electronic switching — from the innovation of the Flemming valve to complex products containing thousands of switches — led to digital calculators and computers. As these industries evolved they drove further demand for electronic switching.

The effect of these forces is that whilst infrastructure provision may become more efficient, the overall demand for infrastructure will outstrip these gains precisely because infrastructure has become a more efficient and standardised component. We end up using vastly more of a more efficient resource. This effect is not new. It was noted by Willam Stanley Jevons in the 1850s, when he "observed that England's consumption of coal soared after James Watt introduced his coal-fired steam engine, which greatly improved the efficiency of Thomas Newcomen's earlier design"

In figure 143 I've outlined the main effects. First (*point 1*) you have an activity that has evolved from genesis through to product and is finally becoming more industrialised e.g. a commodity or a utility. This will allow for more efficient provision of the act through volume operations.

However, the more industrialised component can enable greater use of the component as previously uneconomical acts become viable (*point 2*). There can be a long tail of things we'd like to do and unmet needs which are enabled by the efficiency of provision. The final aspect (*point 3*) is consumption of the component will increase as new industries that it enabled start to evolve.