

THE RACE FOR SUSTAINABLE DEVELOPMENT

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The world has changed a great deal in recent times and the challenges which present themselves are unlike any that we have faced before. Foremost among these are climate change, world poverty and the many forces which are inextricably linked to these such as population growth, economic development and the spread of technology. Here the convergence of these pressures is examined in light of the challenges and opportunities offered by globalization. The role of information will be examined with the view to shedding new perspective on some of the more pervasive problems which accompany globalization and economic growth.

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The gun fires. Your muscles tighten, you jump off the start line. “Calm down” you tell yourself. There is chaos. An elbow here, a palm there, you struggle to find your space. The field spreads, the pace quickens. Or maybe the pace quickened first, causing the field to spread. You forget. Your heart plays pinball inside your chest, you can feel it hammering away. Your legs feel heavy as the unmistakable sensation of lactic acid overwhelms you. Pins and needles pierce your skin and sink into muscles you never knew existed. It is too late. You hit the wall three quarters into your mile. Runners pass you left and right, you slow to a jog then stagger to a halt. Your head is spinning. Your race is over – your pace was unsustainable.

The question of sustainable development is one of the most intractable questions of the modern age and one which is increasing rapidly in urgency. Sadly this urgency has less to do with the fact that millions of innocent people are dying from easily-preventable causes than reasons of pure economic self-interest. Although widely recognized that, in the long run, economic prosperity and environmental sustainability for *all* benefits *everybody*, the causation of this sudden urgency is the other way around it has arisen because the realization has hit us that, if *we* don't act with the utmost expediency, then we will *all* soon feel the direct effects of our failures: The scarcity brought on by climate change has finally tightened the time scale of the feedback loop enough for us to feel it. So much for altruism.

Forgetting for the moment about sustainability, there are many problems with development and these are only exacerbated when sustainability is thrown into the mix. Different countries have developed via very different paths and in very different environments. Some, such as South Korea and China, have started with a focus on health then followed with a focus on wealth, while others as diverse as Brazil and the United Arab Emirates, for very different reasons, have

done it the other way around. There have also been significant *shocks* to development for which economists generally don't plan, such as long droughts and world wars. Information technology has also changed the landscape of development introducing variables which development practitioners would not have even imagined as recently as ten years ago. The issue of population growth further complicates matters: current developed countries simply did not have to consider the astronomically higher numbers of people which current developing behemoths such as China and India must.

Perhaps we, the citizens of this planet, are fortunate. No, I *know* we are fortunate. The size of this planet, the composition of its atmosphere, and its distance from the sun (among many other critical factors) are just about exactly fine-tuned for humanity to have flourished in the way that it has. Or perhaps it is the other way around: we have evolved to be perfectly well-suited to developing the way we have on this particular planet. It is also fortuitous that the issues of wealth disparity, environmental sustainability and growth of the global economy have come to the forefront within such a short time of each other, allowing us to more easily see their interconnectivity and the necessity of an integrated solution. In any case, neither the parameters of the planet nor the biological makeup of humankind are easily or quickly alterable so it would be prudent for us to be careful in all matters which may disturb the delicate balance that governs the relationship between us and our environment. It is an important relationship, and we can't just 'break up' when things get too hot.

Globalization is our best hope. The monotonic increase in connectivity in the global community has been a given for a long time. The progress of this connectivity in the economic realm has far outstripped that of any other, except perhaps information technology. The result of this

laissez-faire global expansion is that, without any other significant power than the market to hold back the invisible hand, a great many things were exploited including people and, of course, the environment. As a result of this, globalization has been politicized as the devil that increases disparity. But if I give a hammer to a person who then kills someone with it, does that make the hammer evil? While the exploitation is obviously deplorable, I believe that this perspective could easily be the other way around – hammers can be fabulously creative tools as well: what would Rodin have said if we had accused him of using *evil* tools?

Globalization is the infrastructure through which global problems will be addressed with global solutions. The problems brought on by climate change especially, are necessarily global in nature and any effective solution will necessarily require an operational framework that only a global tool like globalization can provide. In addition, the kind of increases in productivity needed to raise the poorest of the poor out of poverty will require a division of labor on a scale which can only be realized within the framework of globalization. Many cite the increased complexity of these new frameworks as *unnatural* and therefore ultimately doomed to failure. Still others argue that humans are naturally exploitative and that larger networks will only lead to greater exploitation. However, I believe that it is the other way around, that the current climate of exploitation is only temporary and increased connectivity is perfectly natural – after all we evolved in an environment of an iterative game, where cooperation is the norm and exploitation the exception (à la *tit-for-tat*, in the iterated *prisoners dilemma*).

We have not so much outgrown our planet as we have outgrown ourselves. The world in which Adam Smith wrote *The Wealth of Nations* is vastly different to ours, and the theory of free markets seems as out of place as classical physics in a relativistic world. The sheer size and

complexity of networks in the world we live in requires that we can no longer apply theories which assumed negligible transaction and information costs. These assumptions predict a world in which the market is able to efficiently and fairly allocate resources, but it is clearly the other way around – lack of good information leads to an inefficient and, importantly, inequitable distribution of resources. We have grown past the realm where transactions are simply impersonal, and where institutions keep transaction costs reasonable, and into a world where effective information transmission is the dominating force in our decisions concerning the division of these scarce resources. There are enough resources in the world to go around but, owing to the quirks of the geopolitical climate brought on by self-reinforcing path-dependencies (like that darned *qwerty* keyboard), we continue to fight wars over them, both on the ground and in the boardrooms of diplomatic institutions and multinational corporations.^a

Information is now the world's most valuable commodity. The distribution and dissemination of information will rise exponentially in importance as we continue to struggle with these problems. The institutions and infrastructure that globalization will provide will facilitate a global division of labor on a massive scale which will, in turn, require cooperation between world leaders on a scale which has hitherto never been seen. As human networks increase exponentially in size and complexity, the infrastructure of information will need to keep up, in fact, it will need to catch up. The disadvantages caused by the disparity in information – the information asymmetry between the haves and have-nots – are at the heart of the causes of wealth disparity around the world. It is somewhat remarkable that in this modern age, an information advantage can still lead to unfair bargaining which then leads to an inequitable

^a*Path dependency* is the phenomenon of choices being made which become very difficult to reverse or change. For example, the *QWERTY* keyboard was originally designed to prevent early typewriters from jamming by *slowing down* the typist through a deliberately inefficient arrangement of keys.

equilibrium. But *Black Swans* like the internet are turning this the other way around: access to information is flattening the world.^b Our challenge is to proceed both cautiously and with the utmost urgency and expediency.

The role of the state is now more important than ever. Due to its unique comparative advantage in the collection of information, it will always have an unusual advantage when it comes to information asymmetry. In the tradition of mechanism design theory, through the rule of law, the states responsibilities will now encompass the nurturing of global institutions in order to mitigate the effects of negative externalities of globalization and ensure that everyone gets a slice of the bigger economic pie. It must ensure that the cogs of this intricately balanced machine continue to spin because, even if this machine might make things worse, it may also make things better, but if it becomes trapped in its current state, our world will surely spiral towards disaster. The damaging costs of war are no longer linked to the question of direct economic and human loss, the unsettling of these cogs by conflict will adversely threaten the goal of keeping the world sustainable for us to live in. Some say that this kind of international cooperation will only be realized once world peace has been established, but I believe that it is the other way around – unless we can establish this kind of cooperation, world peace will *never* be established.

Things do not look good. The population continues to grow alongside its ecological footprint. The benefits of globalization are struggling desperately in a losing race with its own unfortunate ill-effects. Over a billion people continue to ‘live’ on less than a dollar a day. Our

^bA *Black Swan* is a term coined by Nassim Nicholas Taleb in a book of the same name. It is a phenomenon which satisfies three criteria: it (1) lies outside the realm of regular expectations, (2) carries an extreme impact, and (3) there is a tendency to try to explain it in a way that makes it seem less of an outlier *after* the event. It is named for the discovery of black swans in Australia (all observed swans prior to this were white.)

information technology struggles to keep up with the mammoth demands that are made of it. Global warming continues to wreak havoc with the world's climate in ways which we are only beginning to understand. Climate shocks have a long and well-documented history of precipitating social upheaval and have already been found to be an important factor in several current world conflicts. Unless we learn to bring these diverse disciplines together and recognize the inescapable connections which exist between them, we will be faced with an unpleasant climate, both meteorologically, economically and politically from which there will be no escape. There is certainly no *other way around* and if this does not change, the world will certainly not end, but it will become a world which is far more difficult to inhabit, a world which will not be able to sustain even a fraction of our current population and a world in which our current level of productivity will be utterly unfeasible.

It is somewhat sad that it has come to this. I had hoped that we would address these problems sooner and for no other reason than for equity's own sake. Unfortunately, this is often not good enough, so now economics compels us to act. We are forced not by our conscience but by the threat that the very equations which govern the allocation of scarce resources, both natural and human, will consume civilization as we know it and replace it with something far less palatable. Without global cooperation, we cannot hope to solve any of these problems in the long run and with a fifth of this *globe* living in abject poverty, we can only be a fraction as effective as we should be in trying to break out of this cycle. Unfortunately, as climate-caused complications worsen, the economies most vulnerable to the changes are negatively affected, making it even more difficult to find their way onto that bottom rung. We need to harness the power of positive feedback and exponential growth to everyone's advantage and travel upwards on this unfortunate spiral before it is too late to turn this cycle the other way around.

By putting the word ‘sustainable’ alongside ‘development’, we thrust the issue into the realm of economists, who generally sit higher on the policy pecking order than environmentalists. But, this is not just a problem for economists – this problem affects us all. We need to educate ourselves and recognize this unique historic opportunity and seize it. We must be creative in our approach, and if we get stuck, we must find another way around because the stakes are too high for anyone to ignore – economic prosperity is useless if the environment cannot sustain it – we would simply be betraying the trust of our descendants. We haven’t hit the wall just yet, and nobody is going to pass us on this race, but if we don’t want to run ourselves into the ground we need to keep our wits about us and realize that the real urgency isn’t in reaching the finish line quickly, but in staying on our feet to ensure that we reach it at all.

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