Bounded Choice:
The Illusion of Flexibility in a Controlled World

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In his striking play *Rosencrantz & Guildenstern Are Dead,* Tom Stoppard addresses the issue of destiny in the context of a boat bringing the protagonists along with Hamlet to England with a sealed message for the English King. In the final act, Guildenstern traverses an arc of growing awareness, beginning with an innocent proclamation favoring boats:

> "I'm very fond of boats myself. I like the way they're – contained. You don't have to worry about which way to go, or whether to go at all – the question doesn't arise, because you're on a *boat*, aren't you? Boats are safe areas in the game of tag … the players will hold their positions until the music starts … I think I'll spend most of my life on boats."

In the intervening time, they discover that their letter contains instructions to have Hamlet killed, much to their dismay as his childhood friends, but they do nothing about it, appealing to the incontrovertible nature of fate and accepting that it is "for his own good." However, Hamlet secretly replaces the letter with one instructing them to be put to death instead. They later discover this and, once again submitting themselves to fate (with no clue as to how their fate was altered), their outlook becomes significantly more pessimistic, as Guildenstern quietly notes:

> "Where we went wrong was getting on a boat. We can move, of course, change direction, rattle about, but our movement is contained within a larger one that carries us along as inexorably as the wind and current…"

His words toward the end of the play yearn wistfully for an alternative fate:

> "Our names shouted in a certain dawn … a message … a summons … there must have been a moment, at the beginning, where we could have said – no. But somehow we missed it."

We are faced, as a society, with a similar choice: do we get on the boat or not?

The boat in our case is embodied in our new communications platform, the Internet (including both our personal computers and the telecommunications network that connects our computers together). Right now the boat has not left the dock, but it is in danger of being completed only after we have already committed ourselves to it, and initially it will look very much like an immobile part of the dock itself.

It may be difficult for average citizens to detect the moment when they can say no and move to a part of the dock that will not be incorporated into the boat, and it may well be coming

sooner than they are aware. It will be important to say no as that time arrives, and it will be challenging to isolate a specific moment in time because the pathway is very incremental, so instead the overall pattern must be identified early enough to see the potential impact and to choose short-term alternatives that do not confine us to a long-term fate controlled by a small cadre of powerful authorities. (Some may argue that moment has already passed, but I am not that pessimistic just yet.)

Bounded Choice: The Big Finesse

Henry Ford was said to have stated that his new Model T, the first assembly-line automobile, was available "in any color, as long as it's black." The economic incentive to constrain choice in a mass-produced world is very strong. However, there is also a strong political incentive to constrain choice, as it allows citizens' behavior to be controlled more easily, reducing threats to power over society. In the present day, these two incentives increasingly are working together even while many of those in power do everything they can to obscure that fact.

The "Big Finesse" is to induce people into thinking they are exercising pure free will and personal choice while at the same time constraining their options with regard to anything important to the exercise of real power. It's easier to control people if they are not aware that they are being controlled, because they will not even think to resist the control.

One recent apologist for the power structure comments that payola in commercial music radio programming should not be interpreted "as a sign that the sounds now dominating radio are being forced on us."[1] While it is true that once payola has been paid to consider a song for programming there is no guarantee that it will be added or last for long on the playlists, it is not disputed by anyone that under the payola system if there is no payment there is no hope of that song getting airplay on commercial radio stations with enough audience to be meaningful in terms of promotion.

This is a prime example of **bounded choice:** even if there are other worthy songs that many people would like to hear on the radio, no one will hear them without the payola submitted up front, which raises the barriers to entry in the music business to levels that only wealthy entities with substantial resources to invest in marketing can overcome. This creates a powerful gatekeeper effect that the major record labels in fact thrive upon – it keeps most of the small fry out of the game and lets the behemoths fight it out without any complicating distractions from a truly competitive market. The Ford Model T car only comes in black, and commercial music radio only comes prepaid, mostly by large corporations with comprehensive and exclusive contracts to control their stable of performing artists.

Make no mistake about it: for all their protestations and finger pointing, those in high executive positions at the labels are likely well aware that they ultimately benefit strategically from the payola gateway. Not only do they want to sell more of their own records, they want others to sell less in competition. If the majors can afford the price (and they routinely

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[1] Robert Hilburn, *The public, not payola, rules the air*, Los Angeles Times, July 29, 2005
  http://www.calendarlive.com/music/cl-et-notebook29jul29,0,525359.story?coll=cl-calendar

charge the costs entirely back to the artists to defray their own expenses), it's easy enough to budget the money, especially if it knocks the pudknockers out of the game.

Control Undermined and the Endeavor to Rebuild It

There is a deeper problem that media conglomerates face these days in their quest for control over the information economy: the distribution of the capability to publish information inexpensively, potentially reaching millions of people via the World Wide Web and other Internet-based communication platforms (email list servers, peer-to-peer systems, podcasting, etc.).

This has fundamentally upset the rules of the publishing game, which were previously governed by scarcity of publishing capacity and concentration of publishing power. The establishment of copyright regulation in controlling the duplication and distribution of creative works was enforceable because publishers were easily located and punished if they broke the rules, thus constraining the propagation of illegally distributed materials.

But such control was not initially designed into the Internet architecture. It was designed not to constrain the flow of information, but rather to propagate it as fluidly and reliably as possible. When the Internet became mainstreamed into society beginning in the 1990s, it fundamentally undermined the paradigm of control that copyright was based upon, and threw the publishing market into increasing disarray.

In effect, we had been in a boat all along, and suddenly we were cast loose on the water to go our own ways. The boat builders were initially caught unawares, but as they increasingly began to understand that their boat had been shattered, they set about rebuilding it as fast as they could, while trying not to attract too much public attention in the process.

We now have to decide, as a society, whether to rebuild the boat in its previous form, or to continue to develop the new platform to offer *real choice* instead of *bounded choice*.

Active Battle Fronts

There are two important fronts where the media powers are trying to rebuild their boat:

1. Media and Network Systems ("Open-End-to-End")
2. Personal Computing Systems ("Control-of-Root")

Media and Network Systems: Open-End-to-End

In the area of media and network systems, the media powers are trying to re-engineer the architecture of the Internet away from the open system it was initially designed to be, to allow content control mechanisms in the pipes between endpoints. Instead of operating like a telephone network, where anyone can call anyone else and be connected without

censorship of private conversations, the intent is to create a new gateway-constrained system, more like a cable television system.

Cable television is another example of bounded choice: you can choose to watch or not watch any programs that are offered by the service, but you cannot add new channels or programs, especially if they originate on the Internet. As cable services offer broadband access to the Internet, they are being treated as if their Internet access services and their video programming services were indistinguishable.

For example, the *Brand X* case reached the U.S. Supreme Court earlier this year, and the court ruled against competing Internet service providers who wanted to be guaranteed access to the cable networks and the customers of those networks.[2] In the process they allowed cable companies to determine which networks could connect to their data network, thus allowing cable companies to potentially shut out information sources that they want to prevent their customers from accessing.

There is now a push from public interest groups to establish new laws that require Internet service providers to continue to provide unfiltered access to the Internet, with any content controls provided only to individual customers under fully personalized control.[3] Without such assurances, the service providers will be able to build barriers around Internet access, and the Internet will begin to look increasingly like cable video service – a boat within which customers are confined according to the interests and direction of the service provider and not primarily satisfying the interests of individual customers.

Personal Computing Systems: Control-of-Root

An equally ominous development is rearing its head in the realm of personal computing systems. As it is possible to design data networks so that they do not pass information unless specifically approved by a central authority that controls the network, it is also possible to design personal computers such that individual users cannot unilaterally control all of the functions of the computer (also called "root access") without the approval of the authority that designs the computer's operating system. This area of development is called *"Trusted Computing"* however the trust in this case is not for customers but rather for the designers of the hardware and software.[4]

Instead of continuing with the design of computers as general-purpose devices under the complete control of the user, these devices can be constrained such that software that violates private agreements between the operating system designers and other private companies or governmental authorities will not run, and may even disable other important software from running until the offending software is removed.

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[2] The court ruled 6-3. Decision with dissenting and concurring opinions available from Associated Press: http://wid.ap.org/documents/scotus/050627brandx.pdf

[3] See Public Knowledge statement on 'net neutrality' (an equivalent to the Open-End-to-End concept): http://www.publicknowledge.org/pressroom/releases/pressrelease.2005-06-27.1159909429

[4] See reports by Seth Schoen, EFF/DeepLinks blog: http://www.eff.org/deeplinks/archives/003807.php

Once again, end users would be denied the full range of choice of how to use their own computers, choosing only from the options allowed by the operating system and the hardware. The insidious characteristic of this development is that the capabilities can be built in but not "turned on" until the market is overwhelmingly flooded with hardware that enables this control. Like a Trojan Horse, these functions can remain silent until the proper time when market alternatives are no longer feasible. In fact, it is possible to devise laws that make alternatives allowing users total control illegal.

Unless people know that these steps are being taken and understand the ultimate destructive impact on their personal freedom, they may not resist these developments. The powers-that-be will take great care to obscure and deny these developments, but even if they are exposed they will try everything they can to push through their agenda, and they will have many allies in government who wish to use the same powers of control to suppress genuine citizen voice in the processes of governance.

Do The Right Thing

As of today, citizens still have considerable capability to resist these developments, but they must be heard collectively and with a unified voice. And, they should make individual choices that reflect their long-term interests, even in cases where it may impose additional short-term financial costs or transaction costs. The short-term choices will typically favor the pathway that leads to the new boat. But once we arrive at the long term, the short-term choices will no longer be available for modification.

It is important for us to look to the long term now, and make our short-term choices on the basis of long-term ramifications. If we make the wrong choices, we will not be likely to have an opportunity to correct them. We need to protect Open-End-to-End and Control-of-Root in order to ensure that our digital communication and computing remains under our individual control as citizens, because these are important tools by which citizens gain voice in the decision-making processes of democratic governance.