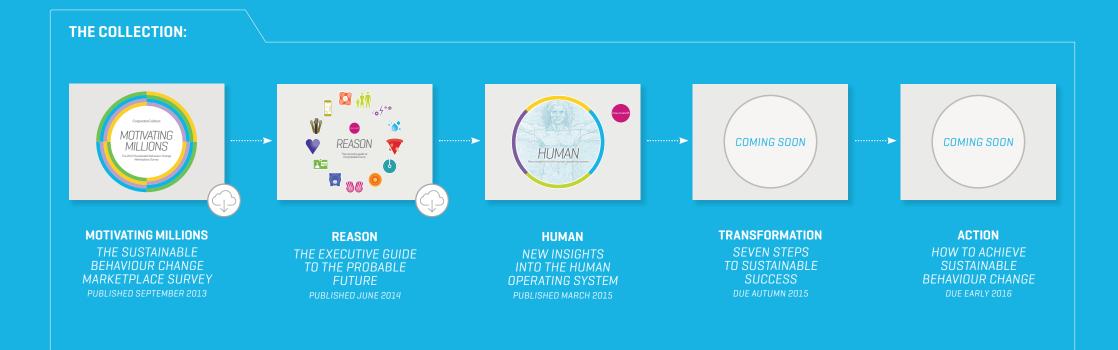


how on earth

ABOUT THE HOW ON EARTH SERIES ESSENTIAL RESOURCES TO ACHIEVE SUSTAINABLE SUCCESS



WHY DO YOU NEED TO READ THIS SERIES?

Achieving long-term success is increasingly challenging. With an uncertain economy, new competition, technological advances and climate change, leaders need to think differently. They must seek to turn risks into opportunities, understand context, form collaborative partnerships and motivate customers, employees and suppliers to act. This series of reports makes the case for action, illustrates how to create and bring to life sustainable business strategies, reveals how to motivate people to act using social marketing, and builds everything on a deep understanding of people.

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM

CONTENTS

- 03 Human
- 04 Speed Readers Start Here
- 05 Simplicity
- 06 Complexit

SO HOW DO PEOPLE WORK?

- 09 The Human Operating System
- 11 The Dirty Dozen Shortcuts We All Use
- 13 The Brain
- 15 Social Us
- 17 Ultimate Me, Ultimate Us
- 19 Social Physics

IMPLICATIONS

- 23 What Makes People Act?
- 25 The Seven Currencies
- 27 The Twelve Accelerators
- 29 Insight To Action

CONCLUSIONS

- 32 All Change Is About How People Act
- 33 How We're Helping Others Like You
- 34 Additional Resources

HUMAN CHANGE BASED ON A **DEEPER UNDERSTANDING** OF PEOPLE

JOHN DRUMMOND, CHAIRMAN, CORPORATE CULTURE GROUP

Success in business and in government depends on an understanding of people.

But what if our thinking is based on an incomplete understanding of people – of employees, customers, citizens?

What if business leaders and political leaders are seeking results based on an outdated model of human nature?

Now, based on the most recent insight from neuroscience, psychology and behaviour change, a new human operating system is beginning to emerge.

It's not complete. But it's a step on from the beliefs that currently guide our actions to achieve social, business or political change.

John Drummond, Chairman, Corporate Culture Group

SPEED READERS START HERE IF YOU ONLY HAVE **FIVE MINUTES**, CHECK OUT THESE THREE TOP TIPS...

IF YOU WANT TO...



IF YOU WANT TO EXPLORE HOW TO TURN THIS NEW KNOWLEDGE ON THE HUMAN OPERATING SYSTEM INTO PRACTICE, EMAIL ME ON JOHN.DRUMMOND@HOW-ON-EARTH.CO.UK

SIMPLICITY

CAN ASSUMPTIONS ABOUT HUMAN MOTIVATION REALLY BE SO **BLACK AND WHITE**?

BUSINESS DECISIONS:

We assume people act rationally to achieve personal benefit.

We base our business decisions on a theory of rational self-interest – that people think things through and act rationally. The accepted belief is that people want personal benefits, primarily financial.



" It is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but from their regard to their own self-interest."

ADAM SMITH, MORAL PHILOSOPHER AND PIONEERING POLITICAL ECONOMIST

POLITICAL DECISIONS:

We assume people want personal benefit now.

Politicians act to secure votes. They also assume that people vote on short-term personal benefit.

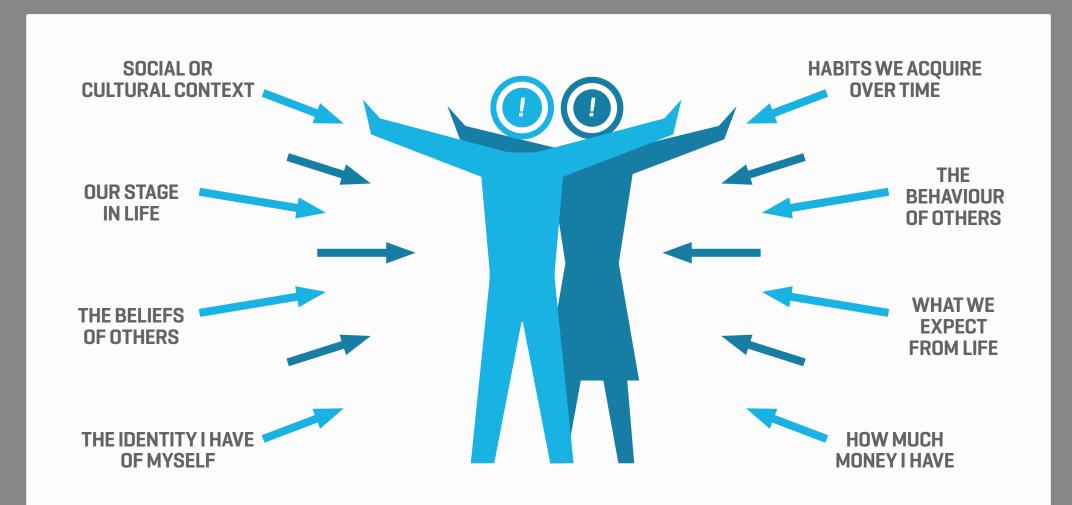
" Political systems should be based on the assumption that a man has no other end, in all his actions, than his private self-interest."

DAVID HUME, EMPIRICAL PHILOSOPHER AND PIONEERING POLITICAL ECONOMIST



YES, PERSONAL BENEFIT IS IMPORTANT. BUT PEOPLE ARE A BIT MORE COMPLEX...

COMPLEXITY LIFE IS COMPLICATED, THERE ARE **MANY** INFLUENCERS



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6

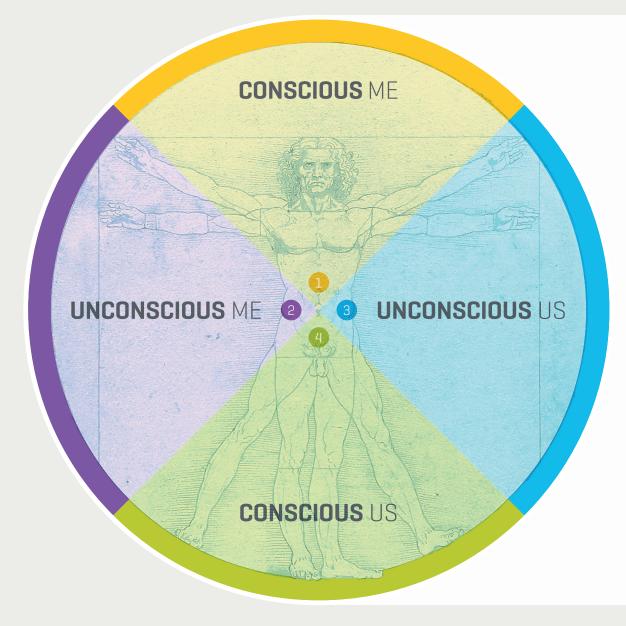


THE HUMAN OPERATING SYSTEM

Knowledge based on new scientific insight, neuroscience, psychology and behavioural change suggests a new emerging model of how we work.

We call it the 'Human Operating System'.

Here are the key elements >



This page is important because: WE NEED TO KNOW EXACTLY HOW DECISIONS ARE MADE.

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM



1

WE ARE ANIMALS THAT MAKE DECISIONS

We make between 2,000 and 10,000 decisions a day¹. But the conscious system is limited. Working memory can only hold about seven elements (plus or minus two) or seven chunks if the elements are sorted into meaningful patterns².

 BBC Horizon, How we make decisions, 2013
 George Armitage Miller, early founder of cognitive psychology.

2

WE MAKE MOST OF OUR DECISIONS UNCONSCIOUSLY

Because of the number of decisions we have to make, the vast majority of them are made unconsciously. Because we have to make them fast, we use up to 150 shortcuts. These decision-making principles are also called cognitive biases.

3

OUR DECISIONS ARE INFLUENCED BY THE BEHAVIOUR OF OTHERS

As we drive to work, walk down a street, buy music, watch a film or practise any number of daily actions, we make progress only because we mirror the actions of others or predict them or learn from them. "Our dominance as a species may be attributable to our ability to think socially." ³

3. Matthew D Lieberman, Director of the Social Cognitive Neuroscience Laboratory, University of California.

4

WE COLLABORATE TOGETHER TO ACHIEVE SHARED GOALS

Our ability to collaborate to achieve shared goals defines us, our sports teams, communities, information channels, provision of food, energy, light, transport, clothing, security, our businesses, our communities of interest and our governments.

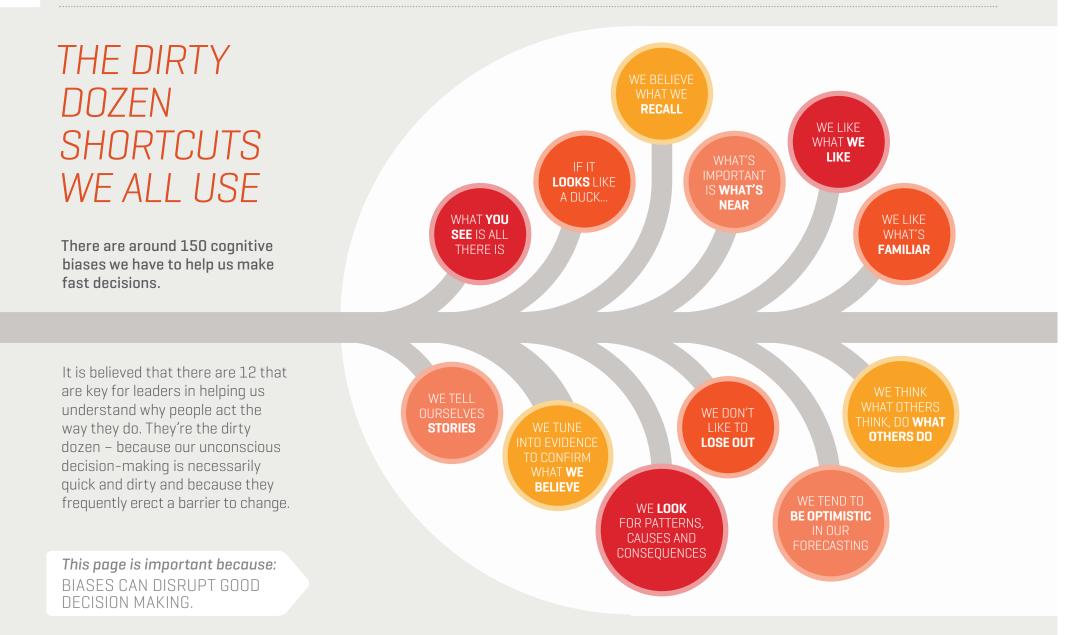
OUR BIG MISTAKE: PEOPLE STRESS ONLY ONE OF THESE ELEMENTS AS IF IT ALONE DEFINES US.

They may say the conscious me is driven by personal benefit and money. They may say we are a largely unconscious animal or a herd that can be nudged into action.

THE TRUTH IS: **WE ARE HUMAN.**

Each of these elements applies to each of us and we move through them continually every day. **I**

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM





What you see is all there is

We continually make decisions and judgements based on partial information. We vote for people to represent us in parliament, we give people jobs based on an interview and a CV, we make decisions at board meetings based on a board paper. We often have to assume that what we see is all there is.

If it looks like a duck...

We make speedy judgements based on what something represents to us. Are young men more likely than older women to drive aggressively? Are company directors more likely to vote Conservative? Is this thing happening to me right now like something that has happened before?

We believe what we recall

This is also called the availability bias. If someone mentions something and we've just read the book or seen something in the newspaper, it gains credibility. If it is a view that is widely out there on a big issue like fracking or executive salaries, the public discussion can lead to a socially accepted opinion. This is often referred to as an availability cascade.

What's important is what's near

If it's near to us in space and time it gets our attention. The further away, the more we discount the importance of it. This is called hyperbolic discounting.

We like what we like

We often make judgements based on our likes and dislikes. In politics, for example, we probably know in advance if we are going to like or dislike what is going to be said by David Cameron, Nick Clegg, Ed Miliband or Nigel Farage. This is known as the affect heuristic.

We like what's familiar

We favour what's familiar. In an experiment at the University of Michigan and Michigan State University, small ads containing meaningless words were inserted in student newspapers. When students were later asked for their views, the words that were presented more frequently were rated much more favourably than words shown just once or twice.

We tell ourselves stories

"We all care intensely for the narrative of our own life and very much want it to be a good story with a decent hero," says Daniel Kahneman in his book 'Thinking, Fast and Slow'.

We believe what we believe

Our thoughts and feelings and previous experiences give us beliefs. Our beliefs then become reaffirming. They could be beliefs about sub-prime mortgages, immigration or a conviction that the bed we slept in last night might have had bed bugs. In other words, the beliefs need not be true. We deliberately seek out anecdotes and facts that support our opinion. This is called confirmation bias.

We don't like to lose out

If a golfer misses a birdie putt it feels better than missing a putt for par. If your buddies have all bought the latest iPhone, you are more likely to. We have a built-in fear of loss. And that's also why we stay longer in a bad job or a bad marriage.

We look for patterns, causes and consequences

This is also called "agency". We struggle to look at a picture and not look back at what we imagine has come before or forward towards what will happen next.

We tend to be optimistic in our forecasting

In a study of 11,600 estimates by Chief Financial Officers of the returns of the Standard and Poor's index over the following year, professors at Duke University found that the correlation between CFO estimates and the true value was slightly less than zero. The odds of a small business surviving five years in America is 35%. People estimate it as closer to 60%. [Source: Daniel Kahneman, 'Thinking, Fast and Slow']

We think what others think, do what others do

"Our brains are built to ensure that we come to hold the beliefs and values of those around us," says Matthew D Lieberman, Director of the Social Cognitive Neuroscience Laboratory at the University of California. Our social nature also means we follow others' behaviours. You reach for a nut. I reach for a nut. You cross the road. I cross the road.



THE BRAIN: DESIGNED TO CONNECT

The brain can be mapped. It contains 100 billion neurons, and its regions are densely connected by around 100,000 miles of fibres called white matter – enough to circle the earth four times.

For the first time scientists can see how it is possible to map the totality of connections between the neurons in a nervous system.

This complete map is called a **connectome**.

Neurons just want to be loved:

"Neurons are polyamorous... they want to be touched by other neurons."

...says **Sebastian Seung**, Professor of Computational Neuroscience at MIT, in his book 'Connectome'. The three areas of the brain implicated in consciousness are the thalamus, the lateral prefrontal cortex and posterior parietal cortex. The one distinctive feature is that they have more connections to each other and to elsewhere in the brain than any other region.

Habits of thought create physical changes:

"If two neurons are repeatedly activated sequentially, the connection from the first to the second is strengthened."

...says **Professor Seung**. He compares this to a stream which "drives our experiences of the present and leaves behind impressions that become our memories of the past."

This page is important because: WE REALLY CAN CHANGE THE WAY WE THINK.

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM



The unconscious may have a physical bridge:

The left inferior frontal gyrus "puts to the forefront of consciousness what would otherwise remain mostly unconscious."

It has been identified as the part of the brain responsible for what Russian psychologist **Lev Vygotsky** referred to as "private speech". We use it for regulating behaviour (slow down at the roundabout) or for debate, exploring the views of other people. "It puts to the forefront of consciousness what would otherwise remain mostly unconscious" says **Alain Morin**, Psychologist, Mount Royal University, Calgary.

Our brains and our bodies are connected:

"...the brain and the body are indissociably integrated by mutually targeted biochemical and neural circuits."

That's how neuroscientist **Antonio Damasio** puts it. How we think and how we feel are linked. How could they not be? The vagus nerve has been linked to this connection. The vagus nerve is the 10th cranial nerve and connects your brain to internal organs including the lungs, digestive tract and the heart. After the fight or flight response (where the unconscious us takes over), it is the vagus nerve that soothes us and returns us to a relaxed state for digestion (or sex!).

Our brains can be rewired:

"Connections in our brains can be changed in four ways – reweighting, reconnecting, rewiring and regenerating."

...explains **Sebastian Seung**, in his book 'Connectome'. We can help with this flexibility by thinking consciously, challenging our beliefs, exploring diverse ideas and seeking new experiences. This can improve our self-knowledge, our learning, our ability to connect ideas, our ability to socialise and our performance at work.

This stunning image of white matter fibres appears courtesy of the Laboratory of Neuro Imaging and Martinos Center for Biomedical Imaging, Consortium of the Human Connectome Project - www.humanconnectomeproject.org

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM

14



SOCIAL US: WE ARE SOCIAL BY NATURE



This page is important because: TAPPING INTO OUR SOCIAL NATURE SPEEDS UP CHANGE.

OUR BRAINS ARE SOCIAL

How the brain shapes beliefs:

The medial prefrontal cortex (a) seems to be involved in ensuring the beliefs and values of the society we mature in become our beliefs and values. The ventrolateral prefrontal cortex (a) seems to be involved in guiding our actions so that we get along with and like one another.

Physical pain and social pain have a shared location:

Evidence suggests the same area of the brain, the dorsal anterior cingulate cortex (dACC) ⓒ is responsible for both physical and social pain. In other words, the brain doesn't distinguish between the pain of a broken arm and the pain of being rejected, excluded or cheated on.

The brain rewards collaboration:

The ventral striatum () seems to be more sensitive to group benefits rather than to one's personal outcome, according to James Rilling's functional MRI study for Emory University.

Source: 'Social', Matthew D Lieberman, Director, Social Cognitive Laboratory, University of California

OUR BODIES ARE SOCIAL

Endorphins and shared action:

Endorphins are an opioid chemical released in response to mild pain. They make physical contact and the same behaviour at the same time (synchrony) feel good.

Cortisol and friendship:

Cortisol is a stress hormone which tends to be elevated in lonely people and reduced in stress situations if we have a friend with us.

Oxytocin and physical contact:

Oxytocin is released by light touches, hugs and massage and produces a pleasant feeling. This may lead to increased trust, an increased desire to be generous and pro-social decision-making.

Source: Lauren Brent, Duke University, New Scientist article, May 24, 2014

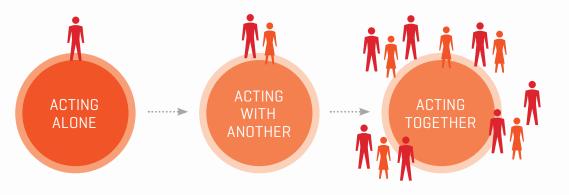
"Our social world is extraordinarily complex. Understanding it better will have major implications for how we organise the business world."

Robin Dunbar, Head of the Social and Evolutionary Neuroscience Research Group, Department of Experimental Psychology, University of Oxford



SOCIAL EVOLUTION

There are three clear steps to our social development.



Acting alone:

Imagine we are hungry. There's a banana. I'll get the banana. This is actually quite sophisticated. It requires inference – if I take this action, this will happen. It requires us to monitor ourselves, also known as cognitive self-monitoring. This is the world of individual intentionality.

Acting with another:

Imagine we are two early humans and there is a cloud of dust. It could be a herd of buffalo or a herd of lions. I look across at the other person. Without speaking we jointly conclude it's a real threat and we should head in a new direction. This is called mentalising (or mind reading) because it involves imagining another person's views. Imagine receiving an email from your mum and reacting to it. This is conceptual thinking involving intention (imagining what the sender intended). When I reply it involves prediction (considering how our email will be read). This is the world of joint intentionality.

Acting together:

Imagine our humans form an early group. We find it helpful to co-operate to find food, kill food and cook food. We co-operate to stay safe, to find fresh water, to resolve disputes and to have fun. Over time we conform for two reasons – to fit in and to make best use of our time. If we don't conform, it disrupts our co-ordinated action and we earn the group's ill-will. All of this involves self-knowledge and something called normative self-control. This is the world of the modern human and collective intentionality. And it's hard-wired in.

Sources: 'A Natural History Of Human Thinking', Michael Tomasello, and; 'Social', Matthew D Lieberman

In the BBC Horizon programme "What Makes us Human?", two young children collaborate to pull levers and release a reward.

If one gets more than the other, they share. The behaviour is built-in from an early age. What does that tell us?

It suggests that there are three things that need to be aligned to achieve our shared objectives:

The purpose:

We need to have a shared goal

The process:

We need to collaborate to achieve this goal

The prize:

The prize needs to be shared fairly

So, what makes us human? **At its simplest it's about co-operation to achieve shared benefit.**

"Our brain is profoundly social... with... wiring dating back more than 100 million years."

Matthew D. Lieberman, Director, Social Cognitive Laboratory, University of California



ULTIMATE ME

So what do people want out of life? Knowing that might help us to do stuff for employees and customers that they would love and that would improve performance.

> We have to differentiate between the two selves – the experiencing self (in the moment) and the remembering self (what things are like when we look back at them).

The experiencing self is temporary – it lasts only as long as the experience.

The remembering self is dominant but it is also inaccurate.

Two key things are given favourable recall – peak experience and end experience. We forget the duration of events (also called duration neglect).

So what are the key positive and negative factors?

This page is important because: IT POINTS OUT WHAT WE WANT OUT OF LIFE.

THE EXPERIENCING SELF

The key positive factors are:

- Spending time with people you love and who love you
- Physical health
- Absorption in a task (resistance to interruption; what Mihaly Csikszentmihalyi calls 'flow')
- Eating (but only if we attend to what we are eating)
- Active leisure (socialising, exercise).

The key negative factors are:

- The daily commute
- Working
- Looking after the kids (marginally more negative than housework for American women)
- Housework
- Bad health e.g. having a headache

" A good life is a process, not a state of being. It is a direction not a destination."

Carl Rogers, Psychologist



Rogers explained that to enjoy a good life we need to:

- ▶ be open to experience
- ▶ live in the present moment
- ▶ trust ourselves
- take responsibility for our actions, and
- treat ourselves and others with unconditional positive regard.

THE REMEMBERING SELF

The key positive factors are:

- Educational attainment
- Achieving goals (achieving what we want)
- Having children (not mentioned by Kahneman)
- The genetics of temperament (how we feel)
- Religious participation
 (for feeling positive and reducing stress but less so for feeling depressed or worried)
- Having money (to a point).

The key negative factors are:

- Being poor
- Bad health (worse for the very poor).

ULTIMATE US

We are at our best together when we are collaborating and exploring.

The city is the peak of formal and informal collaborative action – so what are the underlying principles of successful cities?

According to Luis Bettencourt, Professor of Complex Systems at the Santa Fe Institute, New Mexico, there are four principles underlying successful cities:*

Cities develop so that citizens can, in theory, meet anybody else in the city

2 Urban mobility is essential but only if people can afford to move around the city (placing boundaries on cities)

Cities grow in a decentralised way, adapting to human social needs

3

4 Cities shrink space and time to enable humans, with the same effort, to experience a greater number of diverse encounters with others (because human effort is bounded)

In other words, a city is not just "a collection of buildings or people but... a web of social interactions embedded in space."

* Luis Bettencourt researches the hidden laws by which complex systems arise and evolve (Source: New Scientist, Urban Truths, December 14th, 2013)



SOCIAL PHYSICS: THE DYNAMICS OF SOCIAL GROUPS



There is a specific size to the ideal social network – 150. It's called Dunbar's number after Robin Dunbar, Director of the Social and Evolutionary Neuroscience Research Group at Oxford University.

That number, says Dunbar, "turns out to be surprisingly common in human social organisation. Historically, it was the average size of English villages. It is also the ideal size for church parishes, and is the size of the basic military unit, the company.

"Although an individual's social network may include many more people, 150 marks the limit on those with whom we can have a real relationship involving trust and obligation - move beyond 150 and people are mere acquaintances."

More than 60 per cent of our social time is given to our five closest friends. The emergence of online social networks gives us the opportunity to retain links with up to around 500 people we meet at school, university or work, for example, with whom we may otherwise not stay in touch.

The number and diversity of contacts is key

Technology and big data has also helped us identify the dynamics behind social contact (reality mining). Alex Pentland, Director of MIT's Human Dynamics Laboratory, calls this 'social physics' - how the flow of ideas between people influences behaviour.

He distinguishes between **engagement** (between members of a work group) and **exploration** [seeking out ideas from diverse social networks]. Alex Pentland has discovered that the key measure behind successful social learning is the quantity of social contact and the diversity of ideas we are exposed to. Too little contact and we are prisoners of our own desktops.

Too much and we create an echo chamber, reaffirming our beliefs among a small group of people.

Pentland says that in effective social learning the role model is key. The role model is similar enough to me (our peer) for the behaviour to be useful, there is a high level of trust and the new idea is consistent with previously learned behaviours.

The three characteristics of role models seem to be:

- they network, engaging in preparatory exploration with experts ahead of time that they may need in the future
- they build strong relationships with people in their network so they are more likely to respond quickly and helpfully
- they seek diverse views from many different viewpoints (harvesting new ideas)



Exploration: the hidden factor

Using mobile phone data, the movement and buying behaviour of tens of millions of people have been tracked in the San Francisco area in real time. ¹

The data showed the existence of tribes [both conscious and unconscious] within specific behavioural demographics – similar food habits, similar clothes, similar financial habits.

But the big revelation is this:

How we use our time can be broken into three patterns. A structured pattern relating to work. A structured pattern relating to the weekend and days off. And an unstructured pattern relating to exploration – like a shopping trip or an outing.

We are curious and social explorers.

SOCIAL MEDIA IS IMPORTANT

If Facebook was a religion it would be the third largest behind Christianity (2.1bn) and Islam (1.5bn).

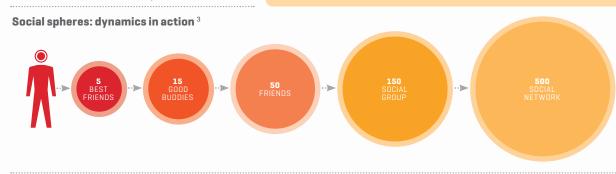
SOCIAL MEDIA HAS LIMITS

Face to face contact is best for close relationships and behaviour change, where it is best used together with real social contact. In the 2010 US Congressional elections, 280,000 additional people were persuaded to vote following a Facebook intervention. Analysis showed that "the top 10 friends were driving the whole social effect. That confirms that if you want to spread behaviour change, you need to focus on real-world networks," said James Fowler of the University of California in San Diego.²

SOCIAL MEDIA HELPS ACHIEVE CUT-THROUGH

Social media gets information out quickly and at scale. It also helps us strengthen weaker relationships with larger numbers of people. As a downside, it can lead to an "availability cascade" where a large number of people hold the same bias, not necessarily based on evidence.





In terms of trends, the number of people with zero close confidants has increased from 8% to 23% between 1985 and 2004. The number of really close friends we have is down from three to two between 1985 and 2004. But the number of social network "friends" we have, according to research among college students in the US, is up from 137 in 2006 to 440 in 2009. ⁴

Sources:

 Social Physics; Alex Pentland, Director, Human Dynamics Laboratory, MIT
 New Scientist, May 24, 2014 Robin Dunbar, Director of the Social and Evolutionary Neuroscience Research Group, Oxford University [New Scientist, May 24, 2014] Social Physics, Alex Pentland 4. New Scientist, May 24, 2014 based on statistics from the US General Social Survey and the University of California, Los Angeles

IMPLICATIONS



WHAT MAKES PEOPLE ACT? THE MOTIVATIONAL FRAMEWORK

This page is important because: UNDERSTANDING MOTIVES IS KEY TO EFFECTING CHANGE. There are 21 motives we can use to persuade people to act. If we select the right motive, we can trigger the desired action. With the right evidence, we can identify which motive to use to achieve the desired behaviour.

Social change theory shows that we can only change one behaviour, one audience, one motive at a time.

In other words, with the right analysis, it's possible to identify the key message and key interventions to achieve a preferred behaviour, like buying a product, saving energy or saving for the future.

The importance of the conscious and the unconscious

Each motivator will have a dominant position. For example, if I am persuading you to buy something from me because it is cheaper, that is a personal benefit and is more likely to be a conscious personal decision.

On the other hand, if I am wanting you to cross when it is safe, the green man makes it easy for me to act and is often a background or unconscious action. Each motive will have a dominant quadrant but motives and quadrants are flexible.

ONE MOTIVE TO RULE THEM ALL

Experience tells us three things:



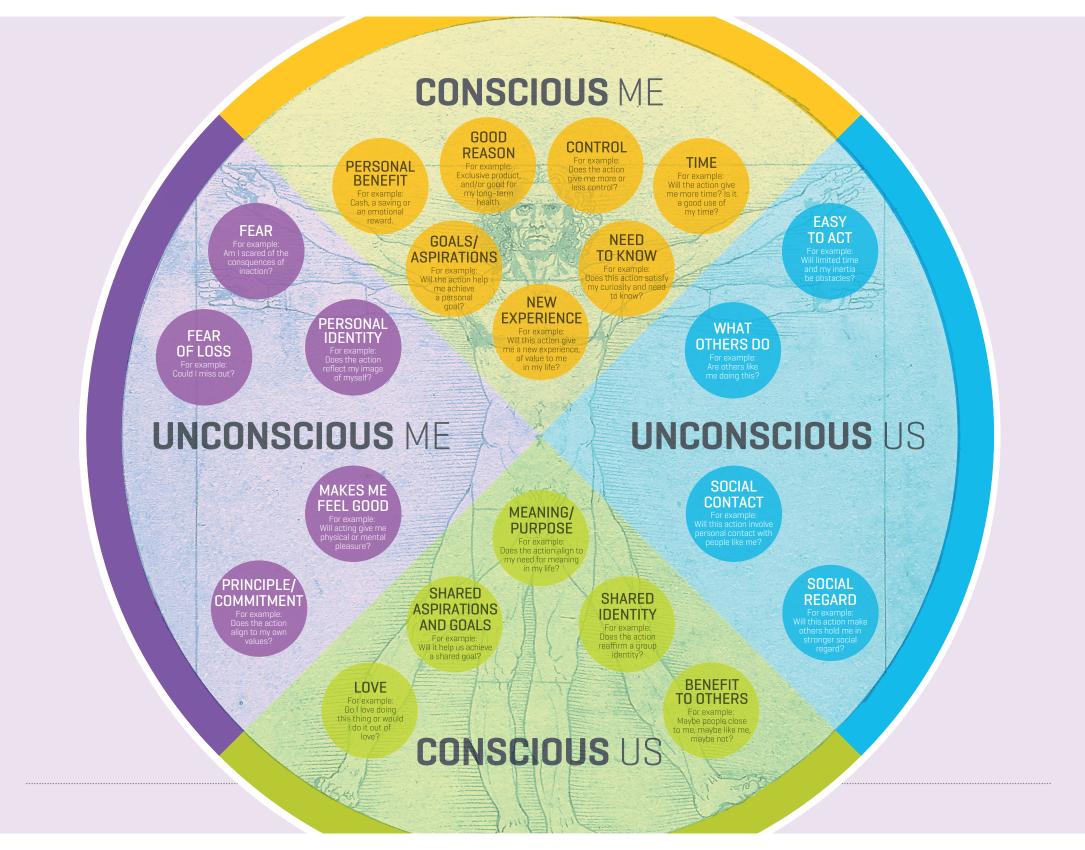
The odds are that there is a single dominant motive for any action.



There are likely to be two or three supporting motives.



Even if the motive is initially unconscious, if it is a newly adopted action it will almost certainly have to become a conscious action at some point.





THE SEVEN CURRENCIES



This page is important because: USING THE RIGHT CURRENCY MAKES CHANGE EASIER.

MONEY IS NOT THE ONLY CURRENCY THAT MATTERS. THERE ARE AT LEAST SEVEN CURRENCIES THAT PEOPLE VALUE.

1. MONEY

"The level beyond which experienced wellbeing no longer increases was a household income of \$75,000 in high cost areas. The average increase of experienced well-being associated with incomes beyond that level was precisely zero," concludes Daniel Kahneman ¹. Economist Angus Deaton of Princeton University concludes that income makes no difference to stress, worry or anger.

2. TIME

Time, and how we use it, is a tradable commodity. As students, we have lots of time, lots of social contact but less money. As workers, we trade that for more money but less time. In retirement we have more time but maybe less money and less social contact. In our working years, both as employers and employees, we consistently fail to value time. And yet, in Daniel Kahneman's evidence-based analysis of wellbeing, his conclusion is that "the easiest way to increase happiness is to control your use of time. Can you find more time to do the things you enjoy doing?" 1

3. SOCIAL CONTACT

Analysis of big data shows that greater numbers and diversity of contacts can spread ideas and improve productivity ². We know that social contact is hardwired into the brain. We also know that collaborative social contact is critical to the provision of essential services like food, water and energy ³. And we know social contact is an industry that makes money. Meaningful relationships are also key, not just for dealing with adversity, but for achieving goals and finding purpose in life ⁴.

4. INFORMATION

We crave news – local, national and international. We want news of people we know. We want to provide news. Over 2.5 billion use the internet worldwide. Over half the global population use mobile phones. We want TV and radio with us at all times. By 2018, 70 million personal health products will give us information about the food we eat, our moods, and the exercise we take. Information is a currency.







5. SKILLS AND LEARNING

We are a species that wants to achieve individual and shared goals. That requires skill. It requires learning. Too often, school has made us think of learning as a task. But our true nature is to turn knowledge into practice – that's what gives us lawyers, doctors, teachers, engineers and plumbers. But it's also what gives us amateur photographers, bloggers, filmmakers, musicians and marathon runners. Learning new skills is a currency.

6. SPACE

For hundreds of years, land was the most valuable currency. It was granted by the king to nobles as a reward for loyalty. It bound peasants to the nobility. It helped give the church its source of power. Livable space is sold as homes. Working space is sold for offices. We can trade our space temporarily to others [see the growth of Airbnb with 800,000 spaces to rent around the world]. We need quiet space, space to breathe, space to watch TV, space to eat. Space, of course, is a currency.

7. OBJECTS

We have a complex relationship with objects. They seem to be an extension of our sense of self. They have utility [for warmth, light, health, acquiring food], they define our image of ourselves, and the regard we are held in or wish to be held in by others. They may hold a story or an emotional link for us. They may also enable social knowledge or contact. One thing is certain, they are a currency in their own right.

THE IMPLICATIONS

As executives, if our thinking is confined to considering money as the only currency, we are not learning from the true nature of humanity and we are restricting our imaginations. All change requires people to act. It serves us all to know the range and depth of currencies that are important to people and that may have a role in persuading them to act.

Sources:

1. Daniel Kahneman. Also see 'A Reassessment Of The Relationship Between GDP And Life Satisfaction', University of Warwick; Dr. Eugenio Proto, co-author. 2. Social Physics, Alex Pentland3. Matthew D Lieberman

 See the work of Doctor Brooke Feeney, Carnegie Mellon University, and Professor Nancy Collins of the University of California

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM



THE TWELVE ACCELERATORS: TACTICS TO IMPROVE DECISION-MAKING

There are 12 tactics we use to improve the speed and the quality of our decision-making and the decision-making of others.

Knowing how to use these tactics helps us to knock through our biases and prejudices which are often barriers to progress. They can also help us to step onto a moving walkway – making it easier to achieve our goals later.

Here are the 12 accelerators:



This page is important because: LOTS OF TACTICS ARE AVAILABLE TO SPEED UP CHANGE.

HUMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM



IMPLICATIONS

PROVIDE EVIDENCE

"Opinion converges towards the truth as ideas are debated and new evidence is uncovered," says Nate Silver, who accurately predicted the winner of all 50 states and the District of Columbia in the 2012 US Presidential election. He does this by using Bayesian theory, taking out all the surrounding distractions and focusing on the evidence that matters ¹.

FRAME

How we frame something changes the decisions we make. For example, in an experiment involving physicians making recommendations for surgery for lung cancer, patients chose surgery 84% of the time when they were told that the one month survival rate was 90%. When they were told there was 10% mortality in the first month, only 50% chose surgery.

ENCOURAGE PRACTICE

Repeated learning improves memory retention. It takes a chess master 10,000 hours to attain high levels of performance. You have to do something 20 times before it becomes a new habit.

PROVIDE A COMPELLING NARRATIVE

Meaningful things are remembered for about 10 times longer than random, meaningless things ². Creating a compelling narrative for any institution helps give people meaning and purpose in their working lives.

REPETITION

The more we see something the more we like it. [see the work of Robert Zajonc]. That's why brands advertise. There is one other linked intervention interrupting a task greatly improves the chances of it being remembered ³.

SHOW THE BEHAVIOUR OF OTHERS

We know that we are influenced by others. We can use this to influence behaviour. This can be done by presenting evidence. For example, to help reduce binge drinking among students we might use beer mats to communicate that 65% of students in this bar have three or less alcoholic drinks per night. But there are substitutes for statistical fact – peer group opinion, peer group modelling and the influence of authority.

INCREASE SOCIAL CONTACT

"Good social relationships are like food and thermoregulation," says psychologist Martin Seligman. He believes they are universally important to people. We have also seen from Alex Pentland that more social contact can improve results. He uses an example of a call centre project where changing routines to enable more social contact improved productivity.

PROMPT

We can encourage people to act by reminding them how to act at the point in space and time it is relevant.

MAKE IT EASY TO ACT

If we want people to open a door we provide a handle. If we want them not to drop litter we provide a bin.

ENCOURAGE COMMITMENT

(and pre-commitment)

An NHS study showed that people were 18% more likely to turn up to a doctor's appointment if they personally wrote down the details. We have a tendency "to live up to what we write down" says Professor Robert Cialdini of Arizona State University.

ASK PEOPLE

Asking people for their opinions or solutions is an obvious intervention. It gives you insight and ideas. And it also gives the person being asked a sense of ownership of the issue.

MAKE IT PERSONAL

Whatever you are asking others for, make it personal. But personalisation needs to be authentic.

Sources:

1. Nate Silver, 'The Signal and the Noise'

2. Hermann Ebbinghaus

3. Bluma Zeigarnick



IMPLICATIONS

INSIGHT TO ACTION HOW IT WORKS

The knowledge we now have of human nature makes it easier to plan and implement change. It also shows the flow of ideas between the conscious and the unconscious.

Here are a few powerful examples:

SUGGESTED PRODUCTS

When iTunes, Amazon or Netflix have enough information about your shopping habits they can suggest products you may be interested in. This plays to your sense of personal identity. It also unconsciously gives you the impression someone knows and understands you.

LOVE FOOD HATE WASTE

The UK campaign to help reduce food waste is an example of a campaign that takes an often unconsciously held belief (I don't like waste) and brings it into the conscious mind. It also combines emotion (love/hate) with reason (practical actions you can take to reduce waste).

SMOKING CAN DAMAGE YOUR HEALTH

The use of health warnings on packs of cigarettes is an example of "conscious me" communications. It is also an example of how repetition can quickly move the message into the unconscious.

UNCONSCIOUS ME

CONSCIO

CONSCI

DON'T SPOIL A GOOD NIGHT OUT

The drinks industry's promotion of responsible drinking plays to the conscious (don't drink too much) and the unconscious (the impression I may leave with others if I get too drunk).

This page is important because: YOUR COMPETITORS MAY ALREADY BE APPLYING THIS.

RECYCLING ICONOGRAPHY



The use of the recycling icon on products has, over time, become an often unconscious prompt to recycle that product. It plays to the motive "easy to act". Recycling is more often than not an unconscious background action. Recycling in the UK is up from 12.5% in 2004 to over 43% today.

SALES

Sales encourage the conscious me to seek a bargain. But the fear of losing out cuts in unconsciously. After all, the sale only lasts for a short time.

29



IOUS ME

CHOICE ARCHITECTURE AND SAVING FOR TOMORROW

The Save More Tomorrow programme in the US invited employees to increase how much they have saved for the future, linking planned increases in savings to pay raises (to diminish loss aversion). These "auto-escalation" plans boosted annual savings by an estimated \$7.4 billion.

PEOPLE LIKE YOU ALSO BOUGHT...

Websites that tell you "people who bought this also bought..." provide you with information in the conscious but also tap unconsciously into your social self – the need to belong, the influence of others and the fear of missing out on what others are doing.

AUTOMATIC ENROLMENT

Automatically enrolling individuals on to pension schemes has increased saving rates for those employed by large firms in the UK from 61% to 83%. (Source: The Behavioural Insights Team, UK)

UNCONSCIOUS US



An energy-saving campaign in California showed that leaflets informing people about the energy-saving measures their neighbours were taking were more effective than telling them how much they could save. [New Scientist, June 22, 2013].



BENEFITS TO OTHERS AND ORGAN DONATION

at Other Items D

Canon - Canon

Canon Powers

Prompting people to join the Organ Donor Register using reciprocity messages ('if you needed an organ, would you take one?') added 100,000 people to the register in one year. (Source: The Behavioural Insights Team, UK).

PUTTING THE RIGHT STUFF DOWN SINKS AND LOOS

Is there a less glamorous campaign than Anglian Water's programme to reduce what people put down sinks and loos? Restaurants (among others) were causing blockages by putting fats and food waste down drains. Showing the impact on customers, the impact on sales and the practical actions employees could take to dispose of fats, dramatically reduced blockages.

NOUSUS

CONCLUSIONS

SEE HOW WE CAN HELP YOU: WWW.HOW-ON-EARTH.CO.UK | 0845 607 000(

ALL CHANGE IS ABOUT HOW PEOPLE ACT

EMPLOYEES

- ► Work efficiently
- Sell our products and services
- Satisfy customers

CUSTOMERS/CITIZENS

- Buy our products and services
- Save energy, water and resources
- ▶ Vote for us

EFFECTIVE CHANGE MUST BE BUILT UPON **AN IN-DEPTH UNDERSTANDING OF PEOPLE**

HOW WE'RE HELPING OTHERS LIKE YOU ALL OF THESE EXAMPLES WERE BASED ON UNDERSTANDING PEOPLE

BRINGING YOUR STRATEGY TO LIFE



WWF, supporting global roll-out of its Critical Contributions programme.

CREATING A COMPELLING NARRATIVE

nationalgrid

National Grid, winner of the BitC Award for Excellence, Company of the Year 2014.

ENGAGING YOUR EMPLOYEES

Unilever, Winning Together campaign implementation 2014.

REFRESHING YOUR BRANDS



Diabetes UK, developing a refreshed, purpose-driven brand to improve reputation and impact.

DELIVERING ACTIONABLE RESEARCH INSIGHT



Motivating Millions report, identifying priorities for leaders in sustainable business.

ENCOURAGING CUSTOMER BEHAVIOUR CHANGE

Anglian Water Keep It Clear, winner of Customer Engagement Award 2014, BitC Awards for Excellence.

ENGAGING WHOLE COMMUNITIES



BUILDING SKILLS

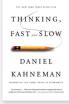


The Social Marketing Academy, our training arm, helps clients become more selfsufficient.

UMAN NEW INSIGHTS INTO THE HUMAN OPERATING SYSTEM

33

ADDITIONAL RESOURCES A COLLECTION OF SOME OF THE SOURCES FOR THIS REPORT



Thinking, Fast and Slow by Daniel Kahneman, winner of the Nobel Prize in Economics, 2002. Daniel is a senior scholar at Princeton University and Emeritus Professor of Public Affairs, Woodrow Wilson School of Public and International Affairs.



Sleights of Mind; what the neuroscience of magic reveals about our brains by Stephen Macknik,

Susana Martinez-Conde and Sandra Blakeslee. Stephen Macknik is Director of the Laboratory of Behavioural Neurophysiology at the Barrow Institute in Phoenix, Arizona. Susana is Director of the Laboratory of Visual Neuroscience at the same institute.



Social Why Our Brins Are Wind to Connet Matthew D. Lisberran

Connectome; how the brain's wiring makes us who we are by Sebastian Seung, Professor of Computational Neuroscience, MIT.

Social; why our brains are wired to connect by Matthew D. Lieberman, Director, Social Cognitive Neuroscience Laboratory, University of California.



anatural history of Human Thenking Social Physics; how good ideas spread – the lessons from a new science by Alex Pentland, Director, MIT Human Dynamics Laboratory.

A natural history of human thinking by Michael Tomasello, Co-Director, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.

Also, I recommend subscribing to **New Scientist**.



34

"This report is important in putting human beings at the heart of the journey to sustainable business, the sustainable economy and a sustainable society."

MIKE BARRY, DIRECTOR, PLAN A, MARKS AND SPENCER

If you want to talk further about sustainable behaviour change or anything else in this report, please contact:

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For more examples of how we have applied this thinking go to **www.how-on-earth.co.uk**

How on Earth and Corporate Culture are part of the Corporate Culture Group.