

Productivity is a leading concern of governments, organisations and economists. Roughly, it is how smartly we utilise resources – raw material, process and people – to create value. Part of that value is our wellbeing. Life has specialised in productivity for 4 billion years. Every species is a competitive productivity masterpiece. The rest are extinct. BIOLOGY can instruct us on productivity. Ever seen a biologist on a productivity initiative? Might this be a vital perspective on productivity?

Homo Economicus

Economics is not a 'hard' science. Economics tracks data related to monetary transactions and expresses opinions – not proven theory. Our economic self can be trapped by short term, financial perspectives. It makes dangerous errors.

In our debt crisis it prints more money. When it is obvious we must save it wants us to spend. Unchallenged growth prescriptions will guide the destruction of governments, the biosphere, and then society. Economics needs biology.

Homo Biologicus

Biology seeks to understand how life evolved. *How does it thrive? How does an ecosystem interact?* Biology is a 'hard' science. Our biological self understands living systems. It knows we depend upon a biologically diverse and resilient planet

The efficiency and effectiveness of living systems is stunning. From the hardiness of desert creatures to the swarming of locusts and the energy created by a forest, there are abundant examples of how living systems operate efficiently and effectively.

We have copied biology to boost the productivity of crops, animals, athletes and soldiers. It works. *How much could business and government learn from biology?* Yet it must respect economics.

Economics satisfies basic needs. Biology can help us reach our full potential. Together they can solve productivity issues and shape a better world for all.

Back to the farm

A farm transforms crop or animal inputs into outputs. Productivity is simple: how much produce can you extract on a sustainable basis? Farmers understand and manage the factors that determine productivity each season AND OVER TIME. Biology rules in their world. *What can we learn?*

Environment: factors like good soil, sun and rain are foundational. Farmers can influence this with fertiliser, lights and irrigation but selecting the right location for the crop is critical.

Genetics: if the genes of your crops or animals are not the best, your venture is over. Agriculture is ruthlessly crafting the best genetic pool possible. From the extraction of bull semen to the genetically engineered soybean, the effort to populate the farm with the best genes is eye-popping.

Discipline: good farmers master preventative maintenance – fencing, dipping, spraying, sampling (health checks), feeding, etc. *How often do you see an obese cow?* Infected crops are quickly destroyed. Management disciplines complete the cycle. The disciplined biological work of farming is the only way to sustainable productivity and meeting the world's food needs.

And the battlefield

Staggering resources go into the systematic training of unbelievably productive human beings. Olympic performance is a biological miracle. Top athletes and elite soldiers have cultivated the most extraordinary physical, emotional and cognitive resources. We hunger to see and understand them.

What can they teach us about productivity?

Talent and skill: the fit between task or role and the talent and skills of the person is key. Each sport and elite division requires very specific people. Special forces and rugby teams are comprised of highly specialised individuals each bringing valuable skills to a team effort. Remember the importance of emotional and cognitive skills in both areas. A third of Navy SEALs are university graduates and their empathy is world-class.

Much of the time taken to train an Olympic medallist or Navy SEAL is securing deep skill mastery in every likely environment. This is the 10,000 hours of purposeful practice required to be world class. They dedicate their lives to biological skills— body, heart and mind.

Self-discipline: these individuals have the drive to win and the tenacity to bounce back from adversity. This discipline allows them to stay focused on their dreams and goals, absorb the pain of relentless training and resist the temptations that many of us live for. The level of skill requires huge willpower – again biological.

The real world of work

Most workers have not signed up for an extreme lifestyle and yet we see daily news on executive burnout. Work pressures are straining our biological resources in novel ways. Work requires us to be present and competent on physical, emotional and cognitive measures. *What factors drive the productivity of our work?*

Environment: certain geographic, population and social factors affect productivity. Good workspaces, temperature, light, nutrition and interaction can help. Plants and views stimulate.

Human Capital Investment: employers can do much better. We could be much better at building, developing and retaining talent and skill. We lose too many people to destructive lifestyles – alcohol, violence, drugs, gambling and suicide. Life could be so much more healthy and productive. This is simple preventative health.

The biological evidence for productive life is abundant. We can bring this into our workplaces. *What knowledge, skills and practices could promote productive behaviour?* A farmer, SAS officer, sports coach or biologist can help.

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present to work optimised in
body, heart and mind.

Self-discipline: we work hard but not always smartly. Very few managers understand the biological disciplines and most workers fall prey to very unproductive behaviours – multitasking, impulsivity, sleep deprivation, obesity, overload, daydreaming and distress being just a few.

Biological solutions

The life processes that enable a fly hum away in our own beings. We are though, highly advanced beings, capable of an extraordinary emotional and cognitive consciousness denied to other creatures.

The most creative production is built upon cellular efficiency. It is our physical foundation that enables our emotions, mind and consciousness. In the last two decades biology has integrated emotion, mind and consciousness into study and theory.

So whether it is the physical wellbeing that keeps people well through a long working life, the emotional skills that bind a productive team, the mental acuity that analyses complexity, or the consciousness that sees novel solutions to intractable problems, biology now has the resources to help us achieve better outcomes.

Biology can help people present to work optimised in body, heart and mind. Once we are clear on the knowledge and validity of the interventions, business can quickly come up with a plan.

Low hanging fruit

Let's explore a possible top five productivity boosters through the lens of Homo Biologicus:

Sleep: sleep disorders such as apnoea, shift work, anxiety and depression wreak havoc on our bodies, emotions and minds. They affect about 30% of the population. Many more suffer disrupted sleep patterns, fatigue and lost productivity.

If we slept better and optimised our sleep cycle, productivity would leap. We could launch national initiatives to educate and nudge workers and their families towards better sleep.

Get rid of Daylight Savings. Early to bed and early to rise quickly improves sleep and lifts productivity.

Willpower: self-discipline underpins willpower and empathy. We have limited resources for productivity thinking. The enormous demands of careful and creative thought cause it to be switched off if we do not rest and rejuvenate. An entire science is building around this concept.

We could educate and up-skill on the importance of relaxation and periodisation. The latter is the discipline of switching tasks skilfully, so that what you are doing – email, parenting, meeting, driving, and resting – gets your full attention. Current science shows that these disciplines change the brain in ways that support enhanced productivity.

Start with making your bed, exercise and eating as a family. Then train your mind through meditation. Your brain becomes increasingly productive.

Exercise: no need to rehash the obvious. Exercise benefits every measure of productivity at all levels. In addition it is the surest way to reduce the burden of disease and maintain productivity of older people – and keep our kids out of trouble.

We should tax the inactive and reward the fit. Remove chairs and make people stand at work.

Nutrition: long before we fuss about smoking we should fix the nutrition issue. We are undermining our biology with poor quality food. Obesity, diabetes, attention disorders and most chronic disease are promoted by poor food choices causing massive personal suffering and productivity loss. Tobacco pays. Food does not.

We should immediately tax poor quality food at the same rate as alcohol and tobacco.

Positivity: while pessimists are more accurate in prediction, optimists are way more productive in innovation, sales and personal wellbeing. Those who cultivate positive emotion generate payback in wellbeing, test performance and social success. Studies show that a ratio of 3 positive to each negative emotional signal lifts team performance as well as individual wellbeing and productivity.

We can learn to build positivity through a range of simple attitudes, exercises and team support. High performing organisations, schools and the entire US Military have already started this journey.

Gritty issues

While we can be light hearted about the obvious first steps, we cannot skirt around the delicate issues in a modern democracy. People don't want to be told what to do and we prefer to satiate immediate needs rather than save for a rainy day.

If we are to thrive - let alone survive - we must engage biological solutions. We all know that world population must shrink and consumption must reduce.

Our H Economicus believes we can spend and consume our way to productivity, growth and paradise. This leads us down a death spiral of debt, dependency and greed. Our H Biologicus knows that we must confront tough choices.

If we are to survive – let alone thrive – we must engage biological solutions. We all know that world population must shrink and consumption must reduce. If not, it is GAME OVER for us (and our biological neighbours). Biological productivity will need a firm and compassionate hand.

Both David Cameron and Obama have turned to the Nudge idea. Libertarian paternalism engineers situations so that people make better choices without really knowing it. Meanwhile consumer marketers work to nudge you to their profits.

While many of us may resist the paternalism of Singapore, the longer we spend our way down the death spiral, the more draconian solutions will become. Would you rather be living in Singapore or Greece right now? This is the dilemma of the modern democracy under sway of H. Economicus.

If H Economicus drove capitalist democracy, H Biologicus might drive our future governance.

Leadership required

Leaders are looking at system-wide solutions respecting our dependency on a healthy planet. For a brief view one can have a look at the Integral Institute in Boulder Colorado or the work of Fortune Conferences such as Brainstorm Green.

Some closing thoughts:

1. Study up on biology including preventive health (Gates), emotional intelligence (Goleman) and neurobiology (Davidson).
2. Talk to farmers, sports coaches and elite soldiers. Seek their advice.

3. Get briefed on environmental trends
4. Take a look at how you are living your own life. You must be a good example.
5. Balance the pressure of next month's profit with the world you leave to your children.
6. You will need courage and patience.
7. Get a biologist onto your Board or into your productivity initiative.

We lose too many people to destructive lifestyles - alcohol, violence, drugs , gambling and suicide. Life could be so much more healthy and productive

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