

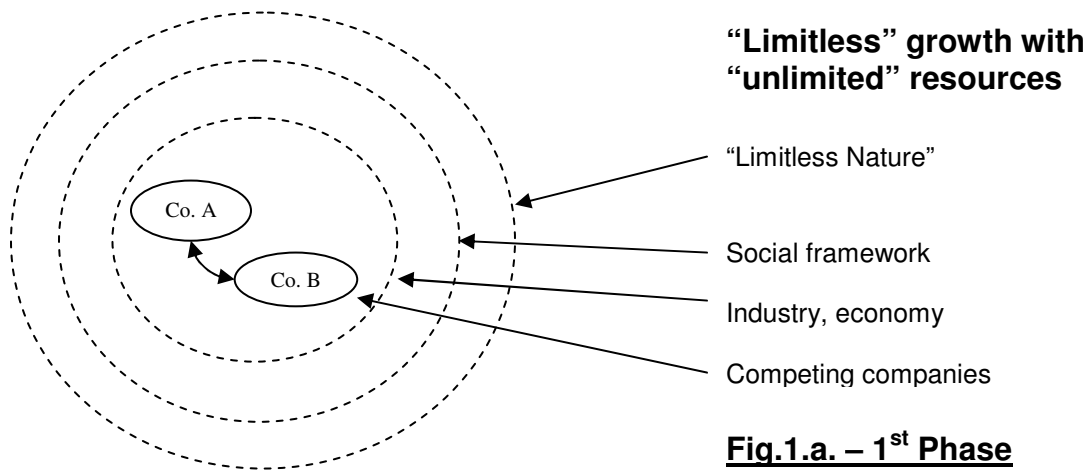
## APPENDIX 1

In BComm Quarter 2, I wrote *Measuring S/Core Values*, a case study that developed a Green Strategy benchmarking model, then used it to analyze the sustainability positioning of Patagonia Corporation. **For that paper, the Industrial Age was divided into three phases, slightly modified here:**

- **1<sup>st</sup> Phase:** Unfettered linear production without regard for waste inputs into the natural ecosystem. Aided by government, industries ravage resources without regard for the effect on ecosystems and inhabitants. Private profit without social responsibility is the watchword of these private organizations and the Government Organizations that enable them.

1st Phase organizations view themselves as competing in an open society unconstrained by “irrelevant” natural ecosystems. Raw materials are considered unlimited:

“(When) the industrial system was small, we regarded the natural global ecosystem as limitlessly vast. As a result we treated the functioning of the natural system as irrelevant to our industrial operations.”<sup>1</sup>

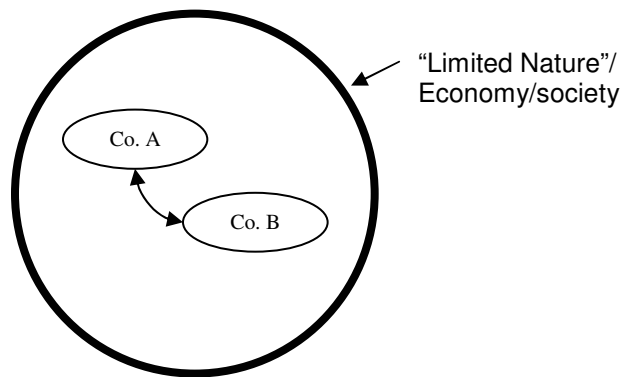


**Fig.1.a. – 1<sup>st</sup> Phase**

Modelled by D.Huer after H.Tibbs

- **2<sup>nd</sup> Phase:** Linear production within a regulatory framework, where industries are required to manage and limit toxic outputs. Industries reduce costs by influencing and deal-making with government to ensure that minimal fines are levied for failing to conform to regulations.

2<sup>nd</sup> Phase organizations accept constraints on operations, but camouflage their activities by engaging in deal-making with regulators, while working to subvert the development of an effective constraining regulatory framework. Government Organizations extend regulatory frameworks to extend their own use of the government purse, and actively seek to circumvent diminution of their mandate.



**“Limited” opportunities  
if world is “limited”**

**Fig.1.b. –1<sup>st</sup> and 2<sup>nd</sup> Phase  
Perspective of 3<sup>rd</sup> Phase**

Modelled by D.Huer after H.Tibbs

- **3<sup>rd</sup> Phase:** Closed Loop production where industries desire to produce economic value-added inputs into the natural ecosystem by limiting, reusing and recycling waste outputs, and reducing negative feedstock inputs. Political change forces Government Organizations to adopt cost-effective strategies that diminish government control by removing regulatory constraints (“red tape”) or transferring government operations to contracted private operators.

### **Resource Management Perspectives**

1<sup>st</sup> and 2<sup>nd</sup> Phase organizations are characterized by short-term, linear “end-of-pipe” thinking where the intent is to produce a Value Chain that continuously consumes and excretes new material. The former uncaringly dump waste. The latter monitor end-of-pipe waste to minimize resource costs, but neither minimizes resource use or waste production.

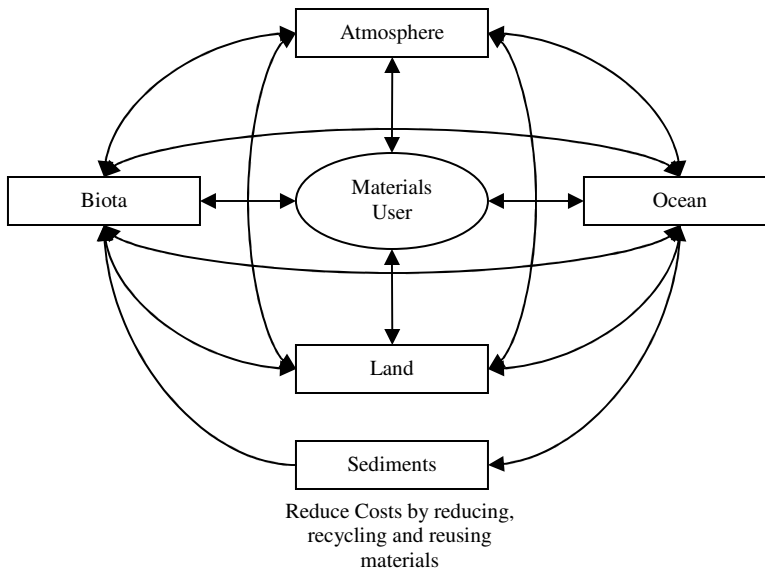
3<sup>rd</sup> Phase organizations have a Value Loop perspective; waste is minimized and inputs emphasize value recovery. Unlike 3<sup>rd</sup> Phase players, 1<sup>st</sup> and 2<sup>nd</sup> Phase organizations are often unable to adapt to emerging 3<sup>rd</sup> Phase IE models, because of an outlook where minimized waste inputs is viewed as limiting the opportunity to consume and waste at will.<sup>ii</sup>

In his seminal paper *Industrial Ecology: An Environmental Agenda for Industry* (1993), Hardin Tibbs detailed the likelihood that an inability to move from 1<sup>st</sup> and 2<sup>nd</sup> Phase<sup>iii</sup> to 3<sup>rd</sup> Phase outlooks will end in the near-term death of some players in reputable markets, and systemic organizational die-offs over the long-term.

“in the emerging world order, entire industries will also go thixotropic, swallowing entire companies, even industries. Learning to spot the market conditions and factors that can trigger this process will be a key to future business survival, let alone success.”<sup>iv</sup>



**Fig.1.c.1. Linear resource use (Value Chain) in 1<sup>st</sup> & 2<sup>nd</sup> Phase organizations**



**Fig.1.c.2. – 3<sup>rd</sup> Phase: IE (Value Loop) modeling**

Curved connectors are used in place of linear connectors, to reflect the balancing goal of industrial ecology.

Interestingly, Tibbs used linear connectors, perhaps to enable old order players to align themselves within the emerging industrial ecology model of sustainable capitalism.

(DHuer after Tibbs, 2003).

Tibbs observes that “the emerging agenda requires a shift to “long-time;...thinking across decades.”<sup>v</sup> Tibbs’ model demonstrates how industry can fit into the natural ecosystem, and how adoption of natural systems (bio-mimicry) produces value for industry. The framework offers the means to reconcile differences while adopting IE thinking relatively easily. Overall, IE provides a convincing means to argue that “limiting bigness” while accommodating “openness to growth” realizes opportunities for effective change, sustainable growth and added value—all elements of competitive advantage.

<sup>i</sup> Hardin Tibbs, *Industrial Ecology: An Environmental Agenda for Industry*, (Emeryville, CA: Global Business Network), 1993., p.3-4.

<sup>ii</sup> Unfettered activity that Elkington (1993) calls “Locust” behaviour.

<sup>iii</sup> Our 1<sup>st</sup> and 2<sup>nd</sup> Phase industrial system is “thixotropic” – it is turning “jelly” because of a values-based crisis and changes in universal perspectives. (Adrian Henriques and Julie Richardson, *The Triple Bottom Line: does it all add up?*, (London: Earthscan), 2004, P.3.

<sup>iv</sup> Adrian Henriques and Julie Richardson, *The Triple Bottom Line: does it all add up?*, (London: Earthscan), 2004. p.3.

<sup>v</sup> (1) Adrian Henriques and Julie Richardson, *The Triple Bottom Line: does it all add up?*, (London: Earthscan), 2004, p.5-6. (2) “Preserving life should be the natural result of commerce, not the exception.” (Paul Hawken, *The Ecology of Commerce*, (NY: HarperCollins), 1973, p.12-13.