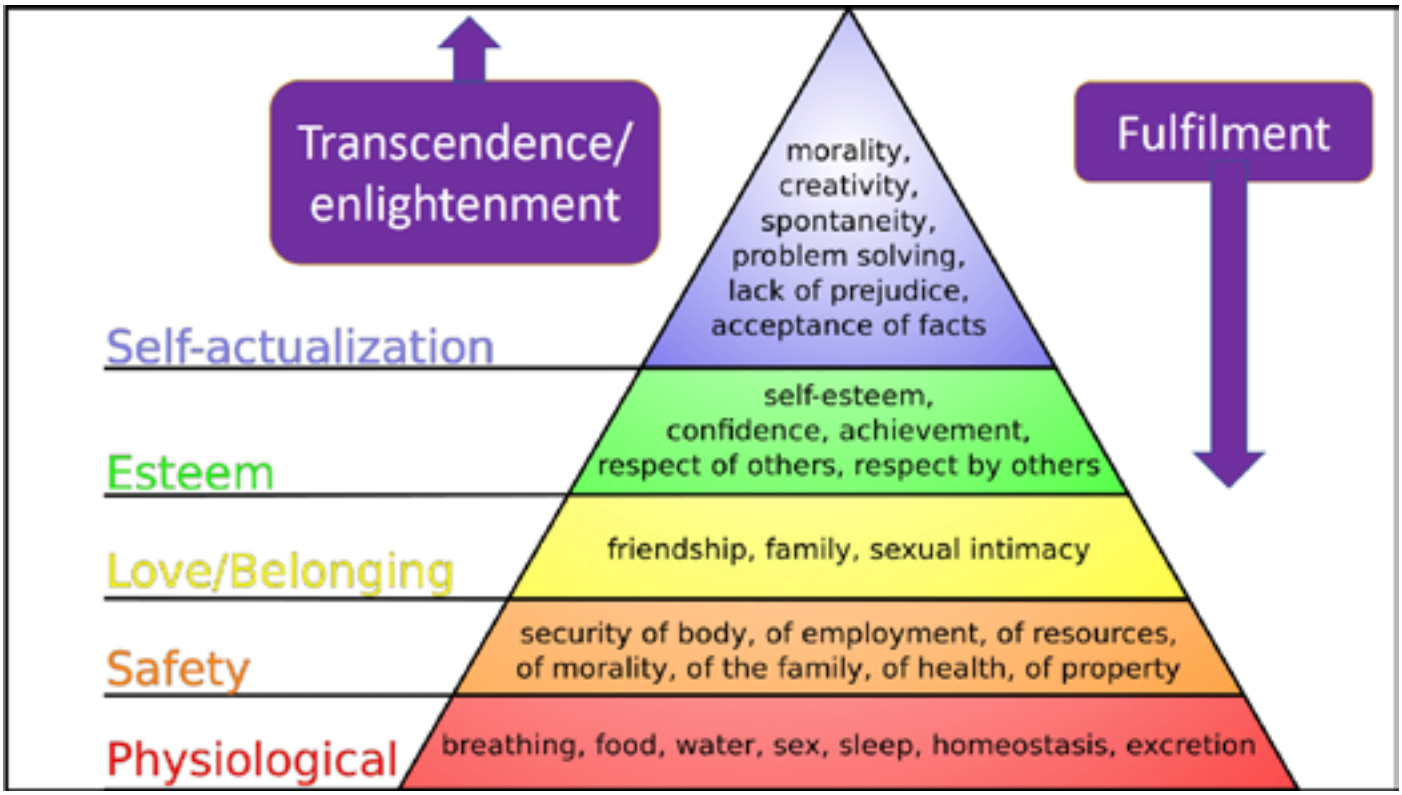
NEEDS

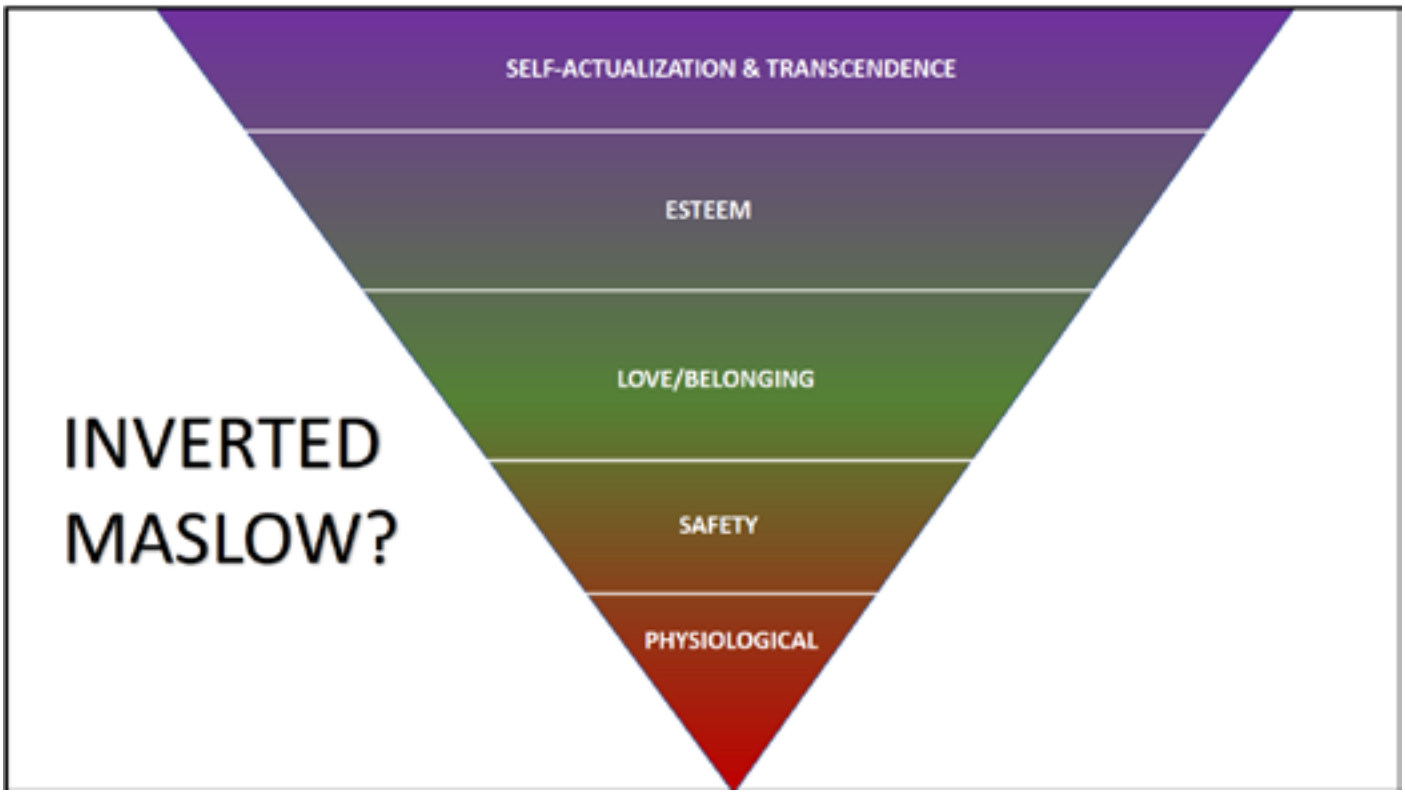




MASLOW'S HIERARCHY OF NEEDS

Abraham Maslow (1908-1970)





MAX-NEEF'S MATRIX OF NEEDS AND SATISFIERS

Matrix of needs and satisfiers		Existential needs			
		Being	Having	Doing	Interacting
Axiological needs	Subsistence	physical health, mental health, equilibrium, sense of humour, adaptability	food, shelter, work	feed, procreate, rest, work	living environment, social setting
	Protection	care, adaptability, autonomy, equilibrium, solidarity	insurance systems, savings, social security, health systems, rights, family, work	cooperate, prevent, plan, take care of, cure, help	living space, social environment, dwelling
	Affection	self-esteem, solidarity, respect, tolerance, generosity, receptiveness, passion, determination, sensuality, sense of humour	friendships, family, partnerships, pets, relationships with nature	make love, caress, express emotions, share, take care of, cultivate, appreciate	privacy, intimacy, home, space of togetherness
	Understanding	critical conscience, receptiveness, curiosity, astonishment, discipline, intuition, rationality	literature, teachers, method, educational policies, communication policies	investigate, study, experiment, educate, analyze, meditate	settings of formative interaction, schools, universities, academies, groups, communities, family
	Participation	adaptability, receptiveness, solidarity, willingness, determination, dedication, respect, passion, sense of humour	rights, responsibilities, duties, privileges, work	become affiliated, cooperate, propose, share, dissent, obey, interact, agree on, express opinions	settings of participative interaction, parties, associations, churches, communities, neighbourhoods, family
	Idleness	curiosity, receptiveness, imagination, recklessness, sense of humour, tranquility, sensuality	games, spectacles, clubs, parties, peace of mind	daydream, brood, dream, recall old times, give way to fantasies, remember, relax, have fun, play	privacy, intimacy, spaces of closeness, free time, surroundings, landscapes
	Creation	passion, determination, intuition, imagination, boldness, rationality, autonomy, inventiveness, curiosity	abilities, skills, method, work	work, invent, build, design, compose, interpret	productive and feedback settings, workshops, cultural groups, audiences, spaces for expression, temporal freedom
	Identity	sense of belonging, consistency, differentiation, self-esteem, assertiveness	symbols, language, religion, habits, customs, reference groups, sexuality, values, norms, historical memory, work	commit oneself, integrate oneself, confront, decide on, get to know oneself, recognize oneself, actualize oneself, grow	social rhythms, everyday settings, settings which one belongs to, maturation stages
	Freedom	autonomy, self-esteem, determination, passion, assertiveness, open-mindedness, boldness, rebelliousness, tolerance	equal rights	dissent, choose, be different from, run risks, develop awareness, commit oneself, disobey	temporo/spatial plasticity

Nouns | Institutions, norms, mechanisms, tools | Individual collective actions; verbs | Locations, environments

COMMUNICATION

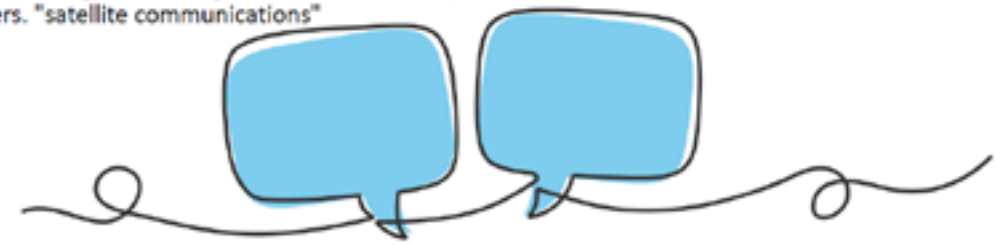
communication

/kəmjuːnɪˈkeɪʃ(ə)n/

Noun

1. the imparting or exchanging of information by speaking, writing, or using some other medium.
"television is an effective means of communication"

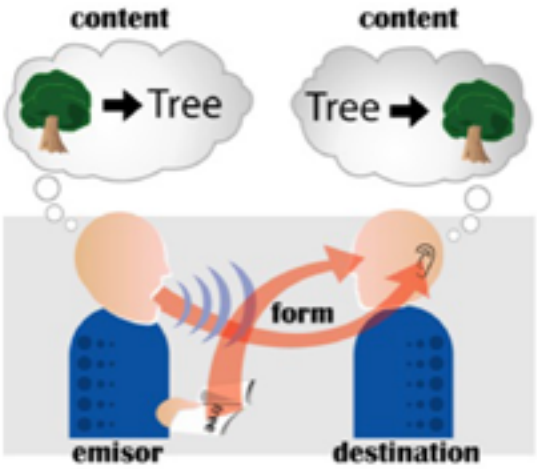
2. means of sending or receiving information, such as phone lines or computers. "satellite communications"



The meaningful exchange of information between human beings

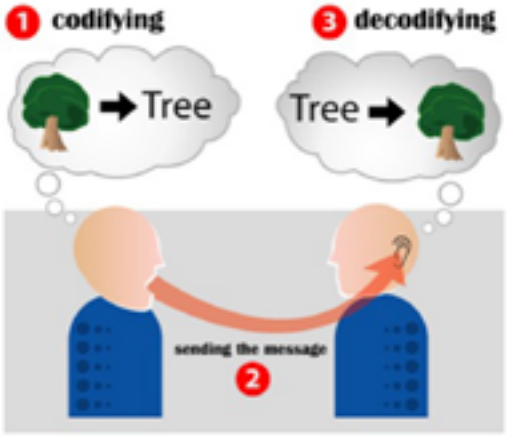
OPPORTUNITIES FOR CROSSED-WIRES [1]

1. Content
2. Emisor
3. Form
4. Destination



OPPORTUNITIES FOR CROSSED-WIRES [2]

1. Codifying
2. Sending the message
3. Decodifying



Take homes:

- Emotions drive behaviour
- Primary emotions are geared around survival
- Human needs for individuals, communities and societies are different
- Information received can be very different to that emitted

RESOURCES:
PRESENTATION 1

Online

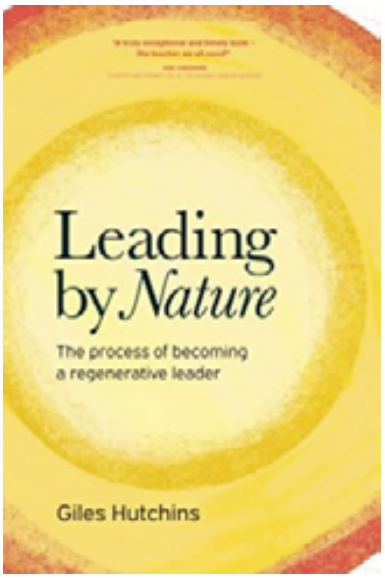
Mark Koltko-Rivera. Rediscovering the Later Version of Maslow's Hierarchy of Needs: Self-Transcendence and Opportunities for Theory, Research, and Unification. Review of General Psychology 2006, 10 (4), 302–317.

Kenneth Acha Ministries: The 7 Fundamental Human Needs

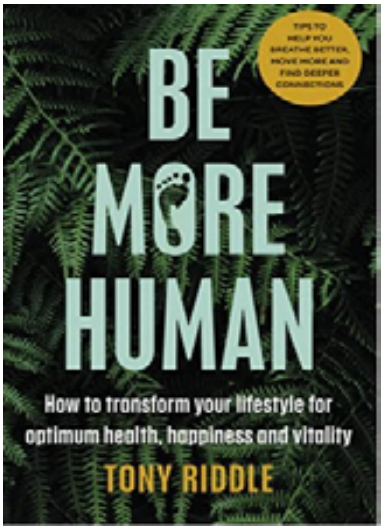
Development and Human Needs chapter in Development Ethics (see Books below) by Manfred Max-Neef

6 Core Needs by Tony Robbins

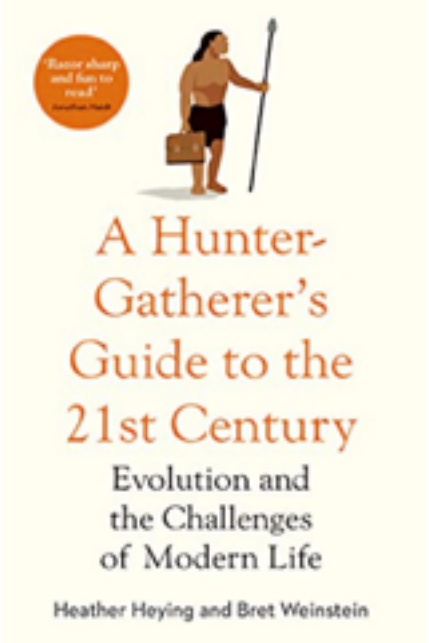
Resources: Books (in reverse chronological order of publication date)



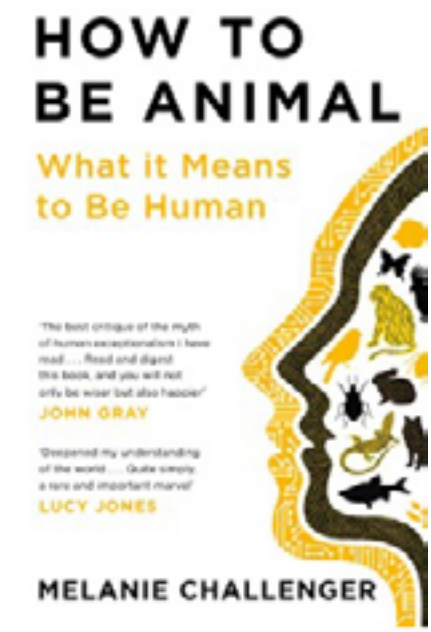
Giles Hutchins. Leading by Nature: The Process of Becoming a Regenerative Leader. 2022. Wordzworth Publishing. 248 pp.



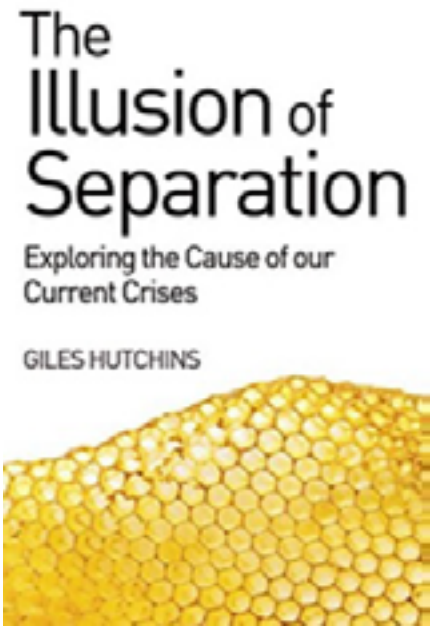
Tony Riddle. Be More Human: How to transform your lifestyle for optimum health. 2022. Penguin Life. 247 pp.

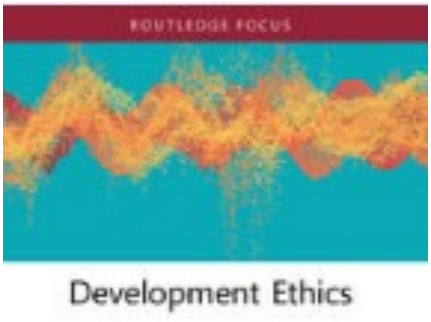


Heather Heying and Bret Weinstein. A Hunter-Gatherer's Guide to the 21st Century: Evolution and the Challenges of Modern Life. 2021. Swift Press. 321 pp.

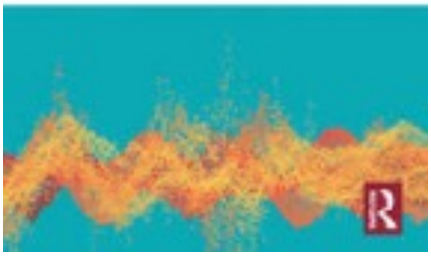


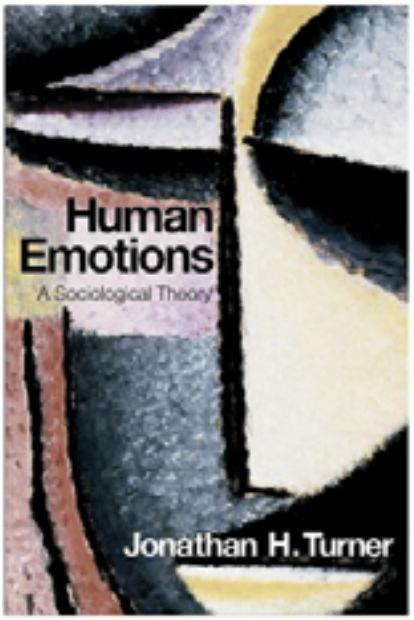
Melanie Challenger. How to be Animal: A New History of What it Means to Be Human. Canongate Books. 274 pp.





Manfred Max-Neef. Development and Human Needs. In: Development Ethics. 2010. Routledge. pp 197-214.





Jonathan Turner. Human Emotions: A Sociological Theory. 2007. Routledge. 247 pp.

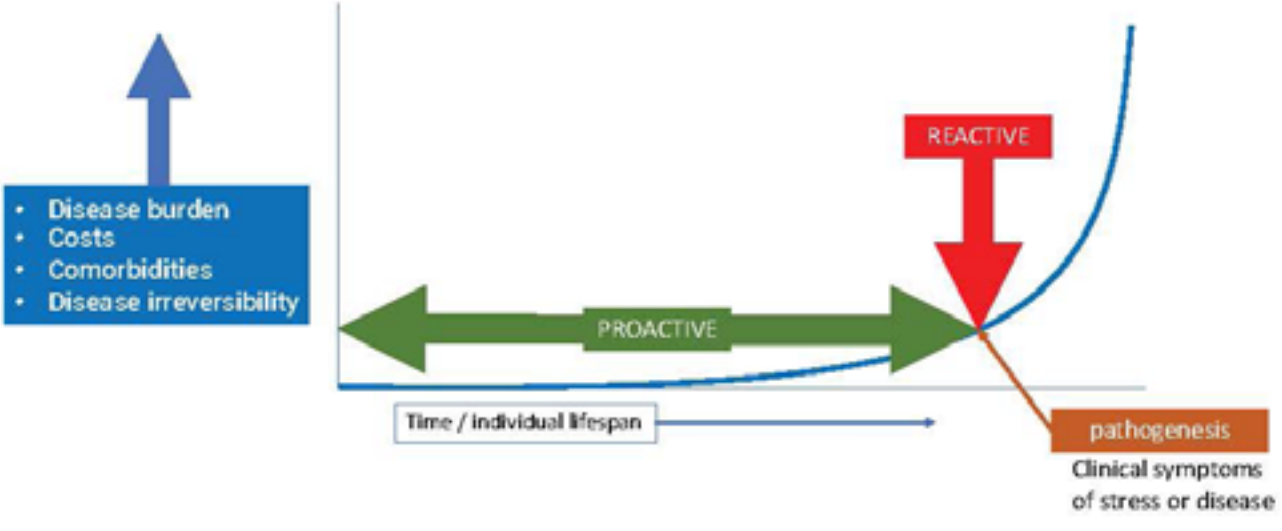
RESOURCES:
PRESENTATION 2

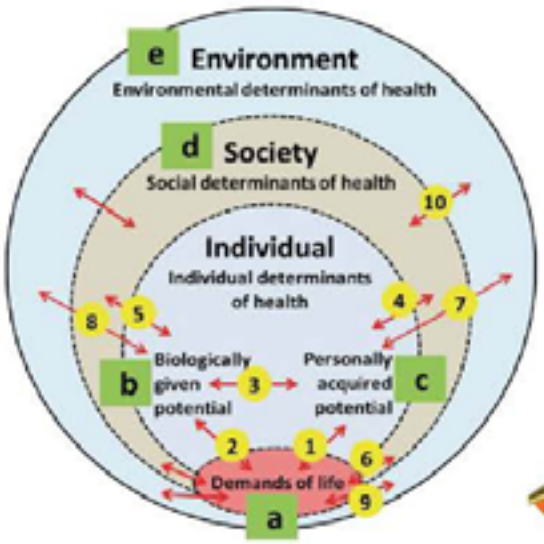
Rob Verkerk PhD
Ecological Health
Scientist

Bodily pathways and processes for healthy behaviours and effective communication

Rob Verkerk BSc MSc DIC PhD FACN
Alliance for Natural Health Intl

HEALTH CREATION OR DISEASE MANAGEMENT?



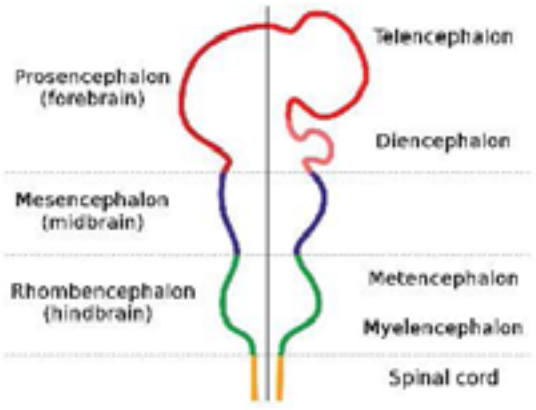


The Melkirch model consists of 5 components (a-e) and 10 complex interactions (1-10).
Source: Bircher & Hahn. *J Eval Clin Pract.* 2017; 23(1): 222-224.

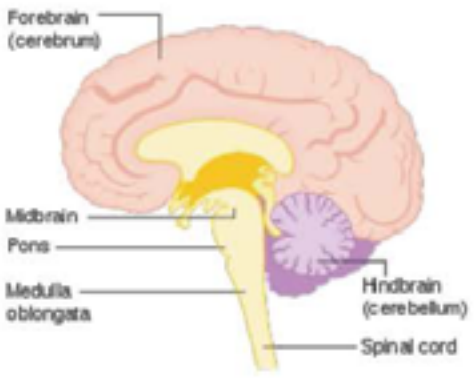
BIOLOGICALLY GIVEN POTENTIAL (BGP) ⟷ PERSONALLY ACQUIRED POTENTIAL (PAP)

BRAIN & HEART

YOUR CONTROL SYSTEM

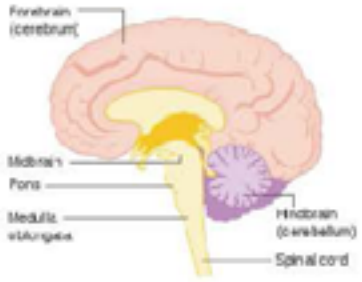


Embryonic brain



Adult brain

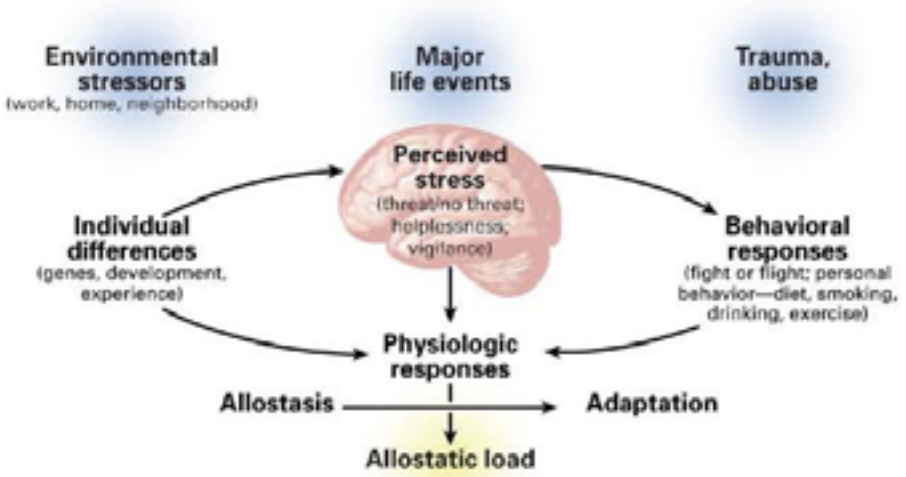
YOUR 3 BRAINS

ANATOMY	NAMES		FUNCTIONS
	FOREBRAIN	'HUMAN BRAIN'	Reasoning, skills, problem-solving, Regulates autonomic, endocrine, motor functions
	MIDBRAIN	'MONKEY BRAIN'	Regulates movement, processing of auditory and visual information
	HINDBRAIN	'LIZARD BRAIN'	Housekeeping functions, autonomic nervous system, movement coordination, balance

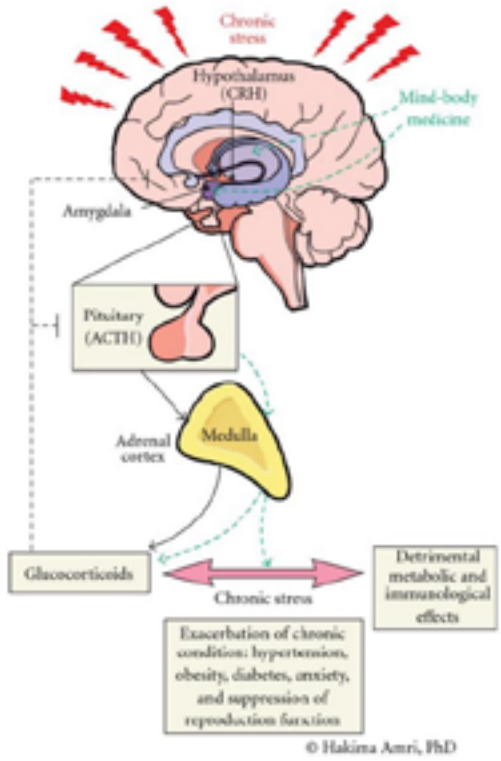
Increasingly higher functions

THE BRAIN

The epicentre of perceived stress and adaptation



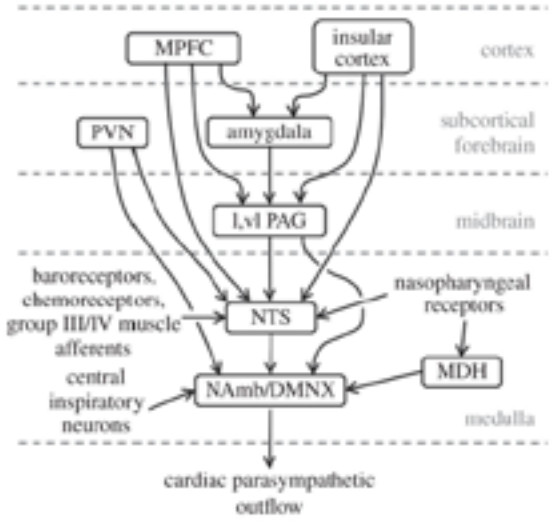
McEwen BS, Tucker P. Critical biological pathways for chronic psychosocial stress and research opportunities to advance the consideration of stress in chemical risk assessment. *Am J Public Health*. 2011; 101 Suppl 1(Suppl 1): S131-9.

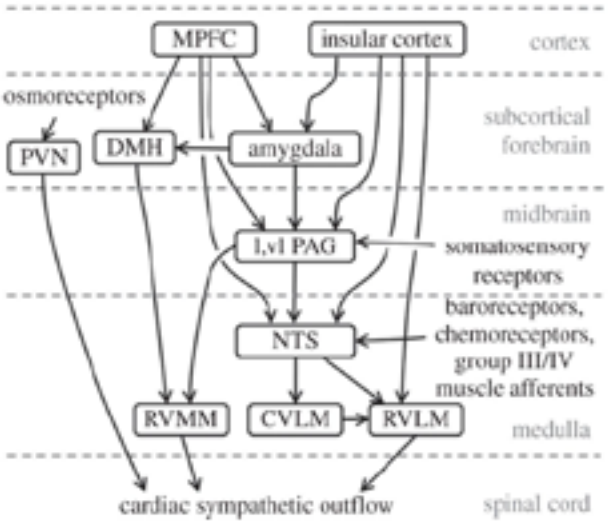


THE HPA (Hypothalamus – Pituitary – Adrenal) AXIS

Maclaughlin BW, Wang D, Noone AM, Liu N, Harazduk N, Lumpkin M, Haramati A, Saunders P, Dutton M, Amri H. Stress biomarkers in medical students participating in a mind body medicine skills program. *Evid Based Complement Alternat Med*. 2011;2011:950461

IS THE BRAIN REALLY IN CHARGE?



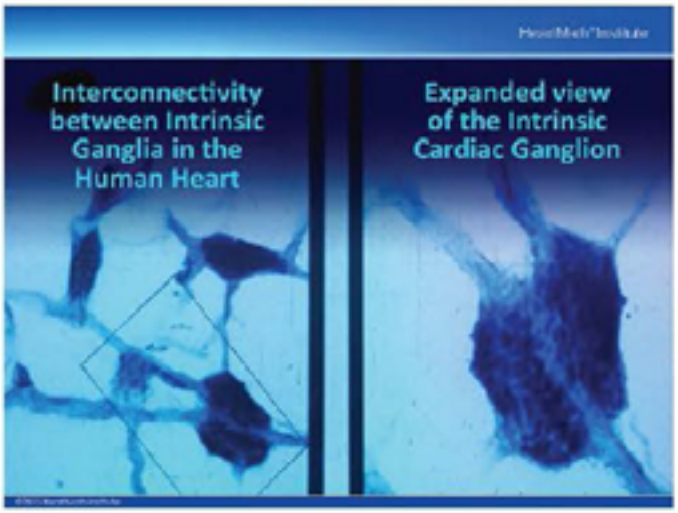


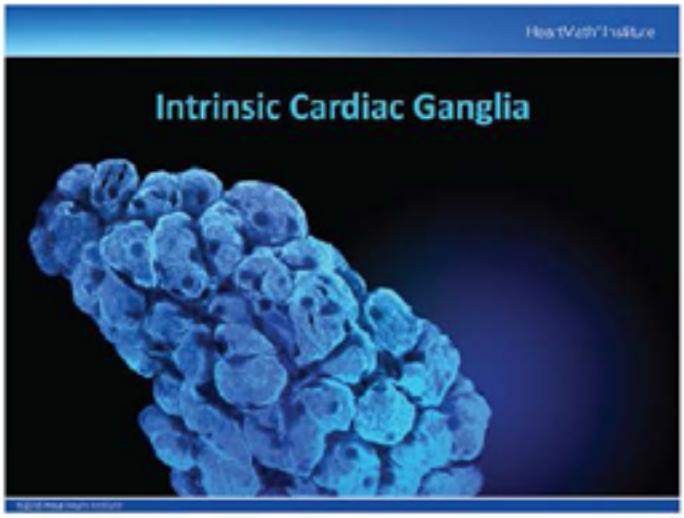
Silvani Alessandro, Calandra-Buonaura Giovanna, Dampney Roger A. L. and Cortelli Pietro. Brain–heart interactions: physiology and clinical implications. *Phil. Trans. R. Soc. A.* 2016. 374201501812015081.

Our Heart Brain – Little Brain in the Heart

The "Little Brain In the Heart"

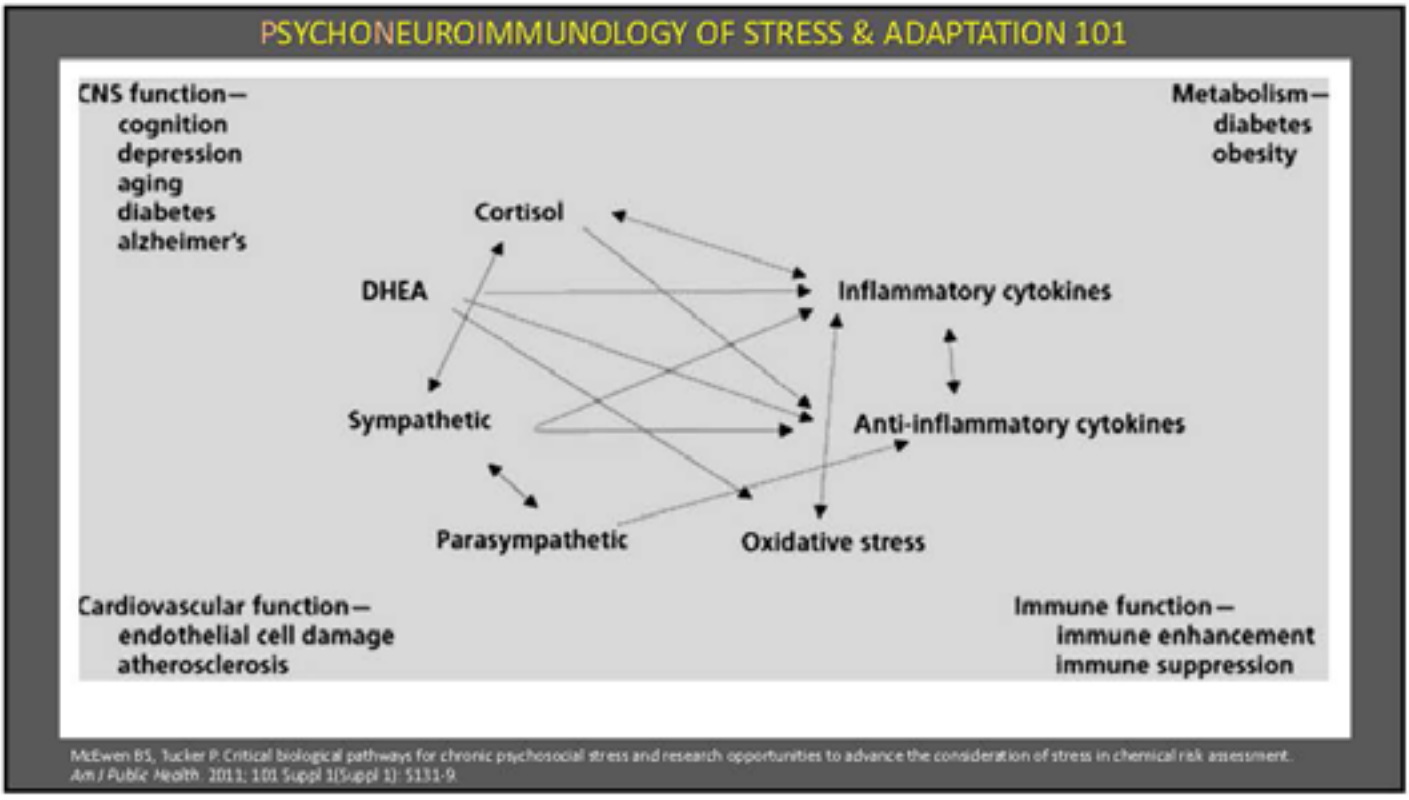
HeartMath Institute
A Nonprofit Organization

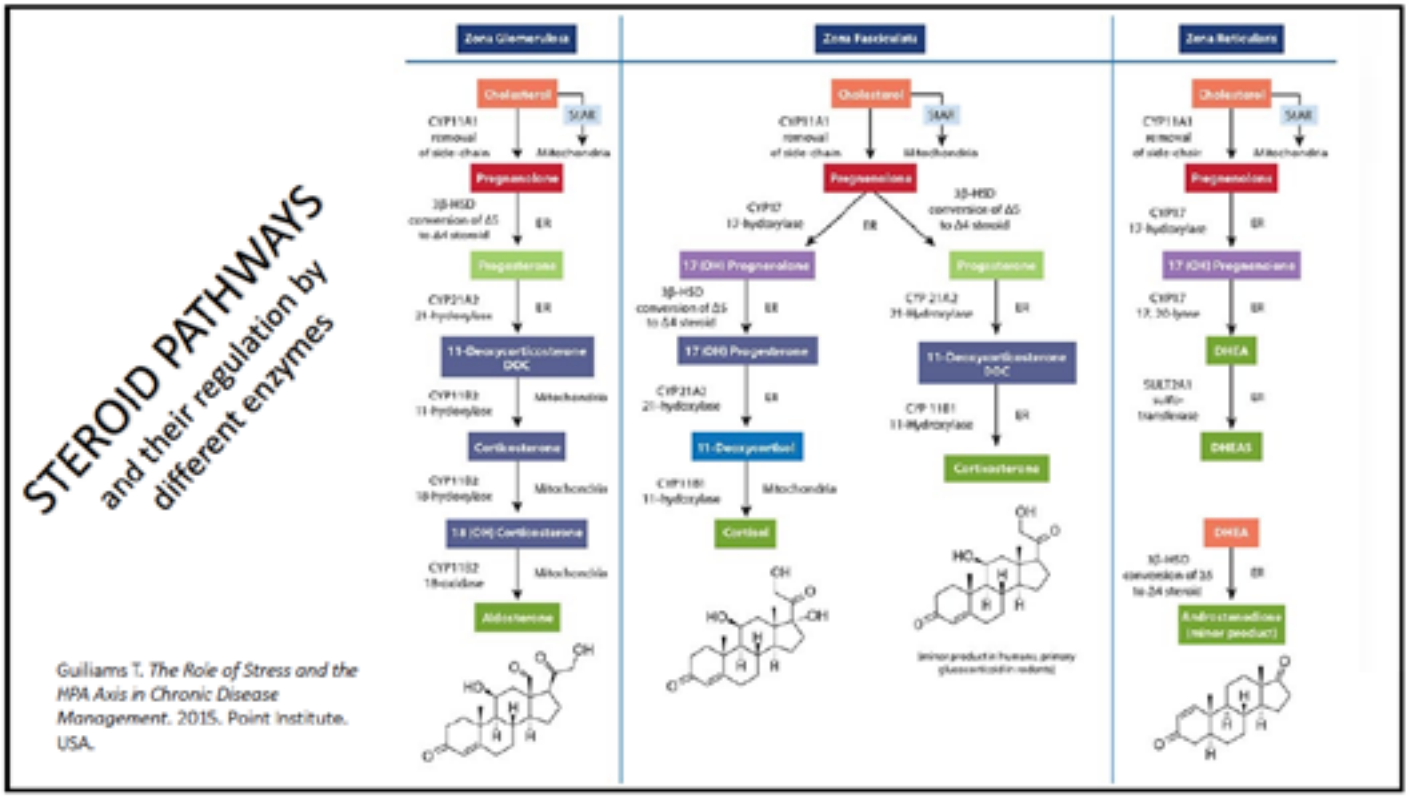


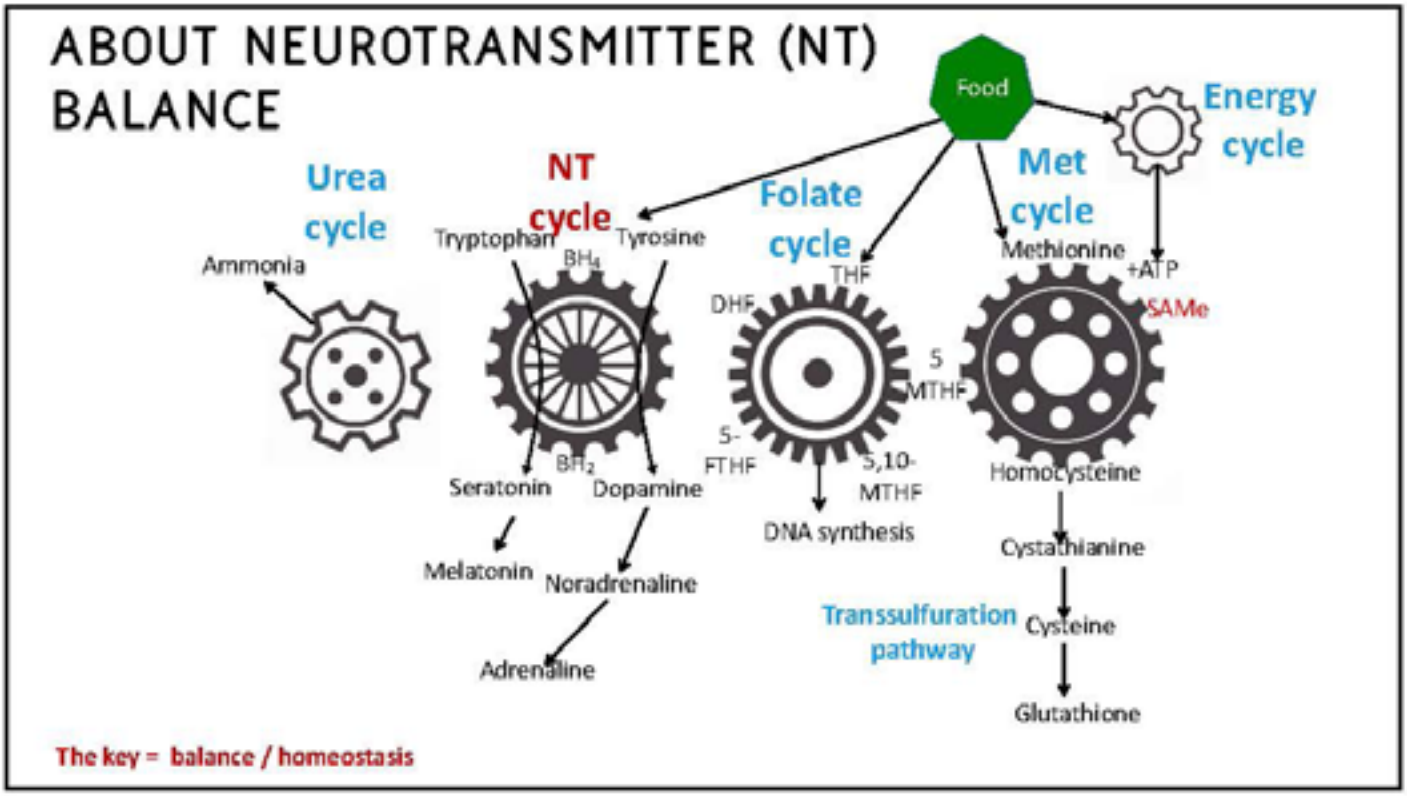


www.heartmath.org/our-heart-brain/

KEY PATHWAYS

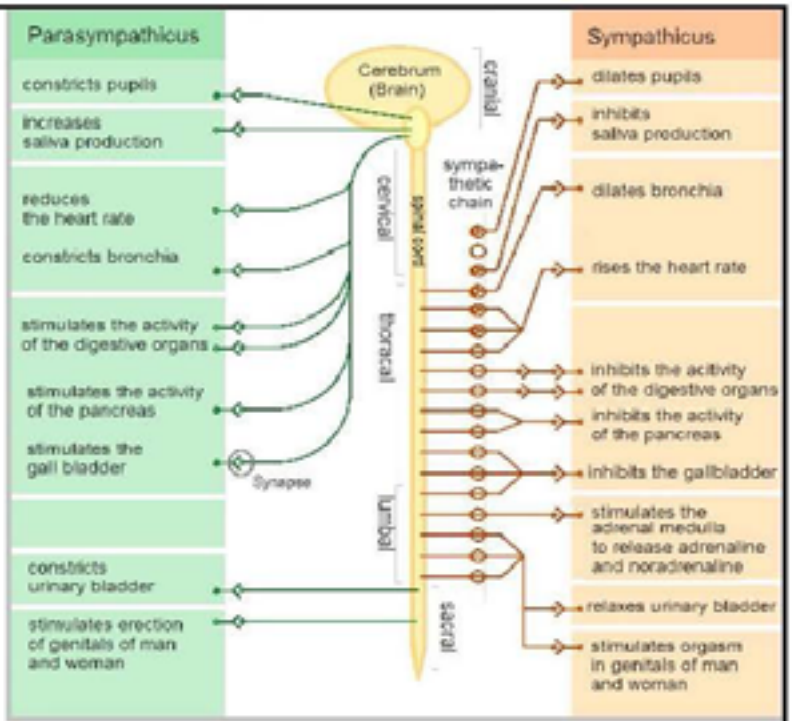


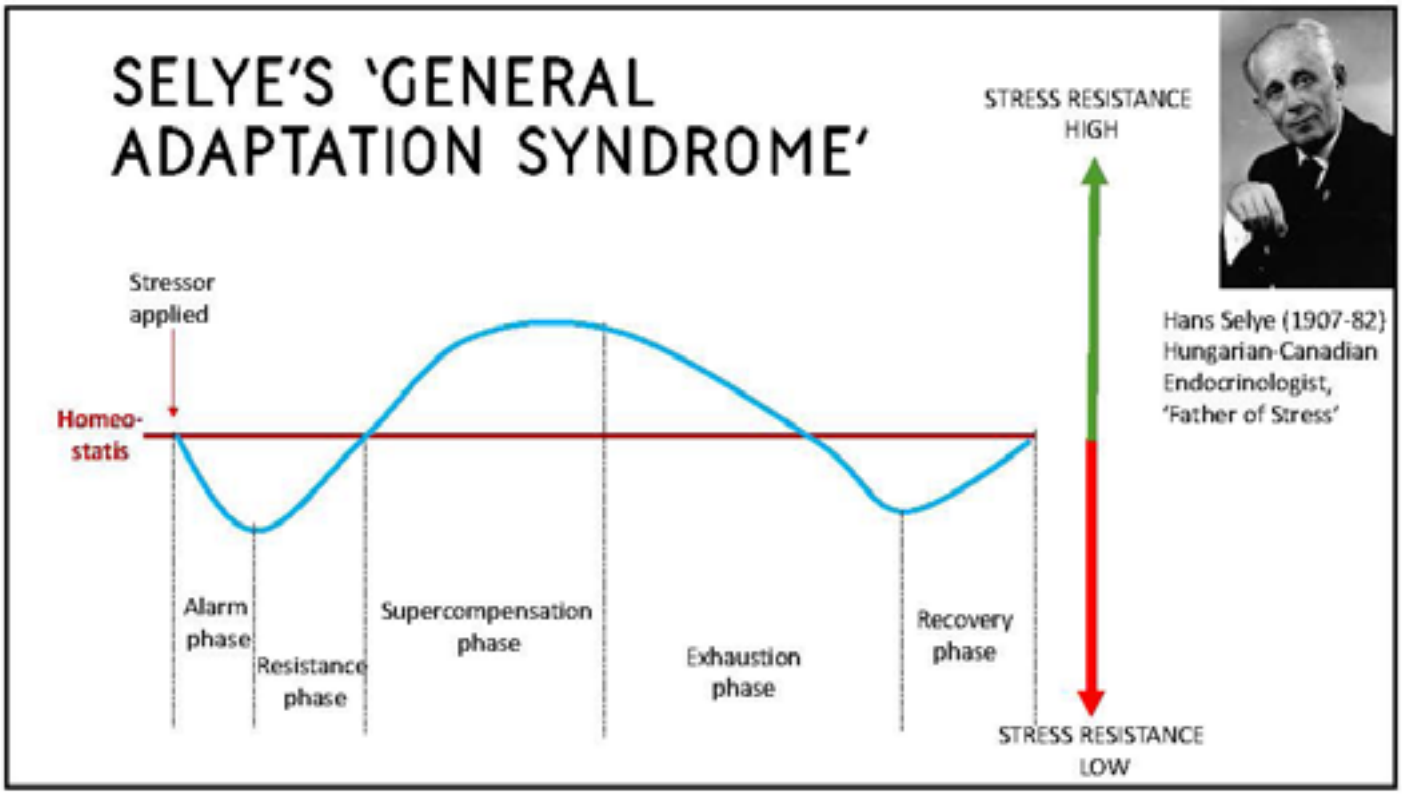

STEROID PATHWAYS
and their regulation by different enzymes
Zona Glomerulosa
Zona Fasciculata
Zona Reticularis
Cholesterol
Pregnenolone
Progesterone
11-Deoxycorticosterone DOC
Corticosterone
18 (OH) Corticosterone
Aldosterone
17 (OH) Pregnenolone
17 (OH) Progesterone
11-Deoxycortisol
Cortisol
DHEA
DHEAS
Androstenedione (minor product)
Guiliams T. The Role of Stress and the HPA Axis in Chronic Disease Management. 2015. Point Institute. USA.

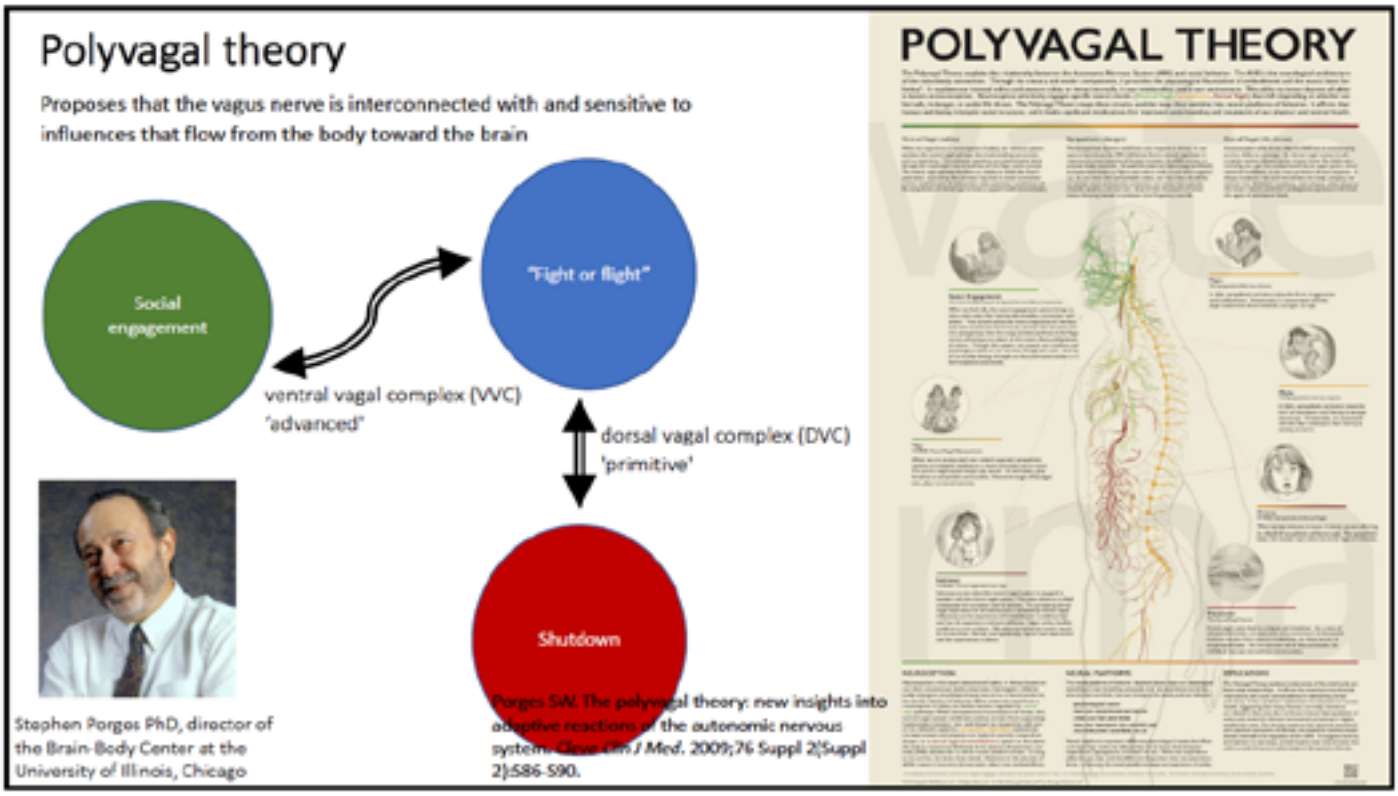

ABOUT NEUROTRANSMITTER (NT) BALANCE
Food
Energy cycle
Urea cycle
NT cycle
Folate cycle
Met cycle
Ammonia
Tryptophan
Tyrosine
BH4
BH2
Seratonin
Dopamine
Melatonin
Noradrenaline
Adrenaline
THF
DHF
5-FTHF
5,10-MTHF
5 MTHF
DNA synthesis
Methionine
+ATP
SAMe
Homocysteine
Cystathianine
Transsulfuration pathway
Cysteine
Glutathione
The key = balance / homeostasis

THE STRESS RESPONSE

THE 2 SIDES OF YOUR AUTONOMIC NERVOUS SYSTEM (ANS)




SELYE'S 'GENERAL ADAPTATION SYNDROME'
STRESS RESISTANCE HIGH
Stressor applied
Homeo-statis
Alarm phase
Resistance phase
Supercompensation phase
Exhaustion phase
Recovery phase
STRESS RESISTANCE LOW
Hans Selye (1907-82)
Hungarian-Canadian
Endocrinologist,
'Father of Stress'


Polyvagal theory
Proposes that the vagus nerve is interconnected with and sensitive to influences that flow from the body toward the brain
Social engagement
"Fight or flight"
ventral vagal complex (VVC)
'advanced'
dorsal vagal complex (DVC)
'primitive'
Shutdown
Stephen Porges PhD, director of the Brain-Body Center at the University of Illinois, Chicago
Porges SW. The polyvagal theory: new insights into adaptive reactions of the autonomic nervous system. Cleve Clin J Med. 2009;76 Suppl 2(Suppl 2):S86-S90.
POLYVAGAL THEORY

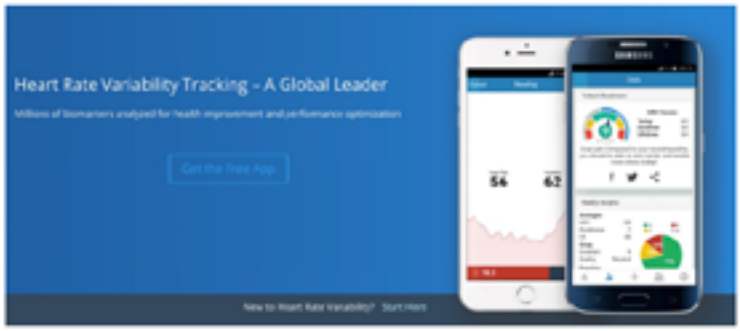
STAYING WITHIN YOUR ADAPTIVE CAPACITY OR RANGE

EXAMPLES OF NERVOUS SYSTEM AND HORMONAL IMBALANCE

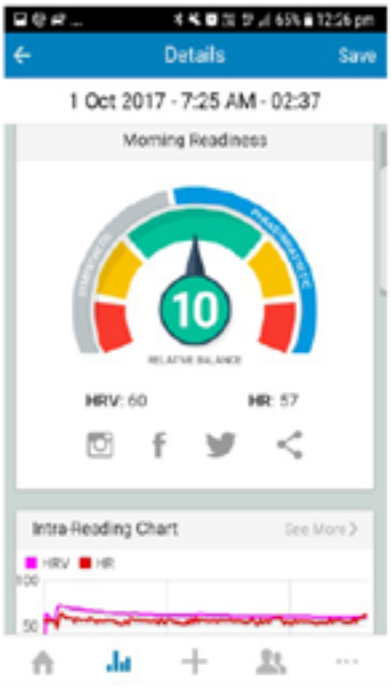
- depression
- anxiety
- persistent fatigue
- lethargy
- apathy
- mood swings
- Low libido
- desire for isolation
- sense of lack of purpose
- digestive problems
- hunger pangs
- cravings for unhealthy foods
- Low HRV

ARE YOU INSIDE OR OUTSIDE YOUR ADAPTIVE RANGE?

YOUR PARASYMPATHETIC AND SYMPATHETIC NERVOUS SYSTEM MUST BE IN BALANCE!

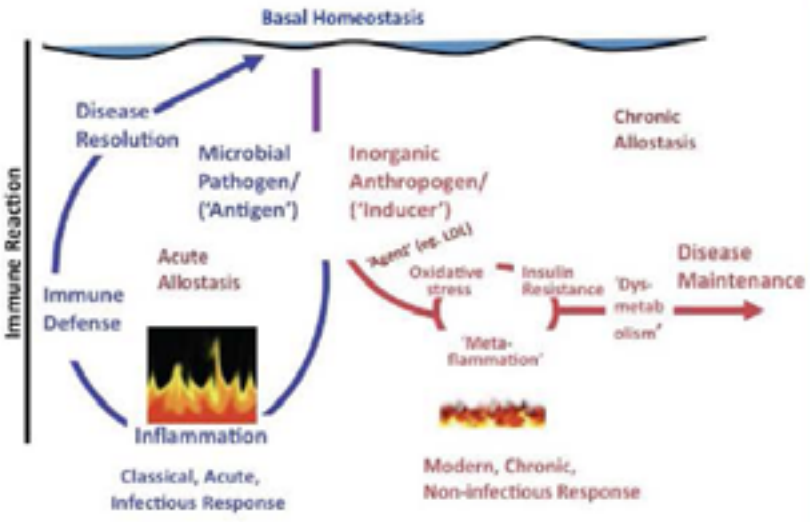


elitehrv.com



META-SYSTEMS

‘Raging fire’ classical inflammation vs ‘smouldering fire’ ’metainflammation’



Metabolic syndrome (MetS)

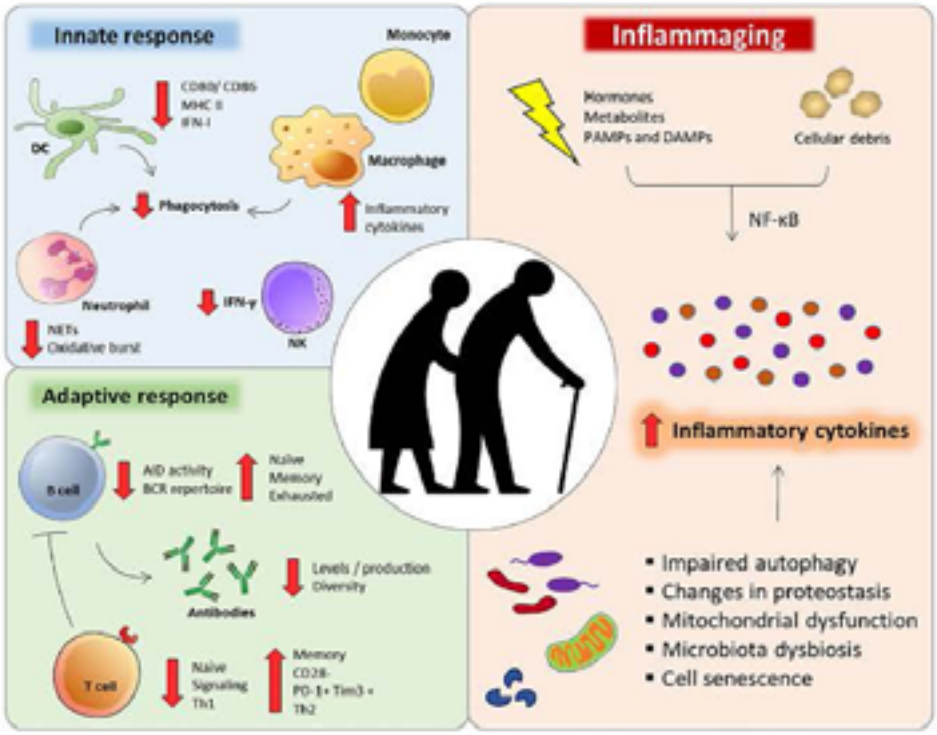
May include:

- Elevated fasting blood sugar
- Central adiposity
- High visceral fat content
- Obesity / ‘overfat’
- Insulin resistance
- Type 2 diabetes (T2DM)
- Dyslipidemia
- Fatty liver
- Hypertension
- Atherosclerosis
- Heart attack
- Stroke

Egger G. In search of a germ theory equivalent for chronic disease. *Prev Chronic Dis.* 2012;9:E95.

‘Inflammaging’

Collateral damage associated with aging, exacerbated by chronic stress, poor diets, unhealthy lifestyles



Pietrobon et al. Immunosenescence and Inflammaging: Risk Factors of Severe COVID-19 in Older People. Frontiers in Immunology 2020; 11: 2728.

How do we feel if we have chronic systemic low-grade inflammation?

Self-assessment

- Waist to Height Ratio (WHtR) > 0.5
- Sugar crashes
- Chronic pain
- Tired All The Time (TATT)
- Brain fog
- Slow to recover from infections
- Overt inflammatory-related diseases
  (e.g. CVD, obesity, T2D, arthritis, Alzheimer’s)

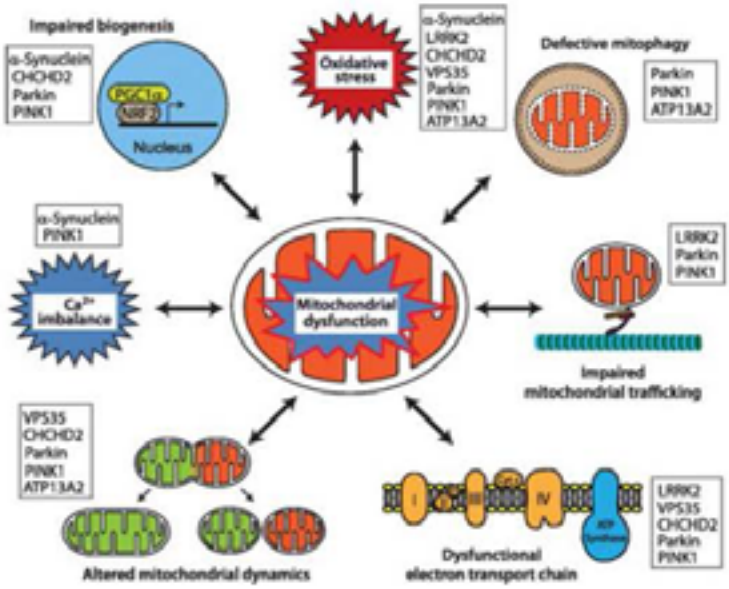
How do we find out if we have chronic, systemic, low-grade inflammation?

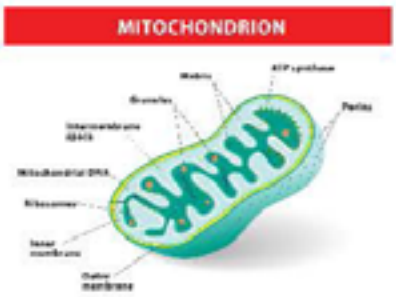
Biomedical testing

- Fasting insulin
- Haemoglobin A1C (HbA1c)
- C-Reactive Protein (hsCRP)
- Erythrocyte Sedimentation Rate (ESR)
- Homocysteine
- Serum Ferritin
- Red Blood Cell Width

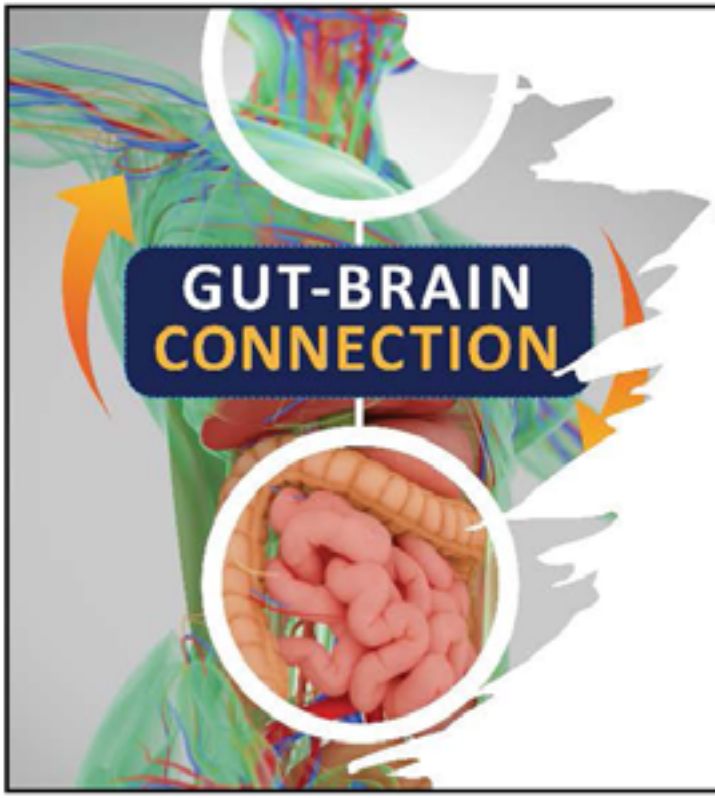
MITOCHONDRIA & GUT

Mitochondria and the cost of losing energy





Park JS et al. Mitochondrial Dysfunction in Parkinson's Disease: New Mechanistic Insights and Therapeutic Perspectives. *Curr Neurol Neurosci Rep* 2018; 18: 21.



Enhancing the connection across your gut-brain axis

1. Gut integrity
2. Gut microbiota
3. Neurotransmitter balance
4. Food selection
5. Autonomic nervous system balance
6. Vagal tone

From self-tolerance to autoimmunity

Predisposing factors

- Genetics
- Leaky barriers (e.g. gut, brain, skin)
- Dysregulated immune system
- Environmental triggers

Mechanisms of autoimmunity

Source: Litwin CM, Binder SR. ANA testing in the presence of acute and chronic infections. Journal of Immunoassay and Immunochemistry 2016; 37(5):439-452.

ENVIRONMENT

Environmental control of gene expression: epigenetics

Conrad H. Waddington

- 1905 – 1975
- British developmental biologist
- Epigenetics, canalisation

No. 3813, NOVEMBER 14, 1942 NATURE 563

CANALIZATION OF DEVELOPMENT AND THE INHERITANCE OF ACQUIRED CHARACTERS

By Dr. C. H. WADDINGTON
Zoological and Strangeways Laboratories, Cambridge

THE battle, which raged for so long between the theories of evolution supported by geneticists on one hand and by naturalists on the other, has in recent years gone strongly in favour of the former. Few biologists now doubt that genetical investigation has revealed to any rate the most important categories of hereditary variation; and the classical 'naturalist' theory—the inheritance of acquired characters—has been very generally relegated to the background because, in the forms in which it has been put forward, it has required a type of hereditary variation for the existence of which there was no adequate evidence. The long popularity of the theory was based, not on any positive evidence for it, but on its usefulness in accounting for some of the most striking of the results of evolution. Naturalists cannot fail to be continually and deeply impressed by the adaptation of an organism to its surroundings and of the parts of the organism to each other. These adaptive characters are inherited and some explanation of this must be provided. If we are deprived of the hypothesis of the inheritance of the effects of use and disuse, we seem thrown back on an exclusive reliance on the natural selection of merely chance mutations. It is doubtful, however, whether even the most statistically minded geneticists are entirely

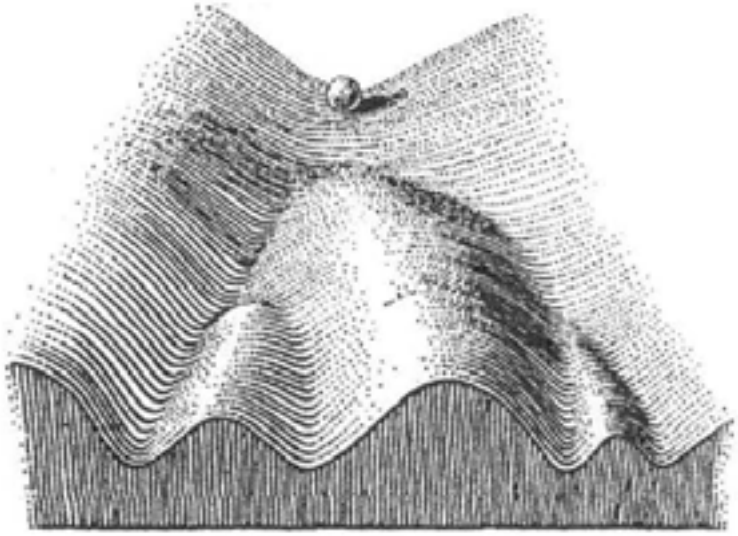
which they understand it, leaves entirely out of account the fact that adaptations may be produced by an environmental stimulus and postulates the occurrence of a gene with the required developmental effect. A third possible type of explanation is to suppose that in earlier members of the evolutionary chain, the adaptations were formed as responses to external factors, but that during the course of evolution the environmental stimulus has been superseded by an internal genetical factor. It is an explanation of this kind which will be advanced here.

The first step in the argument is one which will scarcely be denied but is perhaps often overlooked. The capacity to respond to an external stimulus by some developmental reaction, such as the formation of a callosity, must itself be under genetic control. There is little doubt, though no positive evidence in this particular case so far as I know, that individual controls differ genetically in the responsiveness of their skin to friction and pressure. If we suppose, then, that in the early ostrich ancestors callosities were formed by direct response to external pressure, there would be a natural selection among the birds for a genotype which gave an optimum response.

The next point to be put forward is the one which is, perhaps, new in such discussion, and which therefore requires the most careful scrutiny. It is best considered as one general thesis and one particular application of it.

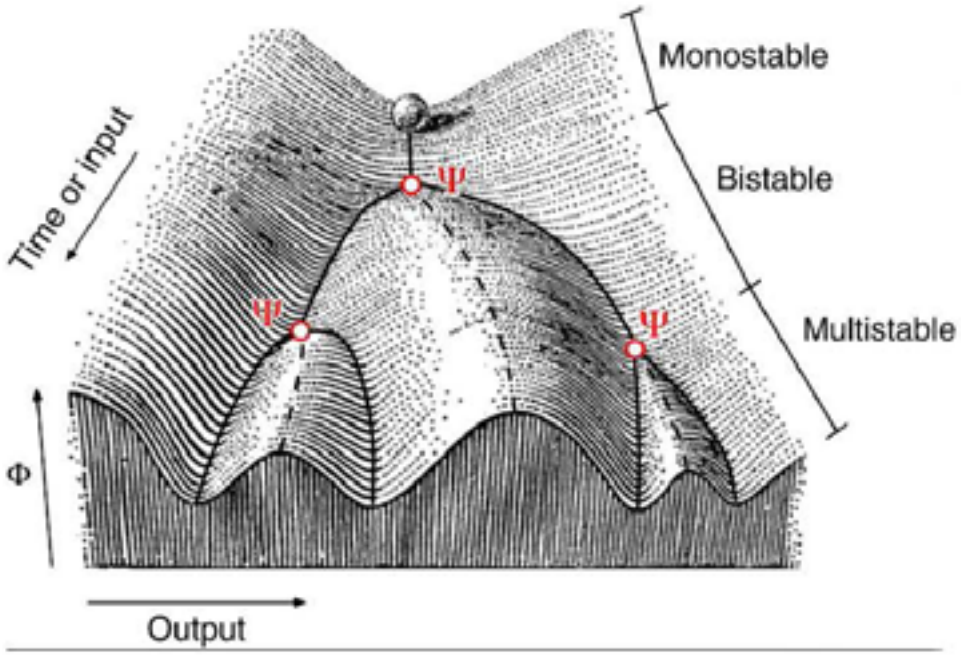
The main thesis is that developmental reactions, as they occur in organisms submitted to natural selection, are in general canalised. That is to say, they are adjusted so as to bring about one definite end-result regardless of minor variations in conditions during the course of the reaction.

Waddington's epigenetic landscape



- Metaphor for biological development
- Cell fates established during development by epigenetic marks
- Increasing irreversibility of cell differentiation as ridges between valleys get steeper

Waddington CH. *The Strategy of the Genes: A Discussion of Some Aspects of Theoretical Biology.* 1957. Routledge.



James E. Ferrell, Jr. Review: Bistability, Bifurcations, and Waddington's Epigenetic Landscape. *Current Biology* 2012; 22: R458–R466.

Why are so many of us becoming fat, sick and tired?

Multiple and often competing theories of causation:

WHAT, WHEN AND HOW WE EAT
- We eat too many calories of food each day
- We're eating the wrong combination of macronutrients
- We're not getting enough particular nutrients
- We're eating too often
- We're eating at the wrong times of day/night
- Our gut microbiome is disturbed

WHEN AND HOW WE MOVE
- We're too sedentary
- We're engaging in the wrong types of physical activity
- Our musculo-skeletal structure is insufficient to allow adequate movement
- We're over-training

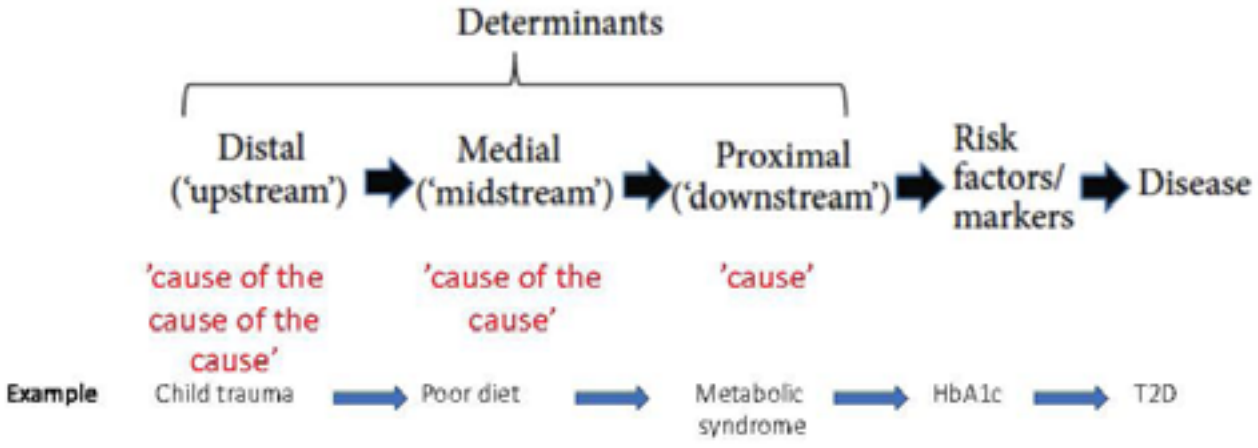
INSUFFICIENT CAPACITY FOR TOLERANCE, ADAPTATION AND TRANSFORMATION OF STRESS
- We're exposed to too much stress
- We have insufficient tolerance or adaptability to stress
- We are unable to transform -ve stress to +ve stress
- We don't sleep well or long enough
- We are unable to relax or rest sufficiently
- We are socially disconnected
- We are disconnected from nature

OUR TOXIC BURDEN IS EXCESSIVE
- We're exposed to too many environmental toxins
- We're insufficiently adapted to the kinds of toxins we're exposed to today
- We can't adequately detoxify our bodies

THERE ARE PUBLISHED, VALID SCIENTIFIC DATA THAT SUPPORT EACH ONE OF THESE THEORIES!

Hierarchy of determinants and risk factors/markers in chronic disease

from Egger & Dixon 2014 [Section 2 / Task 2]



Structuring major determinants of health & disease

	Disease	Health
1	Cardio- and cerebrovascular diseases	The following diet/lifestyle factors: • healthy diet • moderate physical activity • stress tolerance • healthy environment • positive relationships • purpose/meaning in life Help to ensure: • absence of chronic, systemic inflammation • absence of chronic oxidative stress • well modulated immune response • beneficial gene expression pattern
2	Cancers with lifestyle component	
3	Endocrine/metabolic disorders	
4	Gastrointestinal diseases	
5	Kidney disease	
6	Mental/CNS health	
7	Musculoskeletal disorders	
8	Respiratory diseases	
9	Reproductive disorders	
10	Dermatological disorders	

Anthropogens in the 21st century [1]

from Egger & Dixon 2014

Determinants	Decreases risk	Increases risk	Moderators
Nutrition 1, 2, 3, 4, 5, 6	Fruit/vegetables Dietary fibre Whole grains Food variety Seafood Healthy eating patterns	High total energy High energy density Excess processed foods High GI foods Sat./trans fats Sugars Salt Excessive alcohol Sugared soft drinks Processed/red meat	Binge eating/drinking Social/holiday eating "Restrained" eating Feasting Culture Habits
(In)Activity 1, 2, 3, 6, 7, 8, 9	Aerobic exercise Resistance exercise Stretching Stability Leisure activity Incidental activity	Sitting/sedentary work Overexercise	Fear of crime Fatigue/laziness Discomfort/injury/ Early experiences Energy saving devices Obesity Habits
Stress, anxiety, and depression 1, 3, 4, 9	Exercise/fitness Healthy nutrition Perceived control Self-efficacy Coping skills Meaning	Overload "Learned helplessness" Early trauma Boredom Caffeine/drug use	Peer/social/pressure Uncontrollable thoughts Worry Fear of the unknown Obesity
Technology-induced-pathology 7, 10		Motor vehicle use Machinery TV/small screens Repetitive actions Noise pollution Processed foods Weapons of war	Peer/social pressure Legislation/regulation Habits

Anthropogens in the 21st century [2]

from Egger & Dixon 2014

Determinants	Decreases risk	Increases risk	Moderators
Inadequate sleep 1, 3, 6, 10	REM sleep Bed-time Hypersomnia Nutrition Exercise/fitness	Stress Entertainment Sleep disorders Overheating Interactive media Alcohol/drugs	Activity before sleep Stress Anxiety/depression Obesity habits
Environment 2, 3, 6, 9, 10	Political/economic structure Recreational space "Green" exposure Infrastructure for walking and cycling Plant-based nutrition	Passive influences Second-hand smoke Particle pollution Endocrine disrupting Chemicals (EDCs) Home chemicals Drug-immunity (e.g., antibiotics)	Social proof "Tipping point" Social/peer pressure Cultural influences Habit
Occupation 1, 2, 8, 10	Social justice Work equality Security of employment	Work stress Shift-work Hazard exposure Conflict	Peer pressure Bullying
Drugs, smoking, and alcohol 1-10	Appropriate medication	Recreational drugs Cigarette smoking Alcohol use Iatrogenesis	Stress, anxiety, and depression Peer/social pressure Addiction Binge drinking Habit

Anthropogens in the 21st century [3]

from Egger & Dixon 2014

Determinants	Decreases risk	Increases risk	Moderators
Over- and underexposure 1, 2, 3	Sunlight light stimulation	Sunlight (excess) Sunlight (inadequate) Low humidity/ asbestos Radiation	Peer/social pressure Cultural influences Habit
Relationships 1, 3, 6	Companionship Peer support Maternal support in childhood "Love"	Interpersonal conflict Loneliness Lack of support	Peer pressure Early experience
Social factors 1, 10	Trust Income security Market regulation SE status Education	Inequality Poverty Deregulated markets	Stress Bullying Cognitive processes Peer/social pressure

The 'common soil' that causes dysregulation by anthropogens

1. Inflammation ↑
2. Immunity ↓
3. Oxidative stress ↑
4. Energy ↓
5. Stress tolerance ↓
6. Gut integrity ↓

8 KEYS TO EXTENDING YOUR ADAPTIVE CAPACITY, RESILIENCE AND EMOTION VITALITY?

1. Breathwork
2. Recovery & relaxation
3. Positive mindset & interpretation of stress
4. Sleep quality and quantity
5. Social and nature connection
6. Eating right for you
7. Ample physical activity
8. Sense of purpose, life meaning

PRESENTATION 3

THE BIG SIX for re-establishing multi-system equilibrium (homeostatis)

1. Food
What, how much, when, environment

2. Activity
What type, how much, intensity

3. Relaxation
What type, how much, when

4. Sleep
Quality, how much, when

Dr Chatterjee's 4 Pillars

4. Purpose/meaning
'Ikigai', higher needs, bigger than yourself

5. Social connection
Quality of relationships, give/take, care, love, bonding

6. Nature connection
Nature, animals, plants, air, water, minimize new-to-nature chemical exposures

8 FOCUS AREAS

1. Metabolic flexibility
2. Gut integrity
3. Gut microbiota
4. Neurotransmitter balance
5. What, how, when we eat
6. Autonomic nervous system balance
7. Vagal tone
8. Connection – people, nature

3 LEVELS

1. You

2. Your community

3. Your environment

1. METABOLIC FLEXIBILITY

METABOLIC FLEXIBILITY

Metabolic flexibility as an adaptation to energy resources and requirements in health and disease

Reuben L. Smith, Maarten R. Soeters, Rob C I. Wüst, and Riekelt H. Houtkooper

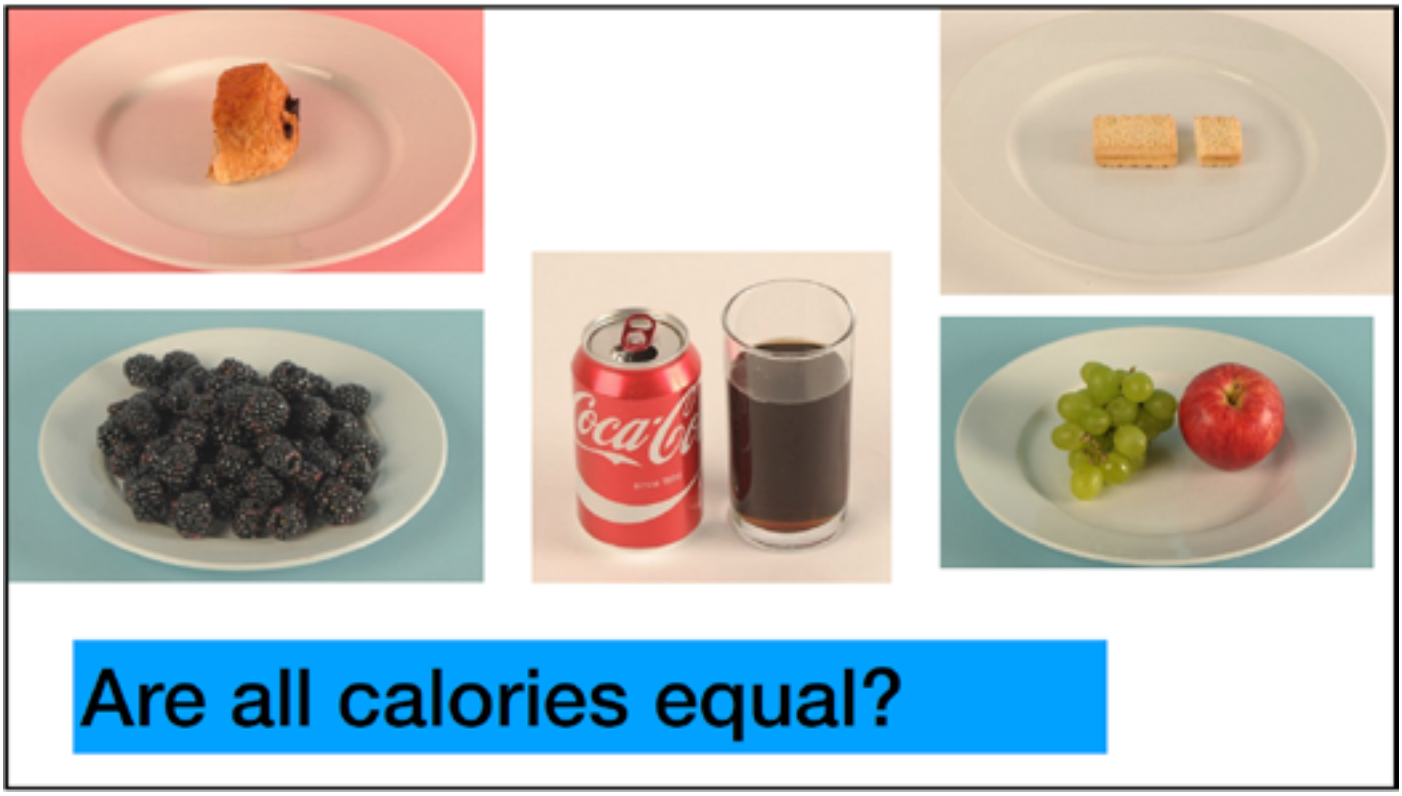
Endocrine Reviews
Endocrine Society

Submitted: September 16, 2017
Accepted: April 19, 2018
First Online: April 24, 2018

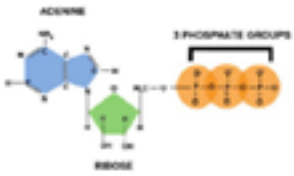
"The ability to efficiently adapt metabolism by substrate sensing, trafficking, storage and utilization, dependent on availability and requirement is known as metabolic flexibility.

Metabolic flexibility is essential to maintain energy homeostasis in times of either caloric excess or caloric restriction, and in times of either low or high energy demand, such as during exercise. The liver, adipose tissue and muscle govern systemic metabolic flexibility and manage nutrient sensing, uptake, transport, storage and expenditure by communication via endocrine cues."

Smith et al. *Endocrine Reviews*, 2018; 39(4): 489–517.



Fuel, energy carriers and engines



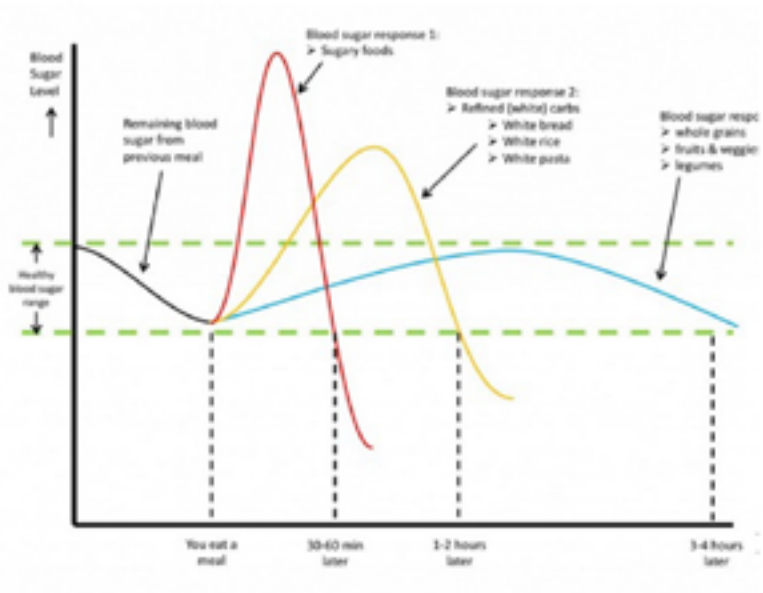
CARBOHYDRATES
FATS
PROTEIN
KETONE BODIES

Fuel

Energy carriers

Engines

The cost of becoming a carb junkie



FOCUS AREA 1: NUTRITIONAL KETOSIS – THE KEY TO METABOLIC FLEXIBILITY

- Caloric restriction / fasting
- Intermittent fasting (>5h between meals)
- Time-restricted feeding (e.g. 8 h window)
- Carbohydrate restriction
  (i.e. Low Carb, Low Carb High Fat [LCHF], Very Low Carbohydrate[VLC])
- Fasted training
- Supplemental support - Additional supplements (e.g. alpha-lipoic acid: 300-1200 mg/d,Co-enzyme Q10: 30-100 mg/d, Resveratrol: 100-250 mg/d)

Going pro: get to know your numbers

Glucose and B-OHB (ketones)

Blood ketone level	What you should do
Below 0.6 mmol/L	Readings below 0.6 mmol/L are in the normal range. Follow your healthcare professional's advice before making any changes to your diabetes medication programme.
Between 0.6 and 1.5 mmol/L	Readings in this range, with a blood glucose level higher than 13.9 mmol/L, may indicate the development of a problem. Follow your healthcare professional's instructions.
More than 1.5 mmol/L	Readings above 1.5 mmol/L, with a blood glucose level higher than 16.7 mmol/L, suggest you may be at risk of developing diabetic ketoacidosis (DKA).

B-OHB 0.5-3 mmol/L
Glucose < 6 mmol/L

Food, gut, brain, microbiota

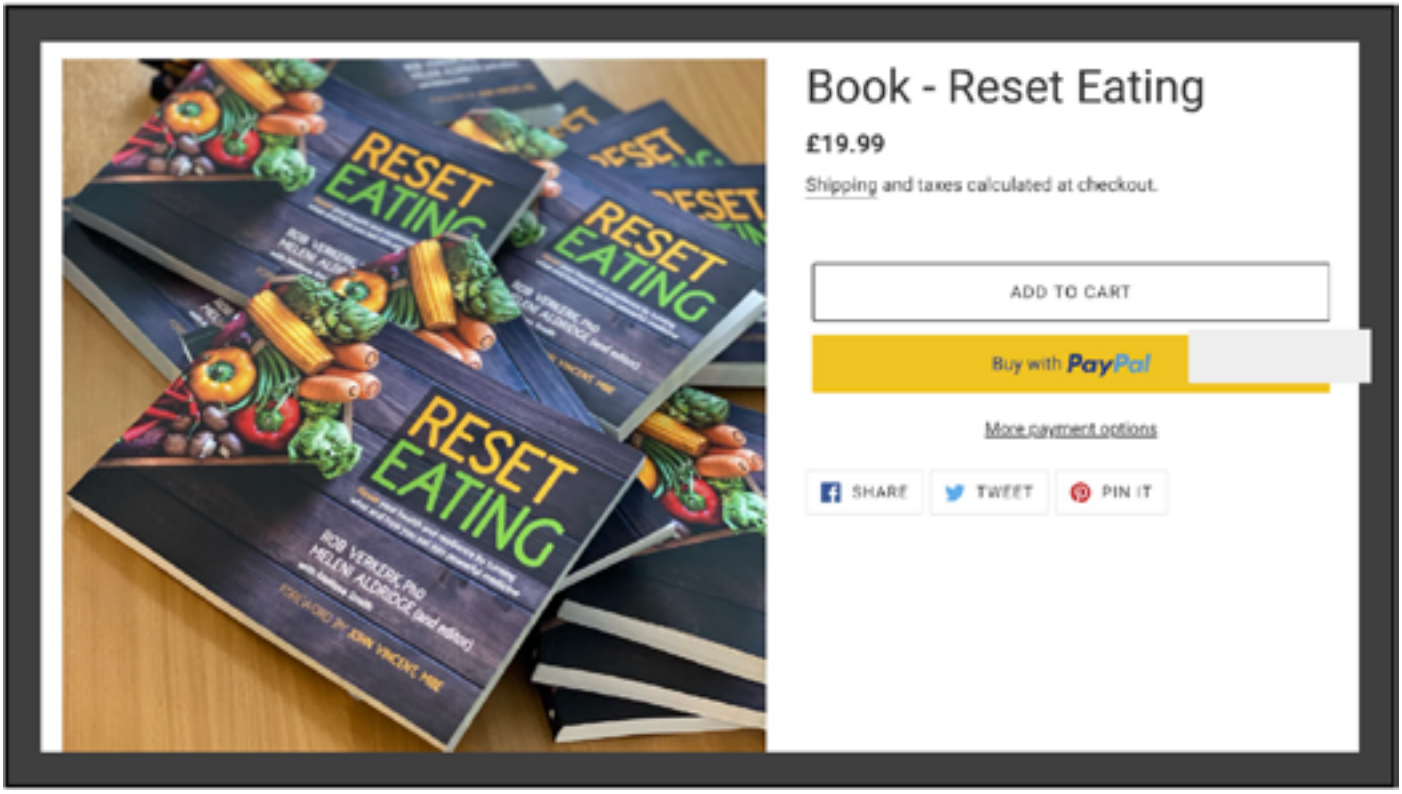
Food4Health
anhinternational.org/campaigns/food4health-campaign

3 Rs

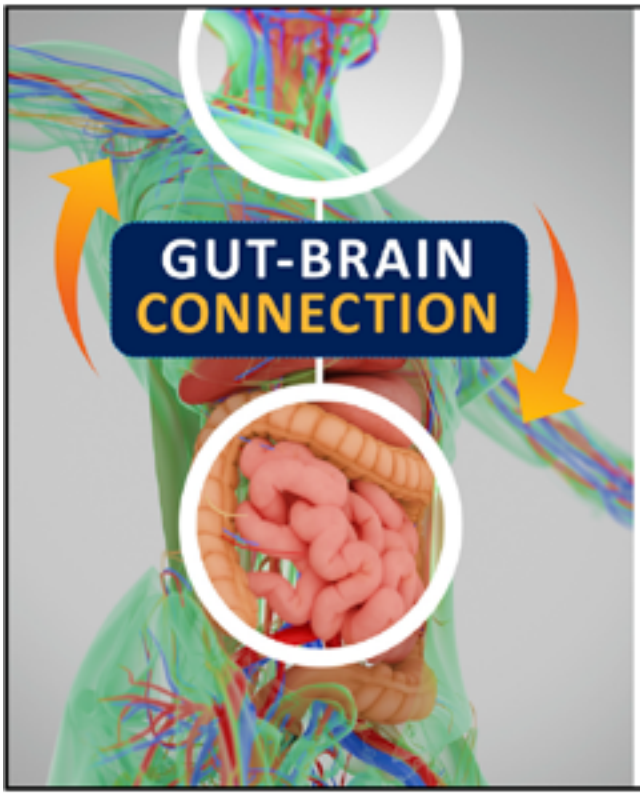
- Remove
- Replace
- Repair

+

- Intermittent fasting
- Fermented foods



2. GUT INTEGRITY



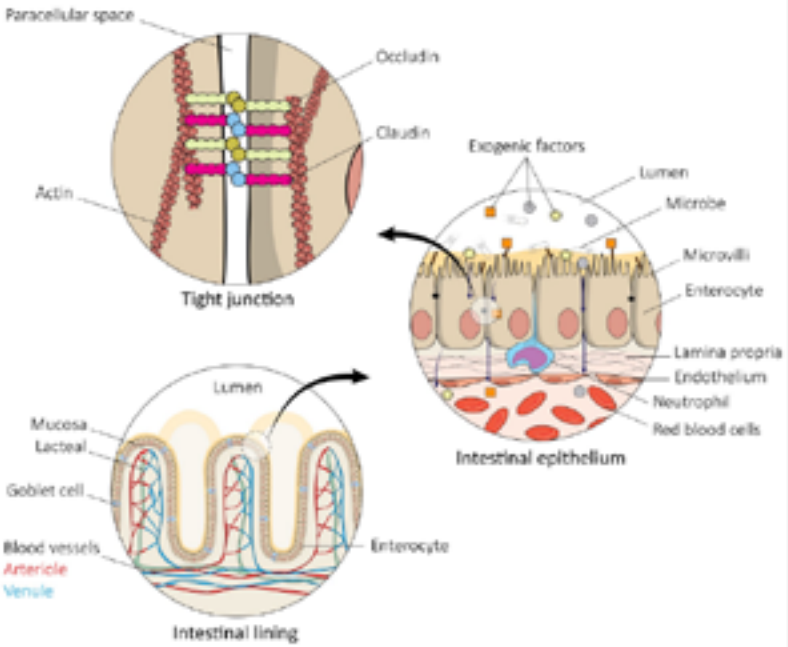
ENHANCING THE CONNECTION BETWEEN YOUR TWO BRAINS

1. Gut integrity
2. Gut microbiota
3. Neurotransmitter balance
4. Food selection
5. Autonomic nervous system balance
6. Vagal tone

ABOUT INTESTINAL INTEGRITY

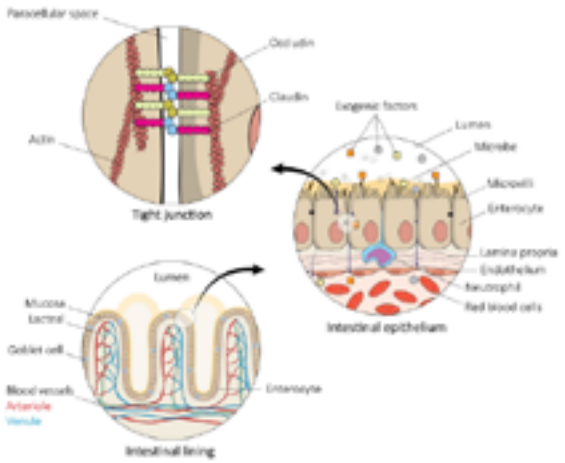
Gut permeability can lead to:

- Acne
- Allergies
- Autoimmune disease
- Celiac disease
- Chronic fatigue syndrome
- Crohn's disease3
- Eczema
- Environmental illness
- Food allergies and sensitivities
- Giardia
- Hives
- Inflammatory joint disease/arthritis
- Intestinal infections
- Irritable bowel syndrome
- Liver dysfunction
- Pancreatic insufficiency
- Psoriasis
- Rheumatoid arthritis
- Ulcerative colitis



FOCUS AREA 2: RESTORE/MAINTAIN INTESTINAL INTEGRITY

1. Avoid allergens
2. Choose foods that don't make you bloat after eating
3. Have ample 'no eating' intervals
4. Socially engage and relax when you eat

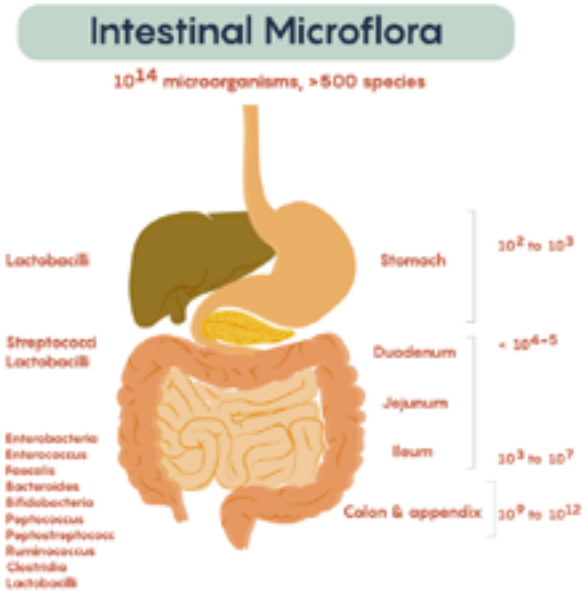


3. MICROBIOTA

ABOUT YOUR MICROBIOTA

Some facts:

- 1:1 ratio of gut bacteria to human cells (38 trillion : 30 trillion)*
- fermenting unused energy substrates
- training the immune system
- preventing growth of harmful species
- regulating the development of the gut
- producing vitamins (e.g. K, biotin, folate, B12)
- controlling fat metabolism and storage
- ↓Bacteroidetes and ↑Firmicutes associated with obesity
- Produce butyrate (BH4) that reduces gut permeability



*Sender R, et al. *PLoS Biol.* 2016; 14(8): e1002533.

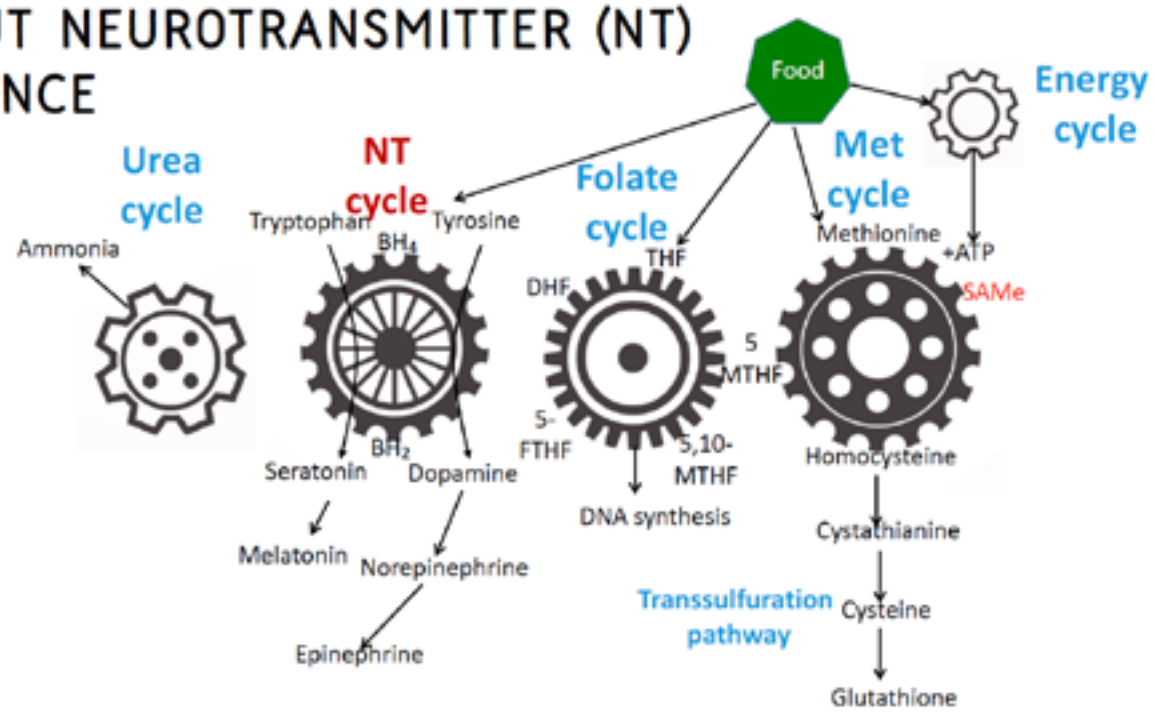
Source: eCampus Ontario

FOCUS AREA 3: RESTORE/MAINTAIN GUT MICROBIOTA

1. 30g fibre/day
2. High polyphenol diet
3. 12-16h overnight fast
4. Stewed apple after main meal

Source: eCampus Ontario

ABOUT NEUROTRANSMITTER (NT) BALANCE



The key = balance / homeostasis

4. NEUROTRANSMITTER BALANCE

FOCUS AREA 4: RESTORE/MAINTAIN NT BALANCE

1. Consume cofactors (Fe, Cu, Mg, Zn, Folate, B6, B12, Vit C, Vit D)
2. Consume adequate fibre (30g/d) as substrate for butyrate (BH4)
3. Consume quality, complete protein (~1.2g/kg bw)
4. Manage stress and prioritise sleep quality

5. Supplements?
   Adaptogenic herbs (e.g. ashwagandha, ginseng, Rhodiola), 5-HTP

5. WHAT, WHEN & HOW WE EAT

FOCUS AREA 5: WHAT, HOW, WHEN WE EAT

Book - Reset Eating

£19.99

Shipping and taxes calculated at checkout.

ADD TO CART

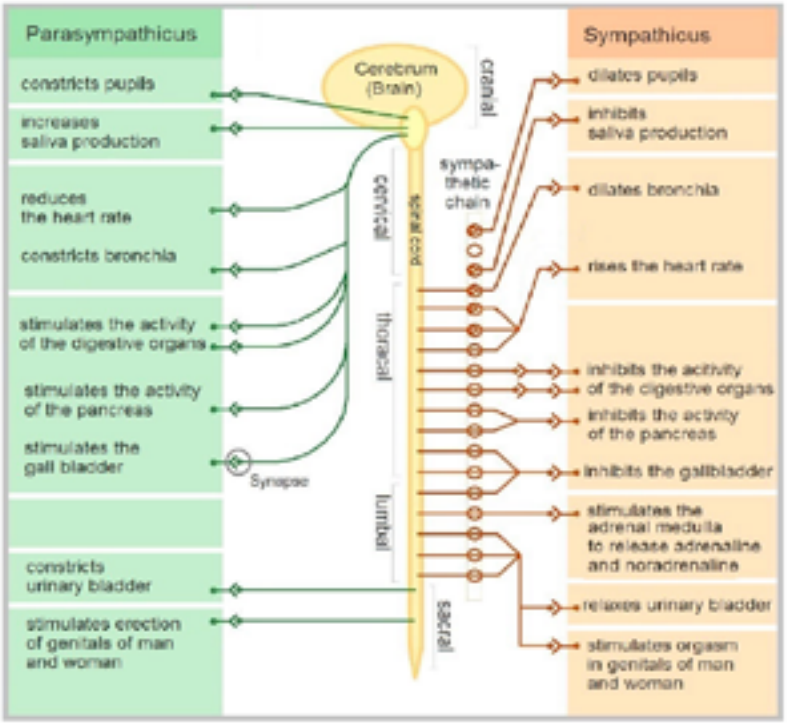
Buy with PayPal

More payment options

SHARE TWEET PIN IT

6. AUTONOMIC NERVOUS SYSTEM (ANS) BALANCE

ABOUT AUTONOMIC NERVOUS SYSTEM (ANS) BALANCE



FOCUS AREA 6: RESTORE/MAINTAIN ANS BALANCE

1. Quality sleep, in total darkness (6.5-8.5h)
2. Manage your response to stress; mindfulness practices
3. Maintain regular physical activity
4. Ample time in nature and socially

7. VAGAL TONE

ABOUT VAGAL TONE

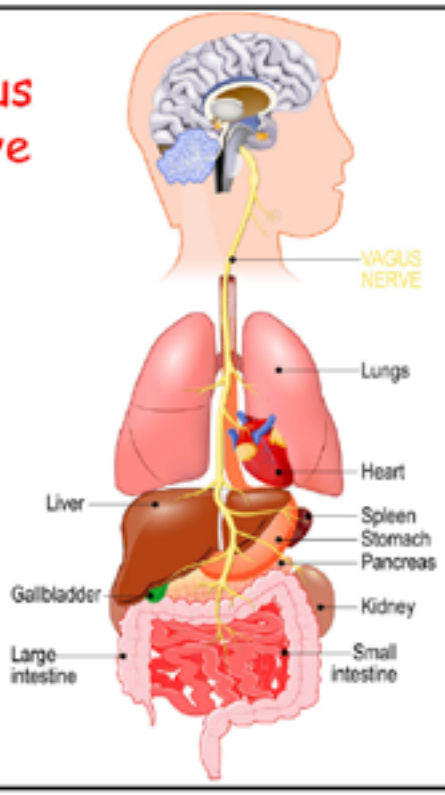
The vagus nerve:

- 10th cranial nerve (ANS)
- controls heart rate
- controls vasodilation/constriction of vessels
- glandular activity in the heart, lungs, and digestive tract
- control of gastrointestinal sensitivity, motility and inflammation

Vagal tone:

- ↓ vagal tone ↑ diabetes, heart disease, inflammation
- ↑ vagal tone ↑ blood/sugar response and stress tolerance

Vagus nerve



FOCUS AREA 7: RESTORE/MAINTAIN VAGAL TONE

1. Breathwork
2. Cold therapy
3. Optimise gut & musculo-skeletal integrity (jaw, spine)
4. Find meaning in all that you do

8. CONNECTION

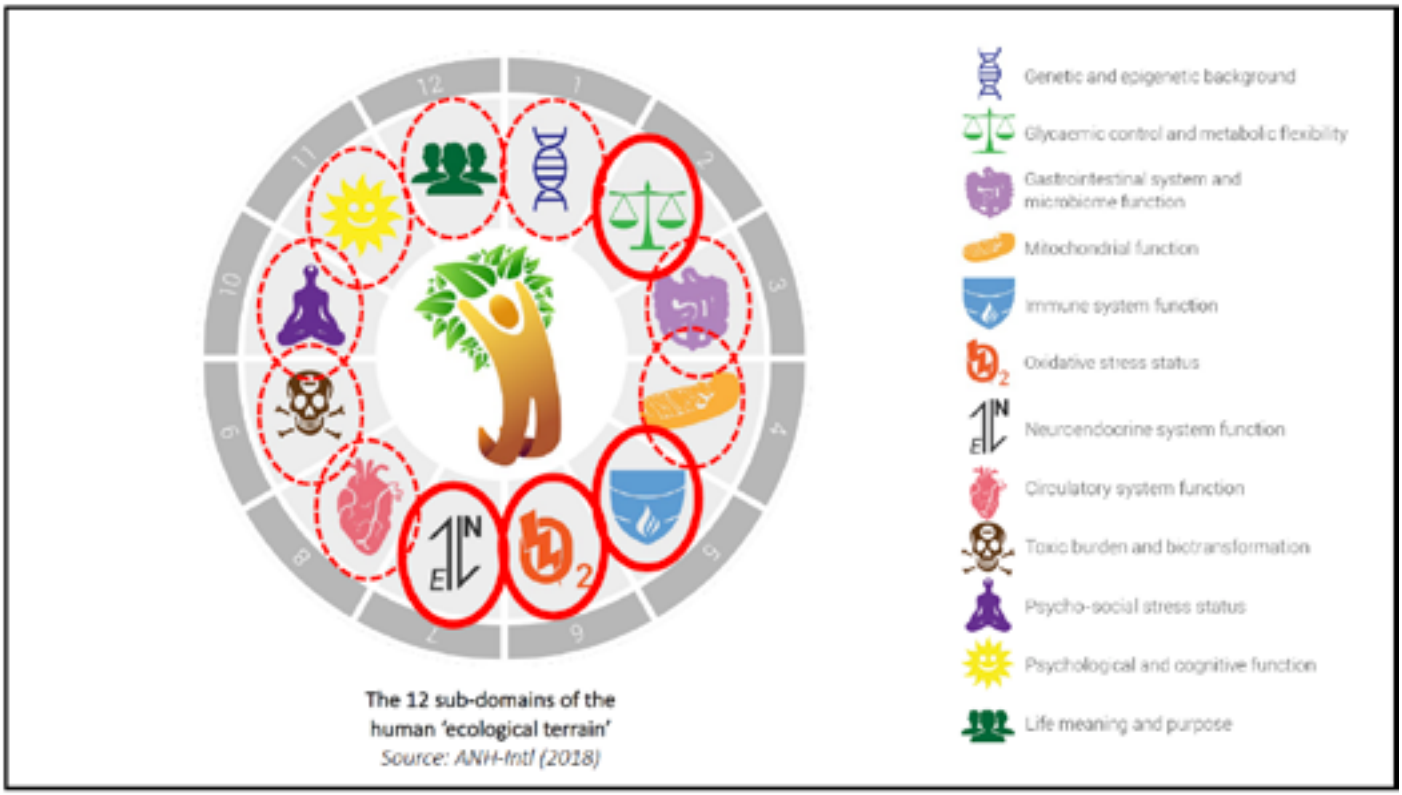
8 AREAS

1. Metabolic flexibility
2. Gut integrity
3. Gut microbiota
4. Neurotransmitter balance
5. What, how, when you eat
6. Autonomic nervous system balance
7. Vagal tone
8. Connection – people, nature

3 LEVELS

1. **You**
2. **Your community**
3. **Your environment**

MULTI-SYSTEM MANAGEMENT



The 12 sub-domains of the human 'ecological terrain'
Source: ANH-Intl (2018)

Optimal health and resilience is created when the 12 sub-domains of an individual's 'ecological terrain' are 'in balance' - or can rapidly return to 'balance'

Some of the variables in an individual's life that cause imbalances in one or more sub-domains of the 'ecological terrain'

- Diet and nutrition
- Physical activity
- Rest and relaxation
- Sleep
- Social connection
- Connection with nature
- Purpose/meaning in life
- Environmental toxins/pollutants
- Radiation sources
- Stress tolerance/response

FUNCTIONS + INTERACTIONS + RESPONSES

Inside or outside the sphere of influence?

What you can't control
- Age (gender?)
- Past education
- Cultural background

What's difficult to control
- Future education
- Housing, living/working conditions
- Work environment
- Healthcare facilities
- Unemployment
- Socio-economic, cultural & environmental conditions

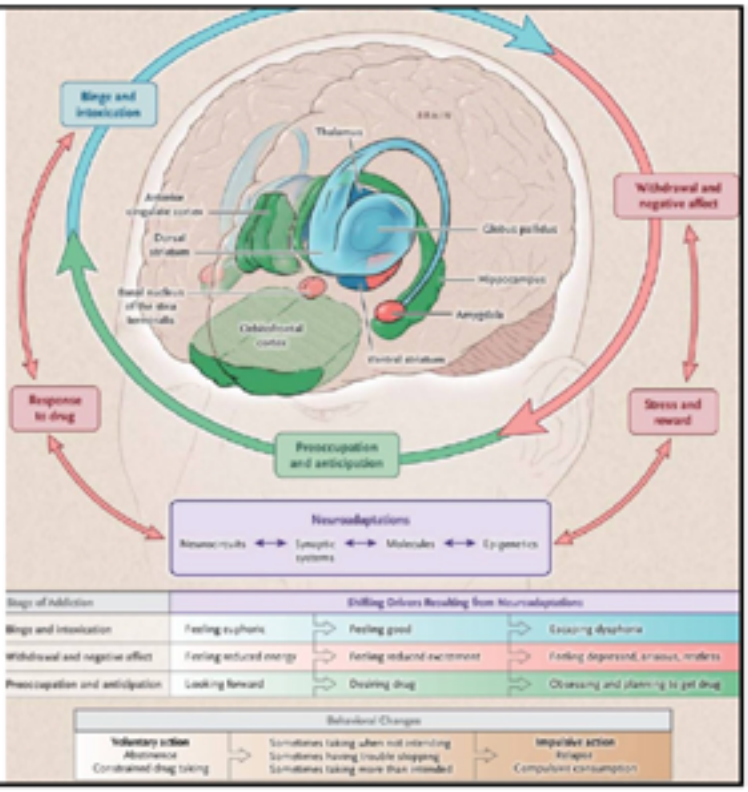
What's amendable to control
- Knowledge / Personally Acquired Potential (PAP)
- Physiological function
- Psycho-social function
- Behaviour
- Attitude
- Relationships
- Supportive environment

The cycle of addiction: tobacco, alcohol, junk diets, drug abuse

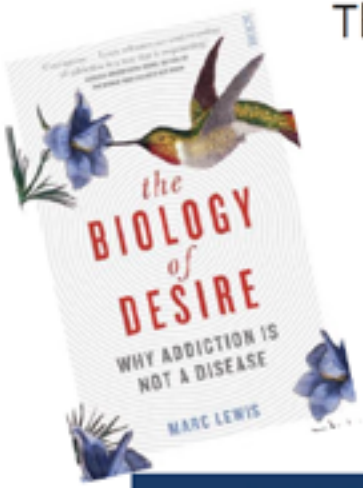
National Institutes of Health

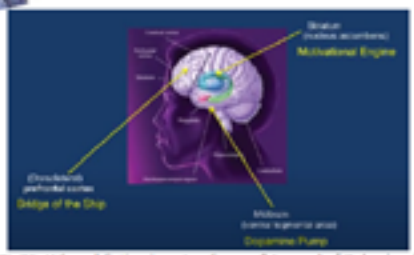
- It's chronic not acute – must always be managed (e.g. diabetes, asthma); doesn't go away in a few days (e.g. stomach bug or cold)
- It can relapse – can come back after a person appears t have recovered
- It's a brain disorder (or disease?) – the brain of an addicted person is different to a healthy one

SAFEProject: https://www.safeproject.us/resource/science-of-addiction/



This view can be contested: Prof Marc Lewis





Cause to question prevailing disease model

- If it was a disease, how can it be overcome by willpower, changing environments, emotional growth, mindfulness, etc.?
- Why are changes in brain function linked to addiction same for all forms of 'addiction' e.g. obesity, porn, gamblers, compulsive shoppers, intense romantic, relationships?
- Why do so many 'mature out' of addictive behaviours?

An alternate model: addiction is a kind of 'skill'

- The addicts brain learns to efficiently identify and aim behaviour
- New skills or formation of deep habits always change the brain!
  E.g. London cab drivers, meditation, mindfulness, binge behaviour, psychotherapy

Lewis, Marc. "PL-06: Why addiction is not a disease." Journal of Behavioral Addictions, vol. 4, no. S1, Mar. 2015, p. 4. Gale OneFile: Health and Medicine, link.gale.com/apps/doc/A405760269 1/HRCA?

NOTES

NOTES

NOTES