

# The Liberal Regime in the Millennium

## Competition Policy after Microsoft\*

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— ABSTRACT —

The Microsoft anti-trust trial in the US has brought to the fore – implicitly, but nonetheless – the most serious challenge, so far, to competition policy and hence to liberalization. This paper proposes a positive, if major, step beyond, to consolidate and extend our gains, based on widened understanding of industry mechanisms. The focus is on operationalization of a core set of new ideas previously set out.

The anti-trust law, under which Microsoft has been sued, dates from the turn of the century, now a century ago. Critics, even in some cases opponents of Microsoft, complain that the doctrine was construed for ‘smokestack industries,’ beginning from oil and rail, and ill fits present-day high technology. Particularly, critics object that though the policy might have fit a static market, today’s rapid evolution of technology requires something different. Thoughtful scholars who look beyond neoclassicism – knowing that even oil and rail on occasion exhibit dynamism, beyond neoclassicism’s limiting statics – the vision of these scholars may long have peered beyond anti-trust and seen a need for a basically different approach.† However, little has so far been made of the opportunity the Microsoft trial affords, to think about positive steps and to move beyond traditional anti-trust doctrine.

As the core safeguard, to assure a level playing field with full and fair competition, anti-trust is the barrier against transgressing behavior, the principal guarantor that competition policy may deliver as promised. To rattle those foundations, under competition policy, makes a profound impact. At stake in the questions about anti-trust is the entire policy edifice of competition and liberalization, the engine that drives Western reforms now delivered around the world through the likes of the IMF and WTO.

The colloquy is not limited just to the US. Concerns about Microsoft hegemony have arisen periodically in a number of countries. Though the trial emanates from the US, its troubling questions may now reverberate in other ears. The impact is to leave an open question about the suitable path ahead for policy that has so far been sacrosanct – indeed, the case puts

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\*\*\* The Eighth International Joseph A. Schumpeter Society Conference – The Millennium Conference, “Change, development and transformation: Transdisciplinary perspectives on the innovation process,” 28<sup>th</sup> June - 1<sup>st</sup> July 2000, Manchester, UK. <http://les1.man.ac.uk/cric/Schumpeter/default.htm> .

† S. Klepper and S. Graddy, “The evolution of new industries and the determinants of market structure.”

on trial, itself, the policy foundation under Western liberal reform of world economics, though now increasingly diffused and implanted.

Building from new understanding of industry mechanisms, this paper considers a positive, if major, step beyond current policy for liberalization. Dynamics are the core from which this step springs (and may prove applicable to what are usually thought to be more traditional industries). The new model builds from my previous work which so far has posited just the main ideas. This paper is particularly concerned with operationalization of such a new model. The analysis takes cases from the Internet as basis for inference; with the both collision and convergence of computing with telecommunications, the model applies directly to the emerging new combined network – whether it applies more widely will be one of the livelier debates.

## The Liberal Regime in the Millennium Competition Policy after Microsoft



Whither (economic) liberalism?

Diffusion of the Western economic ideal worldwide *seems* to be in full tilt, with the WTO, the IMF and the Group of 8 for example all active instruments of the mission. Liberal capitalism is the automatic choice – ideologically. Yet at the level of practice, cross-currents continue to buck the tide. The Chinese – a sixth of world population – continue to insist on a ‘Chinese path,’ all the while they negotiate their way into Western-sponsored institutions; history makes clear their perseverance, for their own choices. Japan persists, despite all, with its unique style of capitalism. These are just some examples.

And the US, the citadel, the bastion of liberal capitalism? We will pass by other practice contrary to the ideology, such as unabashed use of its world power to promote US industry, and go straight to the main event: Structurally the economy has significantly concentrated, so reducing the number of actors who might otherwise effect the competition at the heart of the liberal ideal. And the process of concentration is accelerating fairly dramatically.

As one measure, compare merger and acquisition activity (in the table, “Mergers”) between earlier and later periods in the last almost two decades.

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\* New York Times, Sunday, November 14, 1999, Week in Review. As the cartoon conveys, one contradiction, inherent to today’s capitalism and embedded in anti-trust, is particularly acute: where is the dividing line between ‘competition’ and that which is ‘too competitive’? Rather than a scheme with such a puzzling contradiction, our quest here is for a conception which itself resolves such problems, internally.

| <b>MERGERS, during:</b> | <b>Time period</b> | <b>Number</b> | <b>Total value</b> |
|-------------------------|--------------------|---------------|--------------------|
| Reagan/Bush             | 12 years           | 44,518        | \$2.17T            |
| Clinton                 | <8 years           | 71,811        | \$6.66T            |

Table 1 – **US** mergers and acquisitions, past two decades<sup>1</sup>

Though the time span of the Clinton administration is less than two-thirds that of the Reagan/Bush years, the number of mergers and acquisitions has close to doubled, while the value has more than trebled (unadjusted, anyway). The acceleration in concentration is palpable. As with most all accelerating phenomena, the acceleration itself will not continue indefinitely. But long after the flow has subsided, the stock – that is, the much more highly concentrated economy, with many fewer actors to promulgate and prosecute competition – will remain.<sup>2</sup>

Is this concentration, and removal of actors who – now – will not enliven competition, limited to the US?

| <b>MERGERS</b>     | <b>'94</b> | <b>'98</b> | <b>'99</b> |
|--------------------|------------|------------|------------|
| <b>Total value</b> | \$163M     | \$720M     | \$1.65B    |

Table 2 – **European** mergers and acquisitions, comparative years<sup>3</sup>

The collection of economies and societies which comprise Europe, though coming more lately to the trend, also show acceleration in concentration / diminution of number of competing actors. Just these data, though at a scale some orders of magnitude reduced from the US frenzy, show a 45 percent CAGR in merger and acquisition total value over the four years '95 through '98, then a more than doubling in the single year '99. Again, the taste lingers and lingers, long after the meal flows through.

In the midst, Microsoft managed to get itself sued on anti-trust grounds, not even for merger and acquisition activity (even if it has been a most voracious acquirer). The case has raised up to the surface hard questions about the utility of anti-trust doctrine; and these questions

<sup>1</sup> Source: Thomson Financial Securities Data; see for instance New York Times, Sunday, June 11, 2000, Week in Review, “oli•gopo•ly,” Stephen Labaton, page 1.

<sup>2</sup> Yes, these data do not adjust for new firms created, and so added to the stock of available competitors (or for that matter, firms closed and so subtracted). But anecdotal data suggest that the ‘new economy’ sector which is such a fertile ground for new-firm creation *also* gobbles up most of the self-same new firms as later acquisitions, if that new firm does not first fail. Perhaps more telling is the observation of one person who is responsible to review mergers and acquisitions for a major competition authority. He notes that ‘new firms created’ is the standard defense from executives of firms who propose to merge – that source for the defense does not enhance its credibility.

<sup>3</sup> Source: also Thomson Financial Securities Data; see in this case Financial Times, June 30, 2000, Survey, International Mergers & Acquisitions, “Global ambitions fuel a takeover boom,” Juliana Ratner, page IV.

focus on the ‘Microsoft sector,’ unavoidably one pole of what is called (perhaps inaccurately) the ‘new economy.’

More than challenges from non-Western cultures, direct questions about the anti-trust safeguard – in the face of hard evidence for accelerating concentration, against which that safeguard is *the* principal stopgap – bring opportunity to inspect our liberal regime (however little such opportunity may so far have been seized). In the next few pages we are going briefly to journey there. Our travel plan has three legs.

- The first (in two parts) looks directly at how the Microsoft suit raised questions about the standard liberal regime. Along the way we see that our topic more broadly is the tension between order and chaos in economic behavior. Ultimately we set ourselves on course to consider further evolution in the liberal regime, stepping from the past history of the last few hundred years.
- Being thus duly invited, we look to a model which could extend and evolve the liberal regime appropriately. With suitable dynamics the key need, we build both a stock and flow for two parallel architectures.
- Finally, we consider operational policy in such an evolved regime, particularly next forms for anti-trust and, more briefly, intellectual property rights and privacy.

In the trek through these three legs, there is more than one occasion for a sidebar – a side trip – though not directly on topic, we reflect on the topic from an unaccustomed vantage point.

#### TREK: LEG I

##### HOW THE MICROSOFT SUIT RAISED QUESTIONS ABOUT THE STANDARD LIBERAL REGIME

In a first part, we ask how the anti-trust suit raised questions about the liberal regime, finding that in fact our larger concern is the tension between order and chaos. Directed by this result to focus on the liberal regime, we turn to its evolution, stepping from past history.

#### **Order and chaos in economic behavior**

When the anti-trust remedy is applied to Microsoft, key industry features are lost.<sup>4</sup> Even some of Microsoft’s staunchest critics lament the difficulties.

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<sup>4</sup> Before we get to key industry features lost: The remedies that standard anti-trust doctrine might itself proffer *also* are severely criticized as ineffectual.

Conduct remedies, such as limits or prohibitions on certain Microsoft behaviors, were dismissed fairly early on. Microsoft had, for all intents and purposes, ignored the conduct limits supposedly imposed by a Consent Decree signed previously. Perhaps more important, experience from the AT&T Divestiture became an object lesson about conduct remedies. With another District Court Judge, Harold Greene, effectively in charge of the telecommunications industry precisely because of Divestiture-imposed conduct (along with the structural) rules, industry evolution was often paralyzed for months or years at a time as matters wended their way through the judicial hierarchy.

The District Court Judge in the Microsoft case, Thomas Penfield Jackson, has ordered a structural remedy (with conduct restraints preceding, the aim to stymie further bad behavior during the time the structural changes are progressively implemented [though stayed, with the appeal to the Supreme, now Appellate Court]). But the Judge’s order for a structural breakup into an Operating System Company and

For example and most notably, Microsoft has effectively set a world standard for operating system/OS software on desktop computers. There is (justified) grumbling about the quality of the software which Microsoft has effectively standardized. But the existence of a (relative) standard is appreciated, if silently, in quarters around the world – and the standard is crucial to our ability to realize productivity gains. The contrasting experience with for example UNIX, which only comes in separate flavors, helps to illustrate how a standard qua standard profoundly impacts value and productivity.

Further, there can be gains from product integration. The Microsoft trial Judge Thomas Penfield Jackson's decision has turned upon a rejection of Microsoft's integration of its browser into the OS. But the evolutionary history of OS'es is, in many ways, the story of previously independent features that are integrated into later OS versions. To put the matter more crisply, integration – done right – brings performance gains.<sup>5</sup>

The standard anti-trust remedies make no provision for these key industry 'features,' standardization and product integration. And these are just some examples. To put the point generally, anti-trust threatens to contravene salutary industry 'jointness' – all the while that innovation, stemming from competition and competitive fervor as a principle means, remains of course crucial.<sup>6</sup>

What is missing is a place for collective choice (such as to set a standard), specifically a place for the dynamics of such choice. We need a place in economic theory for a *process* of collective choice.<sup>7</sup> This is alongside individual choice, essential for innovation through competition, where the theory is already so well worked out.

Individual choice, and the 'market place' in which we set it, speak of: freedom, lack of direction and a positive absence of externally imposed structure, even perhaps a certain timelessness. Its Janus twin, collective choice, is surely the reverse, connoting: structure, an agreed framework and coherence among the pieces, also some permanence. If we generalize, the contrast is between more secure order cobbled together through the agreement of some group *as against* the salutary, if uncharted, chaos<sup>8</sup> of unfettered individual behavior – order vs. chaos.<sup>9</sup>

With individual and collective choice harnessed together, however, this is no longer the static dichotomy between market and hierarchy – instead, order and chaos are twinned, in an on-going tension. And because the scenario we need is a process – it is dynamic – the tension, and relative weights, between order and chaos may continually re-configure.

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an Applications-plus Company is widely seen as creating, even endorsing, two companies which will have formidable on-going monopolies, each in its own right.

<sup>5</sup> See page 9, The information side, as this point develops further.

<sup>6</sup> See also Paul David, "Some new standards for the economics of standardization in the information age."

<sup>7</sup> Collective choice that is consensus-, not vote-, based, as demonstrated below.

<sup>8</sup> Was a theory of 'rational expectations' a natural reaction and hedge against the more uncomfortable implications of chaos?

<sup>9</sup> I was gratified to discover that Paul David has also been concerned with order and chaos. See his "Standardization policies for network technologies: The flux between freedom and order revisited."

*Side trip*

Does a staunch ideology in favor of ‘free market competition’ preclude collective choice? Or related (in this case anyway), does evolutionary theory rule out the possibility for teleological ‘pull’ toward an evolutionary ‘objective’?

Consider the case that smart machines may threaten displacement of the human species. Two eminent intellects have recently written on two sides of this question. Bill Joy has argued that nanotechnology and replicability, particularly, make real the possibility for machines that could one day replace the human species (his thesis is not entirely distant from that of the Unabomber, Theodore Kaczynski,<sup>10</sup> he notes perhaps a little ruefully).<sup>11</sup> Charles Jonscher, while this was not his direct topic, maintains on the other side that machines will not be able to reproduce human capability.<sup>12</sup>

Take seriously for one moment, to be didactic, the possibility that the threat to the human race becomes real. If the threat indeed became real, could even the staunchest free marketeer imagine ‘collective choice,’ to face the threat? To build on that answer, could humankind, through concerted forward planning, shape its own evolutionary destiny, at least to some extent? Clearly, the answer to both seems to be, yes.

The second ‘yes’ reminds that human intentionality commonly overrides ‘mindless’ evolutionary processes, particularly in the collective example here. Hence, the case (if it or counterparts are taken seriously) reinforces the need to account theoretically for collective process.<sup>13</sup>

... *back to the trek*

Why has the dominant theory of economics, and the prevailing ideology, so far tilted almost exclusively toward the beneficial chaos of unfettered outcomes, typically neglecting the tension with order and collective choice? Please stay the course, dear reader, and read on ...

### **Evolution in the liberal regime, from the past looking to the future**

With anti-trust the main safeguard in our liberal regime, difficulties with anti-trust, as above, direct our attention to the liberal regime itself. To see this regime, today’s policy ideal evolving forward, consider a stylized outline of recent history.

It is only in recent centuries that economic arrangements have moved from domination by a few. Prior to those changes, the reigning figure in a society was usually also beneficiary of the bulk of economic flows. Most members of the society labored for the benefit, in one way or another, of that head individual.

For a shift to occur, from single-centered purpose for economic behavior to multi-centric, I suggest there must also have been a cognitive shift. Instead of a sort of collective solipsism –

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<sup>10</sup> Theodore Kaczynski, Unabomber manifesto.

<sup>11</sup> Bill Joy, “Why the future doesn’t need us.”

<sup>12</sup> Charles Jonscher, The evolution of wired life: From the alphabet to the soul-catcher chip – How information technologies change our world.

<sup>13</sup> In an indirect way it also reminds to take care when drawing parallels between one body of thought, such as evolutionary theory, and another such as economics.

with all identity invested in a single individual – there must have been a shift to a multi-centric view and experience of the world.<sup>14</sup>

By all historical accounts, that shift was a fight hard-won, with back-sliding into the old solipsism a threat always lurking around the corner. Such a precious advance, hard-won – where life itself was not too precious to be sacrificed in the cause – is to be guarded well. Hence, I believe we may glimpse, at least in some part, why there is almost sacred stature for individual choice, in a ‘free market,’ today’s dominant ideology. That elevation to the sacred is one form of protection for a precious position which could all too easily be reversed by the unscrupulous.

But this evolutionary path for liberal ideology has taken us only halfway to paradise.<sup>15</sup> As foreshadowed above, we do not yet have a framework which – now with the individual crucially freed to assert personal choice – *also* sets that individual in the social context wherein which “no man is an island.”

Individual choice is, despite the seeming contradiction, quintessentially social – neither being individual nor being social transpires without the other, present-day liberal ideology notwithstanding. Put otherwise, human beings inextricably are social.<sup>16</sup> The next step for the evolution of liberal ideology and policy both preserves and builds from the hard-won and precious freedom of competing individuals – with that base the next step adds recognition for the essential, contextual social machinery.

#### *Side trip*

In fact of course, with several varieties of capitalism extant, some versions already accommodate both individual and social – they already demonstrate elements of the discussion below. (In other cases, not likely to be considered capitalist, even the first step to liberalization is absent and dominance-by-a-few continues to prevail.)

Fascinating research has recently been reported, confirming the contested thesis from the anthropologist Benjamin Whorf. He argued, and the recent research has shown, apparently repeatedly, that culture does shape the way of thinking. One distinguishing cast of mind, found by the research, was holistic – the person looked for context, before detail. We could imagine that those economies which already accommodate the social have cultures with a holistic approach. They would find it easier to approach and grasp the macro level, or context, which the social represents. Interestingly, this recent research contrasted the US with three Asian cultures; that contrast directly mirrors one divide between styles of capitalism without and with a notable social component.<sup>17</sup>

#### *... back to the trek*

The second leg of our brief journey here considers a model to add the process of collective choice, identified above, so that it is in tension with ‘individuals in a marketplace.’

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<sup>14</sup> The cognitive shift, for a given individual, is treated in more detail in my “Beyond competition: Where are we in the dialog about policy for telecommunications?” Also, consider parallels in Julian Jaynes, *The origin of consciousness in the breakdown of the bicameral mind*.

<sup>15</sup> Op cit. Again, further detail.

<sup>16</sup> For one brief discussion, see my “Microsoft vs. Netscape,” page 117.

<sup>17</sup> For a synopsis see New York Times, August 8, 2000, Science Times, “How culture molds habits of thought,” Erica Goode, page 1.

TREK: LEG II  
A MODEL – FOR AN EVOLVED LIBERALISM

Our new model for an evolved liberalism proceeds – at the fundamental level – to:

- Bring forth ‘better’ conceptions (‘technical progress’) for a society
- Using the individual/social milieu

Thus there will be two frameworks, or architectures, that underpin this new approach – one is for information, or knowledge; the other is social.

The focus – first – is on evolution of the ideas which make for ‘technical progress,’ whether those ideas would bring new products, new methods for organizing, or whatever. However – second – the edifice, and the edge/envelope, of human knowledge are an intricate mix of the individual and the social. Many leaps of ‘progress’ depend upon individual inspiration, but that inspiration in turn only springs from the accumulated stockpile, Isaac Newton’s ‘shoulders of giants.’

The two architectures – one for information, the other social – that together underpin these essential dynamics are in fact intimately parallel, as we shall see. Because this model is dynamic inherently, we will picture both a stock and a flow for each architecture: the stock is the conceptual base from which our understanding builds, the flow transports that understanding across time.

Here we will slice across just a representative module of time – one with the essential dynamics – since the purpose for this paper is operationalization of the ideas in prospective new policy, not a full theoretical exposition.

Physical production/distribution of goods and services is of course essential to realize the benefit of innovative ideas. But focusing on ideas, their ebb and flow directly, may have its satisfactions. Wars are often fought over ideas as much as over property, religious wars, but even secular conflict – that certainly includes the incessant economic contest, albeit we may be hard pressed to admit and unveil where ideas are the real totem in a seeming economic conflict. Not to mention that ideas are the fount for economic ‘progress.’

Without neglecting the physical side – this after all has typically been the whole concern of the economics establishment, the getting and giving of goods and labor – the focus here shifts to the Platonic (and also necessarily Heraclitean ...) world of ideas. Later, we glimpse some of the complexities introduced on the physical side, when we try adequately to represent the evolution of information and knowledge, which necessarily is precursor to production.

Turning to the model itself, let’s remind ourselves of its main purpose, as bulleted at the head of this leg: we portray how a group reaches and evolves its knowledge frontier – I will call this the ‘information product,’ to help pin-the-point.<sup>18</sup>

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<sup>18</sup> This exposition is also detailed in my “Microsoft vs. Netscape: Policy for dynamic models.” A separate paper, with the original inspiration, is from 1992.

## The social side

For an innovation both to be generated and then to be incorporated,<sup>19</sup> a basic cycle must ensue – first innovation, then standardization. This module across time is the basic building block for the first of the two architectures that we consider, the social.<sup>20</sup>

In the innovation half of the cycle, new ideas are generated and tested. But by definition, an innovation breaks the existing standard – here, networks are our subject so that protocol standards are fundamental to operations. So a standardization phase is the other half of the cycle, where new ideas are sifted, perhaps melded, to identify the best, and a new standard agreed.

These are the basic events of the cycle – what must transpire socially across the building-block events? For the innovation phase, individuals, operating independently, propose new ideas and try them out in competition with each other. For the turn to standardization, individuals join in a loose hierarchy to assess and choose, perhaps meld, the best ideas through consensus.<sup>21</sup> Since this building block cycle repeats indefinitely, to move the information product ahead, socially there is ongoing alternation between the fragmentation of individual competition and the coalescence into loose hierarchy for consensus.

Consider the dynamics schematically.

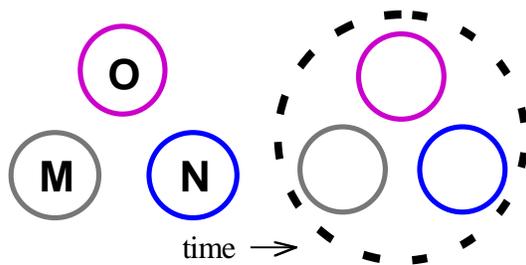


Figure 1 – The cycle, innovation to standardization

Imagine a three-firm industry, say Microsoft, Netscape and another firm. During the innovation phase, the firms act independently, proposing new ideas and testing them in the best spirit of competition with each other – they hark to the tradition of the Internet Engineering Task Force/IETF that calls for “... running code,” ie proposed innovative ideas need to be tried as running software. In the turn to the standardization phase, behavior reverses. The firms shed their competitive stances; join in a loose hierarchy to assess the trials; pick, perhaps meld, the best ideas; and finally reach consensus on a new standard – we get to the other half of the full IETF

<sup>19</sup> Strictly: to be incorporated into a network.

<sup>20</sup> Petros Kavassalis has written several papers that in effect discuss the basic cycle. Phil Agre, to whom I am recently indebted for references to related literature, has also written on the subject. See for instance his, “The law of opposite numbers: Standards dynamics and the global logic of software.”

<sup>21</sup> For those concerned about ‘picking winners,’ please note that there is a period of competition over ideas. But something *has* been eliminated – namely the failure to reach consensus on a standard, when needed. If we were in this better world the US, rather than blinded by its ‘competition only’ ideology, might not be so far behind in wireless, where it has trenchantly refused to agree on standards over far too many years.

rallying cry, “*rough consensus* and running code.” The innovation has been both generated and incorporated – it can now run on the full network. As the cycle repeats indefinitely, the firms slip back and forth repeatedly, between fragmentation and coalescence.

What are the implications for traditional structure and conduct? For conduct, industry participants are expected to shift their behavior, repeatedly, between competition and consensus. In the former, they are trying to put forward their best, against their fellow; in the latter, they take a place in a loose hierarchy and strive, rather than for individual gain, to reach – together – a best collective choice. For structure, the industry oscillates like an accordion, the musical instrument – first fragmented into its atoms, next coalesced into loose hierarchy, repeatedly.

A place for such a process of collective choice is the need identified in the first leg.

Is it reasonable to expect that people will actually swing back and forth between competition and consensus? Maybe the better question is whether it was ever reasonable to expect competition, and competition by itself exclusively. Consider each of our daily lives: We each, for a given dimension of our life, live in a world of tighter and wider ‘circles of affiliation.’ At work, for example, there is membership in the immediate work group, then perhaps a corporate division, then the company itself, even the industry – wider and tighter circles. Moment to moment, a given person will swing from participation in one of these circles, to participation in another – first competing perhaps with the work group across the hall, then in a next moment joining with it in some common task. This seemingly complex dance is built into the human psyche – any model of economic (human) behavior ignores it at peril.

Some will of course question whether there is ‘incentive’ to reach collective conclusions, to succor group welfare. We are fond of noting human selfishness and self-service. It bears repeating that we, as a scholarly profession, seem to have way overdone it, in emphasizing greed. Only a moment’s reflection will confirm that consideration, and concern and action, for one’s affiliated memberships/groups are inextricably part of every day’s flow, alongside equally strong competitive behavior. Indeed, and profoundly, no man is an island.

Perhaps the point is not comfortable, until we fix on what is the glue that holds the process together. We do not come into the world fully ‘programmed’ for such a dance. Informal social protocols, learned from the earliest age and shared across a group – even if they are continually evolving, also – seem to be the essential force. Though we may tend to put much stock by written, formal rules, those surely have much less sway over outcomes than do the informal social protocols shared.<sup>22</sup>

If we need examples that the seemingly complex two-step, between innovation and standardization, competition and consensus, is real, we can look to the IETF.<sup>23</sup> Its adroit implementation of the basic cycle has given us one of the most prolific runs in the annals of innovation, as we see revealed in the ‘Net and web. More, the ideas are beginning to be articulated openly in what has become the Open Source movement. Linux is the prominent

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<sup>22</sup> For an obvious illustration, consider the Mafia crime family. Death may not be too severe a consequence, to uphold the informal code to which each member subscribes, against formal law. While this is an example that begins ‘outside the law,’ daily experience is strewn with corroborating, if less spectacular, parallels.

<sup>23</sup> We can also look to the myriad industry ‘Forums’ – for instance the ‘ATM Forum.’ The example points it seems to an established informal mechanism. New ‘Forums’ continually spring up, whenever there is need for a new standardization effort.

standard-bearer. With the embrace of Linux by some of the largest actors in the industry, such as IBM, Intel, Hewlett Packard and NEC,<sup>24</sup> the ideas of open source – and so eventually, explicit understanding of the two-step cycle – begin to be institutionalized.<sup>25</sup>

Thus, we have the basic cycle on the social side.

### The information side

What of the information product, which is the whole purpose of the social gyrations we have just traversed? The information side is perhaps even more interesting.

The information product is a choice, the end result of the sequence of events, rather than something threaded through the sequence itself. Because the choice changes, the information product is dynamic, too. But to diagram it schematically, a pair of contrasting slices – to compare opposite possibilities for a given moment in time – are useful.

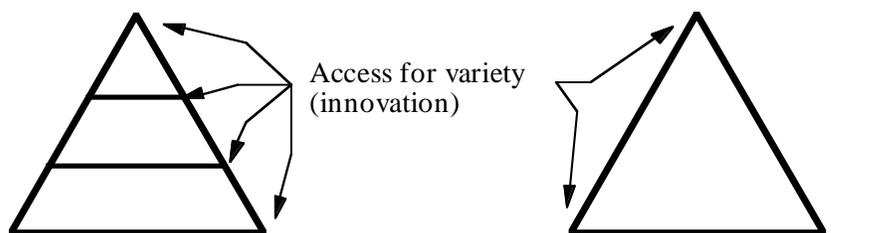


Figure 2 – Information product:  
Open layering vs Vertical integration (for ideas)

Among all the choices the group confronts as it chooses a new standard (most of the choices are of course peculiar to the technology), typically there is one choice fundamental to and shared across technologies.

- Will the set, of *ideas*, be vertically integrated? A leading example is the both-hardware-and-software vertical integration of the Apple Macintosh design.

or

- Will the design be horizontally layered? An example here is the open Intel-standard hardware platform for PC's.

Open layering breaks out more opportunities for the introduction of variety and so innovation. That must be balanced against vertical integration (for ideas) which typically brings higher performance to the given technology.<sup>26, 27</sup>

<sup>24</sup> These four are announcing a new joint 'lab' for Linux. <http://news.excite.com/news/ap/000830/00/linux-lab>

<sup>25</sup> Sociology of course (and for that matter socio-economics) concerns itself directly with the social side, certainly the bureaucratic behavior of hierarchies. Personally I am partial to Michel Crozier and his The bureaucratic phenomenon.

<sup>26</sup> Re the Microsoft suit: Judge Thomas Penfield Jackson's ruling against Microsoft's bundling of its browser, vertically, into design for the OS seems to give too little consideration for the performance aspects of such a design choice. If the ruling followed the analysis here, the vertically integrated design – the

So the Intel-standard hardware platform – our ‘open layered’ case – has brokered, effectively, the introduction of numerous innovations there. For the contrasting example, consider the case *without* vertical integration, where performance degrades. Java, as a cross-platform layer, is a useful example. Java must insert an intermediating layer of software to be cross-platform, so that performance invariably degrades to some extent.

As the group chooses various aspects of an information product at the end of our basic cycle, one fundamental choice must fix the point where the design will fall, on the dimension between open layering and vertical integration.<sup>28</sup> Despite currently fashionable views that open layering is inherently better, in fact there is a basic tradeoff necessary to be *chosen*, between performance as against opportunity for later variety.

For many, as just said, the notion – that information product is a choice, it is not foreordained – is radical. The ‘radical’ fact becomes clear only when the social and the information sides can be deconstructed, one from the other, as here. While notions of ‘openness’ do accede to a superior position on the social side, that is not the case with the information product. It is time to allay confusion in the discussion about open standards, accordingly.

### Architectures

We have depicted *flows* for both the social side and the information product – we started with flows to underline that this model is inherently dynamic. To make fully evident the architecture for each, we must now posit that which our minds seek as a base, to follow changing flows: the *stocks*.

As said initially, the social and the information architectures are intimately parallel. That becomes clear with the stocks. The stock that structures architecture for *both* the social dynamic and its information product is a looser or tighter hierarchy, with variety nested at lower levels. For the social side, that is the concatenated communities and sub-communities into which the group fragments and alternately rejoins. For the information product, that is the looser or tighter logical structure, with greater or lesser variety enabled.<sup>29</sup> (To prevent confusion, it is worth being clear about the ‘looser/tighter hierarchy,’ common to the stock for both, as just described: it is a choice for the information product, while it is descriptive of alternate states in the regularly repeated shifts on the social side.<sup>30</sup>)

The complexity – but also the power – enters with commonality at higher levels while variety, and so differences, persist within concatenations. Variety is the trace left by prior innovation but which did not have to be resolved into a standard.

In real world terms, what are these two architectures?

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information architecture – would be separated from Microsoft’s conduct – in the social architecture. Microsoft’s use of the design to destroy Netscape would be condemned and sanctioned. But the choice of vertical vs open layering, that is integration or not of the browser, would be acknowledged as a choice subject to community deliberation.

<sup>27</sup> Whether there may be parallels with, and implications for, the social side – in the trade between variety and performance – will be the subject of another paper.

<sup>28</sup> The reality that this choice is often, in practice, left to a default of the ‘chaotic mode’ in no way alters the analysis.

<sup>29</sup> To paraphrase, slightly, my “Microsoft vs. Netscape,” referenced earlier, page 119.

<sup>30</sup> ‘Loose hierarchy’ in the standardization phase corresponds here to tighter connection among the concatenated sub-communities.

Concatenated communities have been illustrated above with circles of affiliation – but communities and sub-communities are so embedded in everyday experience as hardly to need an example. Community becomes the unit of analysis here. It is community where the primary force, the glue – the implicit, shared protocols – are forged and re-forged.

The rise of application service providers/ASP's on the web makes an example for information product. Particularly for small and medium-size businesses/SMB's, ASP's make an otherwise difficult service available. Enterprise resource planning/ERP (eg SAP or PeopleSoft) may otherwise be out of reach for the typical SMB, for instance. An ASP packages ERP in a form feasible for the SMB.

The point for illustrating tighter or looser hierarchy – in information product – with concomitantly less or more opening for variety/innovation, arises from the degree of flexibility the ASP service affords. A large firm, which can hire its own software developers, may implement ERP more precisely tailored to its own circumstances. Hence there is greater variety in implementation of the ERP. But the ERP available to a smaller firm through an ASP will necessarily limit the variety available – while the tighter design for the information product put forward by an ASP means better performance for its SMB customers, particularly in that ERP is available at all to this class of customer.

Finally, does the new model have any observations for the world of physical production and distribution, without which we would not realize the benefits of innovative new ideas? The neoclassical frame stands. Partly, it even simplifies. Now the messiness of variety<sup>31</sup> is offloaded onto this brave new world of dynamic analysis. The standard analysis even becomes 'true' – rather than mocked as a fantasy, only for the textbooks – since competition largely engages over commodity production. But partly though, the complexity only mounts, since the analysis must localize to each concatenated sub-community, with its particular 'variation on the theme.' This of course is just a glimpse.

### **The view from a hilltop**

Another way to put concatenated hierarchy is to speak in terms of interplay between part and whole. That has been our concern from the start, notably the individual set in community. When animated by freedom to choose for the individual and at the same time structured by shared protocols for community hierarchy, part and whole bring us the salubrious tension where chaos and order are twinned. Though perhaps a seeming paradox together, Plato's fixed world of ideas brings analyzable order to a perch from which we might exploit change; while Heraclitus' river into which man can never step twice flows the innovations of beneficial chaos and change, refractory to analysis, past our door.<sup>32</sup> The ongoing tension between this order and chaos gives us a positive grasp to map events; they point us to normative policy as well.

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<sup>31</sup> Eg, Chamberlin's monopolistic competition, or Hotelling's 'circle.'

<sup>32</sup> In a private conversation January 25, 2001, Timothy Schoechle, Director, International Center for Standards Research, University of Colorado at Boulder, made an observation which I hope will be written up. In the meantime, I note his point as I take it to be fundamental here.

Tim suggests that the two sides of the innovation/standardization, chaos/order cycle depend one on the other in a vital way: Membership in the community, particularly in the standardization phase, can lend some certainty and security. This stability is essential, as a sort of 'secure foundation,' from which to jump off to the next round of innovation, where risks will be incurred inevitably. (Apologies in advance to Tim for any miscue in the attempt to represent his proposition.)

By denying key industry features for joint effort, the Microsoft suit has raised questions about anti-trust as the principal safeguard, at a time when the perils of concentration mount. In response, we have sketched a model which would extend traditional liberalism, to set individual choice in its community context. With the objective to advance the knowledge frontier, competition may spur innovation while, in temporal succession, consensus allows to incorporate change usefully. The analysis may have taken on complexity, but also power.

We, largely implicitly, have been talking about network industries, where standards force a consensus. Do these ideas apply beyond, to traditional businesses? Traditionalists likely hope not. But since the same community dynamics apply directly to the markets for standard supply and demand, Pandora's box may unavoidably be open ... That is a debate for later.

With a new model in hand for an evolved liberal regime, what are the implications for policy? Since we have identified the difficulties with anti-trust, is there something to bolster it or to put in its place? The policy implications take us down the final leg of our trek.

### TREK: LEG III

#### NEW POLICY – THE LIBERAL REGIME EVOLVED

Policy, in this new model, is a function of community process. But modernity has long driven some – certainly those we consider to be the advanced societies – beyond much semblance of the community envisioned here. Community does not scale well. Population growth, and particularly the advent of transportation and communication capabilities that connect us with faraway places, each contribute to unsettle community. As a consequence both our daily routines and our living/working geography take us beyond the sort of nuclear geographic clusters which naturally encourage community and its process.<sup>33</sup>

In the place of personal-bonds-with-reciprocity and dialog-for-consensus – the currency and political process, respectively, in a village – we get first money, then eventually voting.<sup>34</sup> These things are not going away, nor would we be pleased to see them disappear. But their reality brings focus to the central requirement for policy: how to implement community process in a world that has left community behind.

That will be the – repeated – principal theme as we try to consider policy in specific areas.

As important, policy in this new model takes on a character different from today's typical use of the term. The prime force for this new style of policy is the informal protocols shared and evolved in a community. Pivotaly, these informal rules arise through the working of dialog in the group, a community process rooted in informal exchanges around the group's membership; this process both applies and evolves informal protocols. When we speak of policy in this new

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<sup>33</sup> Population aggregation, and early transportation, were features of feudal times as well of course, if in much lesser scale. They seem likely to have changed 'village life' in a way parallel to recent centuries. But the change was significantly less, perhaps because there was not yet the multiplier from cognitive evolution to a more multi-centric view of economic endeavor. Is there a causal relation, in one direction or another, between such evolution and population growth/technologies?

<sup>34</sup> Especially here, but throughout, the parallels with, as well as differences from, Douglass North's analysis are obvious. See for instance his *Institutions, institutional change and economic performance*.

context, we mean both informal rule and process – an organic force that embodies and powers a markedly vital ‘policy.’

This represents a ‘new day,’ compared with formal rules, and specialist bodies to promulgate them. Rather than disembodied rules issued by faceless specialists, where the rules themselves take on primacy – instead, protocols wedded to the service of individual/group welfare, as proposed and settled among peers, and identified as ‘one’s own,’ take the center. ‘Policy’ is a live affair: change is proposed from any quarter, when there is need, and through the deliberative process the community sets about evolving the implicit rule, ‘owning’ the process along the way and subsequently the new rule.

The contrast with formality, and its specialists, is in high relief. Policy-in-community is a marked departure from today’s world, where policy rules are the rarified province of specialist agencies, lawyers, the judiciary, academics, legislative committee staffs and lobbyists. In the bureaucracy, rules take on a life of their own, while the process is – at the very best – difficult to access for the industry, or consumer, worker bee.

In the community process, by comparison, both the individual and the social hierarchy, from the model, are of course at work. As described throughout, the individual proposes from the peer level; then the hierarchy, in which the individual plays his/her part, disposes. As said, our biggest task is to ask how the brave old world (of community) may be (re-)implemented in concrete, vital form – when societies have already moved to a complexity which often smothers such operation of nuclear community.

In the spirit of this new/old world, the discussion of specific policy here will propose outlines of possible approaches, intending to flag the need for new dialog and to invite other proposals or comment – in the IETF’s terms, a draft preparatory to an RFC.

#### *Side trip*

A recent surprise brought home nicely the stark difference between social systems based in formal rules and those rooted in informal exchange. I was taken aback to learn of a pointed mindlessness – the term seems jarringly suited – in the judicial wars between incumbents and entrants in US local telecoms. Some text had inadvertently been left out of a Supreme Court finding. So entrants, for the time being, are prevented from taking what virtually all participants agree are reasonable steps. In particular, they are hamstrung to some extent as they organize their cages where equipment is collocated in local telco switching offices. In a world not so rigidly wed to formalities, there long ago would have been a general, if informal, agreement to add in the missing text and get on with it.

At the same time reverence for formal systems,<sup>35</sup> like with competition and freedom for the individual, has a compelling background. It grows out of the same collective solipsism, I believe. Despots wreak their discomfort precisely by preying upon, and turning to their own, non-group ends, the community protocols which would favor group over outsiders. (The despot may be petty, such as the neighborhood bully, or larger than life, be that a Suharto, or a

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<sup>35</sup> Going under the rubrics of ‘rule of law,’ ‘transparency for process,’ or ‘independence for a regulator,’ in campaigns to spread the ideology around the world. The issue is not whether there will be a rule of law – but whether the law will be formal and so enjoy less personal commitment, if any, from the governed; or be the rule of informal protocol which springs from, quickens and guides the psyche, when formalities are in any event generally subordinated to such informal commitments.

Milosevic, or a Gates, or you name your favorite/most hated.<sup>36</sup>) They would (and do) return to collective solipsism, in favor of themselves of course, by so diverting the process.

Formal systems are intended to be inoculation against self-serving (“capricious”) choice by a would-be despot. Just as with other liberal-ideology-so-far, hard-won gains against such deprivation must be protected – but also extended now, to allow re-entry for the best of human social/community mechanisms.

The genetic makeup that drives sociality and community in people will not, in any event, be denied. Again, our main problem is how to enable such nuclear capability amid a level of social complexity that has left it behind.

... *back to the trek*

Let’s briefly look into three areas of policy that are particularly salient today for the ‘Net and web, where this trek began. We start of course with anti-trust, then turn more briefly to intellectual property rights and finally privacy. How may these policy areas be approached with the new model?

### **Anti-trust**

What are the mechanisms to deal with a bully? The aim of anti-trust is to allay the use of excessive economic power – in shorthand, to stop bullying. Anti-trust would either rule against such bad behavior or try to prevent combinations / promulgate multiple smaller entities that will lack the scale to bully. This approach trusts only the greed in the actors, taking steps in the economic, but avoiding the social sector.

What would a community do, particularly by contrast – what is the standard sanction, the enforcement tool in community? A ‘spoiler’ such as a bully, someone who violates the agreed protocols, is ‘shunned’ – set outside and cut off from the usual perks of the group, as pressure to reform and return to the fold. Community is built on the strength of shared protocols, in the social realm, if also on greed, in the economic.

Any skepticism that ostracism, or shunning, is a live option in a modern, ‘liberal,’ sophisticated world, only need consider the Haider episode, for the doubt to be dashed completely. Jörg Haider, an extreme rightist, acceded to power in Austria recently. In an immediate response all the other societies of Europe rose up as one and effectively banished the government of Austria, very noisily of course since that is what gets results with an ostracism. Haider’s brand of extreme rightism had stepped over the bounds set by Europe’s implicit protocols, in particular onto sensitivities that had once inflamed a world war.<sup>37</sup> The US list of ‘rogue’ states (and Iran’s or Libya’s or Cuba’s reciprocation, of course) is a further case, if any is needed – daily life shows how in-woven is this basic sanction.

Shunning is alive and very well, *especially* at the level of international diplomacy in the ‘modern’ world. The sophisticated, and unsophisticated alike, understand its application, almost automatically, without the need for academic treatises to map some new wrinkle ...

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<sup>36</sup> Just below, we put such ‘spoilers’ in their own dubious spotlight.

<sup>37</sup> Some months after their exclusion of Haider and Austria, an internal debate arose among the EU countries over the topic. Those differences seem pretty clearly to point at the issues Europe inevitably faces as it continues midstream toward closer community across the region.

With sanctions thus ready to hand, what is the position of community on the use of economic power, the basic issue underlying anti-trust?

Obviously bullying contravenes the foundations of community, where process requires an 'honorable place' for all. Here the model becomes pointedly operational. With the individual and hierarchy alternating the spotlight, there is a strict requirement on the power implicitly exercised by a group decision. Since the spotlight will return subsequently to the individual, each of them affected by a group decision must be left a respected place from which to proceed later (only a violation of the shared protocols allows otherwise). The use of power is circumscribed by the whole mechanism.

But equally, community recognizes and uses the power of the whole group appropriately – as the hierarchy of community settles standards, for instance, or disciplines spoilers. Without this use of power, those in the community would be unable to avail themselves – the advantage of standards is available, for example, only because power is exercised, within the limits set. This is in some contrast to traditional liberal thinking, where power as such is essentially a shunned topic, only on the agenda to be prevented.

Alongside the genetically wired mechanisms for community are also a human proclivity to acquire and so to command increasing turf, however defined. It is this wired propensity which led to anti-trust policy in traditional liberalism. It is also the principal nemesis to successful operation of community – as said, the bully/despot would pervert the community mechanism for personal gain. The challenge to liberalism looms equally as the hurdle for the community approach to policy. We have argued throughout that the mechanisms of community, as against [unevolved] liberalism, are the stronger of the two, to deal with the issues.

How *does* the evolved model deal with it? To begin, bigness by itself is not automatically discounted. Vertical integration for design may on occasion indicate size is desirable (at least for the 'coalesced' concatenations needed to prosecute the design). Indeed, when the community hierarchy acts as an entity, the weight of the full body comes into play. The issue is not size itself, but whether the intended dynamics animate the social architecture – whether the competition-consensus cycle proceeds, regardless of nominal organization boundaries.

For instance in the case of a large company, do the separate divisions, even workgroups, act independently in the innovation phase – are they allowed to proceed without consideration for 'corporate welfare' during the first phase?<sup>38</sup> Likewise during standardization, do individual units work for 'best' outcomes in the larger group, not just for those that serve some parent company?<sup>39</sup> To turn the usual concerns on their head, is there adequate organizational aggregation to achieve the integration in design that proves desirable? Thus begins the basis for assessing whether there are problems or not.

How and what sanctions are imposed, in the face of problems? First, who assesses whether there are problems? The answer to both lies in the community process, as discussed. Sanctions, particularly, include shunning the business of a transgressing company or the effective exile of company leaders. The major issue, as usual, is scaling a community process into an enlarged world. But the larger part of the battle is surely over adoption of the approach. Once

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<sup>38</sup> Is the Office team at Microsoft allowed to propose a version for Linux?

<sup>39</sup> Can the Windows team advocate for elements of *both* CORBA and DCOM?

agreed, ways will be found to nest even more concatenations, and so exercise community in a bigger world.

This is just one outline, of an evolved approach to what today we call anti-trust policy – it is an invitation to dialog. Yes, there is more required to make a new liberalism operational for anti-trust. Notably for instance, how do positions taken in one sub-community ‘roll up,’ into a next higher level and also accommodate positions taken by other peer-level sub-communities – how close is standard ‘representative democracy’ to a ‘community’ solution? But a central proposition of the thesis here is that policy is the construction of exchanges, from around the group. Now it is time for others to complain about these views, point out where they may be in error – and perhaps point the way, to next steps beyond those here.

### **Intellectual property rights**

We now have some of the basics for an evolved policy in hand, as we move to the second policy area. So our focus is just the main touchpoint between today’s intellectual property rights and evolved policy.

Intellectual property rights apply notions of property to ideas. But *dynamic* ideas are the whole object of this evolved liberalism. Handing out homestead rights to arbitrary acreage on the information plain – those new fencerows on the open plain are like speed bumps on a motor raceway.<sup>40</sup> The effect is to slow down the fluid treatment of ideas that is integral to the step from innovation to consensus.

Ownership of the idea militates against advocating for a better idea that has been proposed by someone else, as an example. Or, melding the idea with another good one. Or even, innovating a new idea that will cannibalize the old one.

An alternative approach rewards the individual source for the idea, via recognition. But it also notes that individual creativity issues from atop an accumulated social edifice of knowledge. Presently we seem to be at a point of extended experimentation – we seem to be in our own innovation phase *for this* policy question.

Open source, around Linux, has set a zero price for the ideas themselves. A price is put, instead, on the services of individuals to support use of the ideas – the value in this economics is in the labor, rather than in the idea. Those involved can still make a decent living, though ideas themselves are not priced.<sup>41</sup>

Napster, and the related peer-to-peer networking schemes, also zero-price the idea. For Napster the ideas are music; the other peer-to-peer schemes can carry a broader range of forms. Then a case is argued that this stimulates positive-priced sales of physical goods, mainly CD’s in the case of Napster.

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<sup>40</sup> At one point, BT has even tried to lock up the whole cyber-plain, when it claimed rights to the idea of hyperlinking! <http://www.wired.com/news/politics/0,1283,37095,00.html>

<sup>41</sup> In terms of price theory: The zero level could be interpreted that price (certainly by itself) proves to be entirely too bare a mechanism to ‘signal information’ in the economy. That does seem demonstrably the case, given the complexity of information exchanges necessary in the community process.

There also is a slew of other new proposals, by and large not yet tried.<sup>42</sup>

On the surface, the question seems to be whether innovation will flag, without the carrot of monetary reward. After all, the great land rush to claim web brand recognition seems to have been powered by dreams of untold wealth. But that of course stands beside the creation and evolution of the 'Net and web themselves, which amounts to a far greater phalanx of innovation, and the product almost completely of these 'evolved liberal' – in particular, zero-priced – ideas.<sup>43</sup> The larger topic, however, is likely whether the questions about the applicability of property redound back to its use in the world of physical goods.

That is itself sufficient reason to carry forward this portion of the dialog. The clear need is for further proposals that would embody a community-based approach to what we now call intellectual property rights, then to test the various new ideas. This could be an exciting time.

### Privacy

The main contribution to questions about privacy is to establish the framework – the concatenated architecture – that is relevant for analysis. Starting from circles of affiliation, it is clear that what is private depends completely on the 'circle' that is 'active' at the moment. It is also clear that the 'relevant circle' shifts moment to moment. Privacy, we see, also needs to be accounted on a dynamic basis. That turns the question from whether collection of personal data is acceptable, to what uses are acceptable – those with membership in a certain circle are allowed *mutual* access to a certain level of personal information.<sup>44</sup>

More than that, it seems likely that different cultures treat the circles rather differently – for some, the inner circles may be more privileged and protected, for example. While that does not ease the conflicts that will arise, as networks globalize, it does render clearer the source of conflict.

Perhaps another facet is not obvious at first. Because privacy as an idea is another way to refer to the concatenated hierarchy of community, privacy policy affects this, the central mechanism by which an evolved liberalism operates. That means getting privacy right matters in a more basic, enabling way, for this new world.

It is not too much, I think, to notice in this regard the protests which have arisen against global institutions, such as the WTO, the IMF, the World bank and now the UN. In some part it seems likely that respect for each of the levels in the community hierarchy – as privacy concerns encourage – would go a long step toward addressing the fears expressed. Getting *that* right is surely essential for an evolved liberalism.

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<sup>42</sup> As an example, among a number of proposals, see John Kelsey and Bruce Schneier, "Electronic commerce and the street performer protocol." Anthony Reese in a paper at TPRC 2000, "Copyright and internet music transmissions: Existing law, major controversies, possible solutions," reviews some of the possibilities within the existing legal frame.

<sup>43</sup> And the 'great land rush' was of course just the runup in another bubble, where its burst was also inevitable and predictable – a standard, oft-repeated legacy of an unevolved liberalism.

<sup>44</sup> Of course collection can go forward, in fact, only when the strictures on such use are assured.

*Side trip*

This line of thought began well over a decade and a half back, with concerns about tipping points and critical mass. Does critical mass have a place in this larger view? Critical mass plays a role – when elements remain atomized and are not coordinated in a hierarchy. However, the community process in the discussion above mixes the ‘chaotic’ mechanisms of the critical mass analysis with elements of order and coherence on the opposite side – is not that tension the essence of the new analysis? The combination overtakes center stage, I believe.

The great contribution of critical mass is to call our attention to group behavior – whether to notice the slavishness of mass movements and fashion or to see the working of peers-in-community-hierarchy. With group behavior at least as fundamental as the competitive impulse, to human economic behavior and outcomes, we have stepped here to bring the analysis in line with reality.

... *end of the trek*

Let the dialog proceed.

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I am indebted to Cristiano Antonelli for guidance to appropriate references.

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