

THE PRODUCTION OF TEXTS AND THE SOCIAL INVENTION OF WORLDS

A theoretical framework to develop new, socially relevant innovations and cultural adjustments in Chile, to be inaugurated and coordinated by the Biblioteca del Congreso Nacional de Chile.

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DISCUSSION DOCUMENT

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1. OVERVIEW

This document addresses two questions:

What, in the past, has been the relevance of the Library of Congress, and how is that relevance today challenged by information technologies?

What contribution could the Library of Congress make today to the effective support of emerging collectives shaping our national community?

All of what we will say is intended as a point of departure for a conversation that will have many phases. At this moment, inventing the appropriate questions is more important than trying to give definite answers to issues that we need to explore in a larger community.

We thank those senators, deputies, and others who have been paying attention to the role, performance, and relevance of our institution, for their concern and continuing challenges to review and improve the role and services of this institution, in the service of building a richer and more vital national community.

2. THE CONSTITUENCY AND CUSTOMERS OF THE LIBRARY OF CONGRESS

The act of legislating – passing legislation – seems obviously to be the place where political activity makes its most durable contributions. However, this activity becomes relevant and effective only when combined with a multiplicity of complementary processes. There is, to put the key issue bluntly, a huge gap between the promulgation of laws and the effective enrichment of the national communal life. There are many reasons for this gap that are beyond the mandate or, even in some cases, the view of legislators. Valuable social innovations unfold in foggy and messy ways before they are articulated enough to be institutionalized. From the perspective of the Library of Congress, it is possible to distinguish three main spaces in which this phenomenon evolves:

1. ***A multiplicity of initiatives:*** To emerge in a coherent way and arrive as an effective force in the community, legislation must come to occupy a space in which it “coordinates” action in the midst of many initiatives that originate in greatly differing spaces of political activity. Long before arriving as initiatives proposed by states and the branches of Congress, relevant initiatives emerge from less institutionalized sectors as spontaneous social gatherings and purposeful activities and from more organized intermediate space of political movements, political parties, and other industrial and professional institutions.
2. ***Incommensurate interactions among constituencies:*** Today, the gap between promulgated laws and effective social coordination is expanding. Many forces are at work: the shifting dynamic of power among national law and law enforcement, the expansion of global markets (and the power of business institutions), the expansion of digital realities (in contrast to physical realities), and the buoyant multiculturalism of increasingly diversified face-to-face and digital communities¹.
3. ***New practices for constituting collectives:*** Rapidly evolving innovations in digital technology are spawning radically new kinds of conversational practices that, in turn, are dramatically altering the ways that speakers and communities build identities, authority, and all sorts of power². These new conversational practices, at the center of which are what we call, broadly, “*blogging*,” in turn are shifting the ways that new conversations

¹ [Jürgen Habermas](#)’ argument is that increased diversity and multiculturalism erodes the common ground, and for that reason, it adds new demand to the validity of political agency.

² “In real space we recognize how laws regulate – through constitutions, statutes, and other legal codes. In cyberspace, we must understand how code *regulates* – how the software and hardware that make cyberspace what it is regulate cyberspace as it is. As William Mitchell puts it, this code is cyberspace’s “law.” Code is Law. We can build, or architect, or code cyberspace to protect values that we believe are fundamental, or we can build, or architect, or code cyberspace to allow those values to disappear.” (Lawrence Lessig, [Code](#), 1999)

emerge as opportunities and threats in communities. “Collectives,” “speakers,” and paths to gather resources and value can be constituted in ways that are dramatically less expensive and much faster than in the past. The result is the potential for engaging and shaping *new emerging worlds* in ways that were not possible in the past. Naturally, as a consequence of these developments, the effective roles for traditional political institutions are also shifting.

As we struggle with the epochal events of our time and appreciate the growing difficulties of providing the services that have been the bastion of “libraries” for the last hundred years or so, and as we appreciate the growing difficulties of legislating and governing and appreciate the changes that technology is spreading across the land, we move to the question of action. What can, should, or must we do? Where should we be putting our attention? What possibilities do we have, with various levels of resolution and investment? What experiments can we make? What investments of time, resources, and money *should* we make? Who is pulling us in what directions, and who is resisting getting into action?

We also think immediately of illustrative examples of actions that can allow us to be in touch with the new spaces of social innovation, already within the power, resources, and mandate of the library. For example, we can arrange for translations of *pivotal conversations* that are actively shaping the context in which Chile’s current active concerns are being addressed in the world today – for example, our concerns with global markets in which we participate with copper, wine, fish, fruit, and food more generally. We expect that we will find a good range of immediately available actions in which the Library can support the Congress, and the country’s political actors.

Many of the immediately available actions have to do with opportunities to enlarge markets and connect people. Thomas L. Friedman’s [*The World is Flat*](#) provides a good place to begin to become generally familiar with what is happening in this regard.

A long time ago, the ecology movement suggested that effective long-term action called for people to act locally and think globally. Today, that slogan seems to be an imperative of any politics, at any level, and is embraced by essentially everybody. This logic has force today not only because of the underlying environmental consequences, but from the fact that in today’s politics the planet is the space in which any initiative needs to be constructed and measured in order to satisfy minimal conditions of sustainability and effectiveness. The future that matters emerges in a multi-regional global space of business, social, and cultural initiatives.

As we grow to understand more about the historic role of the library, and the explosive changes in today’s communications technologies, we are increasingly aware that a narrow understanding of legislative activity, or a shallow understanding of technology, or both, could predispose us, or encourage us to

move in very dangerous directions, making the library increasingly irrelevant as an institution³.

Our challenge here is not to get enmeshed or lost in the midst of proliferating novelties and enhancements. What we are interested in, as we mentioned before, is to lay foundations for a serious, long-term program for the library, and to provide guidance and initial steps for the library to act reliably in the furtherance of the political agency of the people of Chile.

DIGITAL TECHNOLOGY AND EMERGING PARADIGMATIC PRACTICES

The changes in technology and communications we have experienced over the last decades are [not slowing down](#). They are gaining momentum. Ray Kurzweil, the renowned author, inventor and futurist, said in his book [The Singularity is Near: When Humans Transcend Biology](#) (2005), "The twentieth century was gradually speeding up to today's rate of progress... We will make another twenty years of progress in just fourteen years (by 2014), and then do the same again in only seven years. To express this another way, we won't experience one hundred years of technological advance in the twenty-first century; we will witness on the order of twenty thousand years of progress (again, when measured by today's rate of progress), or about one thousand times greater than what was achieved in the twentieth century."

A few years ago, it was impossible to imagine that a majority of our people would shortly be carrying their own cell phones. They are. Now, to cite only one statistic, IBM has explicit plans for increasing the capacity of a single "chip" by more than 100 times, from 50 million devices to 5.8 billion devices, in the coming not-too-many years. *No one in the world can adequately anticipate the implications of such a pace of change.*

A quick review of major technological trends shows that we should expect:

1. Continued radical reductions in the costs of coordination, and in the *relevant practices* for building collectives, movements, alliances, and innovative initiatives.
2. Continued radical reductions in the cost of making and keeping digital records. A good working assumption is that very shortly memory will be free. (Since 1970 the integrated circuit industry has been reducing costs by [35% per year](#).)
3. Blogs and more broadly, the world of practices being developed around blogs and Internet search capabilities, are having a huge effect on the way that collaboration emerges in large communities. The rationalistic interpretations that most of today's institutions operate within are becoming obsolete at an amazing rate. The new practices give people and groups a radically enhanced capacity to build identities, track

³ Among IT professionals the understanding that Libraries can be encompassed more or less completely as Digital Warehouses is widespread.

- conversations, link digital communities, coordinate initiatives, support alternative media, innovate in private property rights (Open Source), and the like.
4. Digital games are going to emerge as fundamental devices for education, developing and testing identities, and shifting cultures. (Today, armies of developers around the world are developing games in the interpretation that the \$100 computer is coming, perhaps as soon as in the next year, and of convergence of all manner of digital media, including TV, entertainment, music, cell phones, etc.
 5. Today, there is the Web 2.0 that is changing Web 1.0 people's practices, and affecting the corporate landscape. This Web 2.0 consists of blogs, wikis, social networking tools, (Really Simple Syndication), mashups, photo-sharing and other services. Beyond that, there is an increasingly organized speculation on a Web 3.0. This will be a new stage of the Internet able to deliver Supercomputer capacities based in "clustered" microcomputers running in parallel or "grids." A new Internet, running on Open Source software, will offer supercomputing capacities to any person with access to the web. Soon, millions of people will have in their homes the supercomputing capacities that the U.S. Defense Department has today.

Our experience is that the only fruitful way to deal with these kinds of changes is to stay in touch with emerging communities that are exploring and exploiting the changes, share experiences and tips, re-appropriate their practices, and invent a variety of small original labs to produce a vital space of action, design, and discovery. It is critical to exchange what we and they are learning as we engage in the changes. By doing our own experiments and following the reports of early adopters, we can begin to understand the consequences of such radical changes, and participate experimentally in people's evolving experience with the unfolding worlds of new tools and practices.

We cannot assure ourselves of effective participation in emerging worlds through studies that attempt to answer the key questions in advance, by prediction. We cannot assure the kind of participation we need to become "early players" or "leaders" in emerging initiatives if our only consideration is being part of the "early majority" that assesses, buys, and begins to use proven, safe technology. To thrive in unstable, fragile, and dynamic emerging worlds, we need stable practices. As a national community, we have some intuitions about the practices that need to be built. However, the authors of this paper are certain we have "sensed" but the tip of the iceberg. We will have to discover, in the midst of our journey, unknowns that will unsettle our commonsense, *expand our ignorance*, and put us in position to face what needs to be built.

3. THE CENTRAL PROPOSITION: THE POSSIBILITY OF A NEW ROLE FOR THE LIBRARY OF CONGRESS

From time immemorial, libraries have been broadly understood as institutions dealing with records from the past. Libraries, librarians, and archivists serve as repositories, institutional memories, and trustworthy witnesses of past events. Starting somewhat more recently, Libraries have also come to be understood in a supporting role that is similar to what is today understood as *quality assurance* and *best practices*: some libraries provide articulations of the *state of the art* in dealing with issues relevant to their constituencies and customers. Libraries do that by providing relevant texts⁴ to their audiences, in customized fashions.

Today, technology is opening a whole new field for the role of libraries and librarians. The new digital reality, based in the Internet, allows libraries to play a role well beyond registering the past and that part of the future that has already been richly articulated in the past.

Here is a way of putting what we take as a pivotal emerging possibility for the Library: *We want the Library to be relevant in the spaces in which texts are not yet stabilized, in the spaces in which texts are in different stages of being formed by vital and vibrant emerging collectives⁵ that are struggling to break social inertia for dealing with significant issues.*

We believe that the Library can construct a role deeply connected to rising local/global concerns, supporting the digital spaces in which those concerns are being shaped by emerging collectives that create new practices and new languages that eventually will stabilize into new innovative social practices and new texts.

⁴ Paul Ricoeur, *From Text to Action*, (1991): "Let us say that a text is any discourse fixed by writing. According to this definition, fixation by writing is constitutive of the text itself. But what is fixed by writing? We have said: any discourse. Is this to say that discourse had to be pronounced initially in a physical or mental form? that all writing was initially, at least in a potential way, speaking? In short, what is the relation of the text to speech? (...) we are tempted to say that all writing is added to some anterior speech. (...) Moreover, writing as an institution is subsequent to speech and seems merely to fix in linear script all the articulations that have already appeared orally. (...) Whence the conviction that writing is fixed speech, that inscription, whether it be graphics or recording, is inscription of speech—an inscription that, thank to the subsisting character of the engraving, guarantees the persistence of speech." We interpret that Ricoeur is using the notion of "discourse" to denote contingent conversations; so, text can be understood as inscriptions of conversations.

⁵ We will use the word "collective" to speak about networks of people who take on responsibility for defining and bringing forth new worlds of practices. The people involved will include not only the inventors and innovators themselves, but also those supporting, investing in, employing and cheering on the development of new practices. When we refer to a particular collective, then, we are also pointing directly to the innovation in social practices that the collective is bringing.

For example, the Library can offer to:

- “map,” and sponsor the mapping of, emerging conversations in particular national collectives that are important to the nation,
- track initiatives and convene conversations around those initiatives, assuring that constituencies and clients have early access to those conversations,
- help transform clients and constituents from mere bystanders and witnesses into actors and agents in the construction of the worlds that are coming.

In short, the Library can evolve from offering texts, to offering “con-texts” in which preliminary, unstable, controversial, and fragmentary texts can evolve, mature, and gain value.

As an aside, let us look for a moment at other, alternative interpretations that are emerging about what libraries, librarians, and archivists should and can be doing. One set of proposals, triggered by the explosion of “information” in the world brought by the digital convergence of media, (and, not surprisingly, heavily underwritten by providers of data handling hardware and software) is that libraries must focus their attention on facilities for the storage and retrieval of information. Jenny Levine’s [The Shifted Librarian](#) shows that the situation is substantially subtler, arguing that, “... people aren't going out to get information anymore. Instead, it's coming to them.” In an often-cited challenge to the idea that libraries ought to be fundamentally concerned with the storage and retrieval of information, Chauncey Bell’s [Re-membering the Future: Organizational Change: What is it, and what does it mean for records professionals?](#) challenges librarians and other records professionals:

“... you are competing with the computer industry to define the stories that determine how money, prestige and the power to act are going to be allocated to your discipline. You have been asleep, or largely silent, in the struggle to define the language and distinctions that set the story line—the identities and standards in which we interpret the value of what you do. The computer industry is insisting that the key terms have to do with the capture, storage, transmission, and retrieval of data and information. The story that comes from those distinctions says that the essence of your work is the evaluation, storage, and cataloging of information. In a world conceived as being constituted of bits of data, the computer does, in fact, offer awesome possibilities for storage and retrieval. And if that were to become the substance of the winning story about your work, then it would spell an end to the future of your discipline as you know it.”

Technology is opening enormous new spaces in which it will be *possible* for libraries to play. The emerging opportunities have a number of things in common: overwhelming quantities of information, widespread confusion, and attachment to habitual thinking. Some possible new roles are more interesting than others, but the most interesting new roles lack strong historical antecedents. We will not have the advantage of prior experience to guide us as we shape actions for these new roles. As we construct the roles, we will not know how to

make reliable assessments about what is going on. We can be sure that our historical practices are going to be insufficient or downright misleading.

In this moment, what will be the right technologies to master? Which will be the most effective practices? What styles will allow us to thrive in these new spaces? What kinds of returns should we expect from investments in this emerging space? None of these questions will yield straightforward analytical answers, because we are dealing with a space that is in the process of emerging.

We interpret that the most interesting potential roles for the Library are those that would involve it in important emerging national and global conversations, where that involvement has the potential to help the country's people thrive in emerging technological niches and unleash vast social innovation in our national community.

In the following section we will characterize the process along which national communities appropriate new practices, the roles that are relevant sources of orientation and leadership in national communities, the temporal structure of social practices that those roles deal with, and finally, some possible initiatives that can become labs in which this new Library's role can be crafted.

4. COLLECTIVES AND THE EMERGENCE AND APPROPRIATION OF IMPORTANT NEW PRACTICES IN THE WORLD

We have done a preliminary reconstruction, standing on work by Jürgen Habermas ([*Between Facts and Norms*](#)), Francis Fukuyama ([*Our Post Human Future: Consequences of the Biotechnology Revolution*](#)), Bruno Latour ([*The Politics of Nature: How to Bring the Sciences into Democracy*](#)), and Charles Spinosa, Fernando Flores, and Hubert Dreyfus ([*Disclosing New Worlds: Entrepreneurship, Democratic Action, and the Cultivation of Solidarity*](#)), from which we characterize a continuous cycle in which change happens.

In the following brief articulation, we ask the reader to remember that this is a first iteration of this speculation – a preliminary hypothesis. We want to keep the speculation open and alive so that we can learn and include many other people in the conversation. As we explore and learn from it, we want to discover how we might use it to develop actions and assess the value of actions taken in our political institutions. The critical question, of course, is how we will transform this description of a cycle of important changes into a viable set of political practices in which social innovation can thrive and the Library can play a significant role.

The ways in which we normally go about understanding “social change” are, for the most part, far too centered around rationality and individual will to be of any real use in designing new practices. With the benefit of hindsight and our capacity as storytellers, we look back and interpret that innovators will design, plan, and implement changes in a fashion similar to the way that we think of engineers building a house, a bridge, or a mine. Such a story belongs in the “fiction” section of the library. It is not that innovators do not intend to make changes; they do. However, what we call change is, to a great extent, analogous to what shows up as possible waves to ride for someone who is already competently surfing, as she or he rides one or more waves. We ask you to think of surfing and waves here as a metaphor of, for example, someone who entered early conversations about the development of Internet practices, meaning to explore the Internet. As competent surfers surf, chance, fate, and fortune live in the waves they encounter. There is mastery available in opening oneself to embrace that fate.

To live in a community is to live in a state of essentially continuous concern with the unfolding possibilities we encounter in a multiplicity of worlds. This “being concerned” is a gift that comes from being immersed in cultural traditions, and from being biological Beings. We are concerned Beings as a matter of habit. For instance, we care about education out of our concern of making our community relevant and viable in current and future worlds. We care about spirituality out of our concern for cultivating a common ground for coping with the constitutive mysteries of existence out of which daily life thrives. To a very large extent, we do not “choose” those concerns. They choose us. If we are fortunate, we are able

to shape a few of our concerns in the midst of learning and cultivating practices to take care of them while we engage in our communal lives with others.

Many or most of our worlds, our concerns, and the practices we inherited and developed to deal with them go all but unnoticed throughout our whole existence. We do nothing about them. Others of those worlds, concerns, and practices are painfully visible and present, but somehow we manage to “ignore” them—compensating, denying, and suffering—keeping our community and ourselves stagnant. A few of those worlds, and the concerns and practices for taking care of them, gain a large share of our attention, and become focal sources of creativity, power, and meaning along our lives. When we are fortunate, we invent ourselves around them.

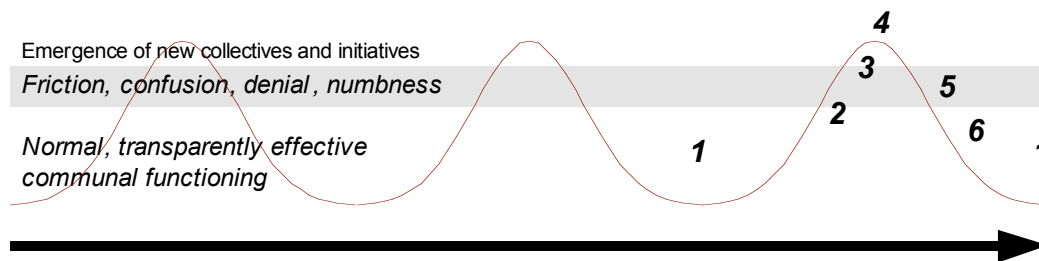
From reflection on these phenomena, and thinking from the authors we cited at the opening of this section of the paper, we have articulated a proposition for how to understand the process of a community’s movements in dealing with, improving or recreating their worlds. We posit a cycle with six main stages that we articulate below and illustrate in the diagram on the next page:

- 1. Transparent Coping with Worlds:** The community’s existing worlds and systems of worlds incorporate a rich and effective repertoire of roles, social practices, technology, and ethical meaning. Recurrent coping in these communal worlds nurtures the members of the community and their shared worlds. Virtue, value, and recognition are built and contained in a cohesive whole.
- 2. Stagnation and Deterioration:** In some of the community’s worlds, dissatisfaction, confusion, painful symptoms, and disorientation emerge. A well-established consensus does not exist about how to assess this situation when it emerges. The current state of education, and the debate on global warming are current cases in point. We find ourselves surrounded by many competing assessments, positive and negative, and none of them is able to bring resolution and action. With each successive moment of reflection, we find more waste and frustration. After this situation exists for a while, a condition we call “numbness” emerges, like a great cloud that tranquilizes people against the irritation, frustration, and even outrage at the ongoing negative situation.
- 3. Unsettlement and Perplexity:** A “collective” begins to emerge as a subset of the community knits together facts and concerns, people and things, breaking through the numbness and inertia. The collective brings forth new interpretations of the situation, new facts, new concerns and new practices. At this moment, a new “We” and a new “Them” are being generated. This does not mean, however, that at this moment there is a reliable consensus on action or that the situation becomes clear. There will still be a multiplicity of voices and opinions, diversity, failures, ephemeral successes, and not-yet-stable identities. At this stage, we still have an opaque, volatile world, but new possibilities are taking shape in it. There is a new powerful and disruptive mood pressing for a new world to emerge. Science, technology, business, politics, or spirituality start

tracking the new identities and events “on their radar screens.” Some find propositions that are good candidates for existence and begin to test them and put them into motion.

4. **Consolidation of the New Collective:** At this stage we are concerned with how many of us there are in the “We” category - how many members of the new collective - and with retaining the most relevant and potentially powerful players. In this phase of the emerging world of the collective, we begin to distinguish roles and constitute relevant observers of new practices - observers with capacities to make powerful assessments of value and risks. Do we have here all the relevant speakers, practitioners, and other relevant roles? Some identities emerge, and some members of the collective begin to be able to *embody narratives that unsettle existing worlds and practices for dealing with particular historical concerns*. Leaders and the style of the collective gain in resolution and develop ever-stronger contrasts between new and old worlds. With that capacity, we begin to be able to *gather resources for establishing experiments and stabilizing new promises of results*. A new context for assessing risks is constituted and coalitions of collaborators, partnerships, and all sorts of political relations are pursued.
5. **Eruption and Hierarchy:** A proposition for an innovation is launched into the public space, and begins the struggle to displace existing practices and established coalitions. This is a moment of disruption, potential waste and the establishment of a new hierarchy of worlds, concerns, and practices. It is a moment of abrupt displacements of power, realignment of resources, and the constitution of new roles and identities. Strategic choices are made. New alignments of friends and enemies, allies and competitors are constituted. Power is accumulated, resources gathered, regulations changed, and legal authorities are called upon to make room for the new world. The concern for taking care of winners and losers is amplified.
6. **Institutionalization of the New World:** The foundations of the new world are established. The new world achieves a certain kind of momentum, and it expands across all sorts of communal activities. It supports, influences, shapes and couples with other worlds in an increasingly efficient and transparent way. A new order gets consolidated, and a new historical reality gets established. New spaces for managing inclusion/exclusion are created. The commitment to make the expansion of the new reality more efficient and its operation simpler and wider becomes central. The new practice becomes a new transparent mainstream.

We envision the cycle as the drawing below shows – as an ongoing cycle of action, with time flowing from left to right. Most of the time, our practices are “below the line,” in an area we have called “*Normal, transparently effective communal functioning*.” Periodically, in the area we call “*Friction, confusion, denial, numbness*,” we have the opportunity to awake to new possibilities that could, but will not necessarily, emerge through the efforts of new collectives.



Up to this point, we have sketched a characterization of the cycle in which worlds are brought to existence. Next, we will propose a set of roles and practices that could impact our progress with important initiatives as we move along the cycle. Our challenge, to recap, is *to contribute practices that can expand the capacity of our national community to participate in emerging markets/communities, and, as we develop, to lead emerging markets/communities.* As a library, we are a small institution, with few resources. One of our major challenges will be to stay focused, and to continuously adjust our role as we discover where we are most able to make a difference.

In the following paragraphs, we articulate speculations about four roles that would contribute to leading a particular collective along this cycle. Some of these roles will 'echo' or resemble roles that already exist in advanced financial markets to support entrepreneurial endeavors, such as, "angel investors," "venture capitalists," "incubators," or "investment bankers." Those roles, however, are today found only in markets that are more evolved and larger than ours. The resemblance is important. We think we can appropriate—at least partially—some key practices from those traditions, and from that, we believe we can gain support to produce a larger social phenomenon, in which the Library of Congress can articulate, develop and create the digital platforms in which these roles can be performed.

In the following brief articulation the roles should be interpreted as possibilities for action by individual performers, and also possibilities for action by well-coordinated networks of people acting together (collaborating) in digital environments.

We call the first role Glimpsing. We chose the verb "to glimpse" because it carries the implication – the "flavor" – of anticipating or seeing a "unity" far in advance, assembling it from hints and from small, partial, hardly noticeable details. This capacity of seeing in advance is what we consider critical in constituting a new collective. *Glimpsing* is the action that re-contextualizes and couples concerned local communal activity into larger spaces of emerging collectives, and as a result, generates new scenarios of possibilities and action. *Glimpsing* brings forth a mood of unsettlement and perplexity in a community whose inertia, habits, and numbness hold or drive it away from new spaces of possibility. *Glimpsing* creates a space – an opportunity – in which a community can re-gain its vitality and possibilities for bringing genuine and valuable changes.

As we envision its development, *Glimpsing* is an extremely sophisticated capacity. The role calls for experience and concrete knowledge in dealing with proto-innovations in each field in which the role operates. *Glimpsing* activities will often be circumscribed to very specific projects, being carried out by specific collectives. The role should have a narrow focus on particular types of breakthrough. In addition, the role requires the capacity to articulate experiences through rich and powerful narratives that connect innumerable details, giving coherence and simplicity to that, which for less prepared eyes will show up as mere chaos. Finally, the *Glimpsing* role requires that actors in the role bring or gain reputation and identity strong enough to open doors (both wooden and digital), cause people to listen to them, start relations, and gather some minimum resources in a particular global community.

We call the second role Alerting. We chose the verb “to alert” for announcing and warning us about changes of context that reshape interpretations of risks and value. This role is less involved in concrete innovation activities and more involved in architecting the spaces in which an innovation can thrive. *Alerting* is also involved in helping us avoid potential dangers that can come from all sorts of unpredictable situations, competing coalitions and so forth. This second role begins to become active in the moment that marginal, emerging collectives, (succeeding and failing in the midst of heroic engagements with new issues), start gathering resources at rates greater than those of competing collectives, and start producing richer conversations around them. *Alerters* – those playing this role for us – say to us, “Go this way” or “Don’t go that way.” The key concerns of the role are to conserve and focus resources and relationships to improve the chances of successfully bringing innovation in social practices to reality. *Alerters* maintain close relations with *Glimpsers*, and share with them the concern for the viability and consolidation of collectives. *Alerters* bring a mood of conviction in the possibility of what is emerging.

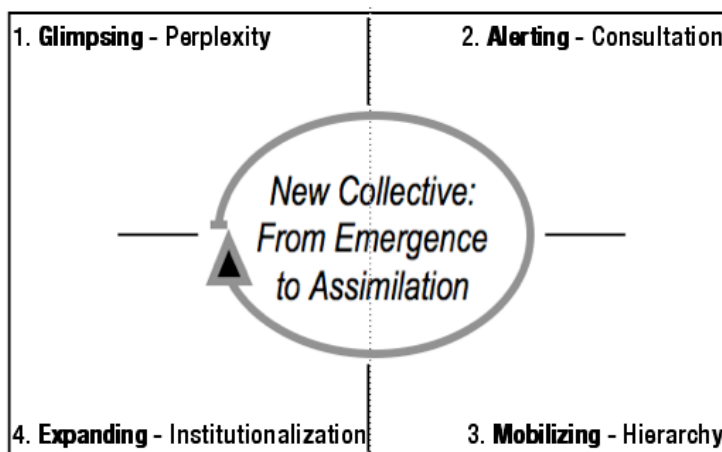
The third role is Mobilizing: This role is the strategist that prepares the forces, the moment(s), and the circumstances to unbalance the current situation in favor of the situation the *Mobilizer* is committed to bring. The result of its work is a mood of strong resolution in a critical mass of the community necessary for bringing a set of new practices to fruition. *Mobilizers* act to produce a sudden and powerful disruption that will dispute the dominance of some set of practices in some market or space of social practices. After a short period of time, the role will have contributed to reshaping the whole scenario. After a *Mobilizer* acts in a particular social world, the parts of the old whole or unity will no longer fit together in the same old way anymore, and new spaces will remain open and available for new possibilities to be crafted. This role has many important similarities to the role of a senior politician. The role leads a struggle for power and recognition of emerging concerns and identities. At the same time, it takes care of the loss, the pain, and the future of the losers.

Our fourth role is Expanding: Once a new collective has begun to dominate the space in which it operates, the promise of the *Expander* is to smoothly extend the new world, its practices, and benefits using all available mechanisms -- establishing regulations, norms, spreading relevant information, educating and enforcing behaviors, and so forth. This role is the one that leads the incorporation of the new world into the extended national community, until it becomes a transparent dimension of reality.

The question of how to most effectively structure these roles and assemble the networks to support them for effective operation in digital platforms is a challenge we expect to develop out of some experimentation. We have used the work of Bruno Latour as the basis for an articulation that will help us think about key dimensions of the challenge, and to begin, very tentatively, a speculation about possible new practices⁶ to be developed by the Library of Congress.

Let's make a working hypothesis, for the purpose of thinking about possible new practices in the present historical moment, that *a crucial dimension of politics, and a new understanding of the role of the Library, will appear as the capacity to orchestrate and evolve a set of practices and processes that will enable new collectives to bring value to the national community*⁷. Working from that hypothesis, and following Latour, we can postulate a model of a recurrent cycle of action that defines a relationship between an emerging collective, the Library enhanced role, and the national community. In this recurrent cycle, we would expect to see a process of mutual investments and exchanges of value between the collective and the national community.

Now let us explore the cycle. How would we understand the way that innovations and emerging worlds would progress through the four phases of this cycle, and how would our respective roles perform.



⁶ See Appendix I.

⁷ See Appendix II.

First, *Glimpers* ask these sorts of questions: “What are these guys doing with voice protocols on the Internet?” “Are these troublemakers good enough to deliver trustworthy communications?” “Oh! It is really interesting how these people are building this new tool, but, what those other guys are doing seems more reliable...Who will survive?” “People around here are in denial about how these forces will disrupt their lives!”

Glimpers are committed to engage with, and develop narratives in which they can understand something about potentially relevant possibilities for the national collective coming from weird new things happening in the margins of the world. Afterwards, there will be a space available in which *Alerters* may contribute. They will call our attention to what they assess are beginning to appear as the newborn collectives, as well as the emerging new coalitions gathering resources and delivering results on a slightly more reliable basis. *Alerters* will distinguish alliances and speculate about who is part of the collective and who are its competitors. At that time, *Mobilizers*⁸ will be involved in organizing coalitions of action in what will become a historical struggle, moving what they expect will be winning collectives and coalitions to the forefront. Suddenly, their activity will crystallize. We will have a new industry, new institutions, or new social practices in front of us. With the appearance of the new social practices, we will notice new intersections. The fourth role, the *Expanders*, will then show up. The emerging practice alters many practices in adjacent spaces. The *Expanders* resolve conflicts and frictions, and create space for the emerging collectives to displace other, older, less interesting practices. For example, today’s communications, music, video, entertainment, downloading, and software are all beginning to happen together. A new unity – for the moment we can call it digital services – is beginning to organize all these and other entities in its sphere. To navigate successfully the emerging spaces, we need to understand the tensions between the old and new spaces, and what we could call ‘strange attractions’ among the new entities. In our example, we are following a very linear interpretation of how the roles come into action and interact. However, we think that this is not the most plausible scenario. It is more

⁸ Carlota Perez, in her book “Technological Revolutions and Financial Capital” (2002), claims that there is a particular event in the eruption of a new industry (*what we think can be extended to any other collective*), that has the power and critical mass to unleash the forces of new technologically enhanced social practices. She writes, “On a day like any other in November 1971, a small event in Santa Clara California was about to change the history of the world. Bob Noyce and Gordon Moore launched Intel’s first microprocessor, the precursor of the computer on a chip. It was the big-bang of a new universe, that of all pervasive computing and digital telecommunications. Chips were powerful, they were cheap and they opened innumerable technological and business possibilities.” By the same token she mentions the moment in which the first Model T came out of the Ford plant in Detroit, Michigan, inaugurating automobile mass production (1908), or the opening of the Carnegie Bessemer steel plant in Pittsburgh, Pennsylvania (1875). These are good examples of the moment in which “Mobilizing” takes place.

likely, in our opinion that these roles will interact in an asynchronous, more spontaneous fashion. They will pass topics and proposals back and forth, sometimes overlapping, and sometimes in a more synchronized or orchestrated fashion.

As we think about developing people's capacity to act in these kinds of roles, we notice that many members of our national community have relevant backgrounds and sophisticated capabilities in some of those conversations. Chilean citizens, here in Chile and around the world, and people in Chilean citizens' networks, possess sophisticated backgrounds, experience, and capacities to engage in conversations in which they could function in new kinds of roles that could be organized on digital platforms and coordinated by the Library.

In this four-phased Latour's cycle, we are not exploring some aspects of the life cycle of a collective that may be significantly relevant. We have characterized a process that goes from emergence to assimilation. However, we also expect mature collectives to die. In other words, collectives will also, deteriorate, resist changes, collapse, complete their cycle, and free resources.

Mature and dominant industries and institutional systems that are being challenged by emerging social practices (think about traditional agriculture [Monsanto], oil-based energy [Exxon], or private software [Microsoft]) resist changes in a very active way. Not only do they resist, but they exhibit a sort of predatory behavior in which they privately capture "positive externalities" resulting from the depletion of social capital, which in turn later produces "downstream" symptoms such as health problems, global warming, or technological stagnation. Collectives, then, need support in emerging as well as in dying.

Perhaps this preliminary articulation is still too abstract to be realized. However, we think it is provocative as a source of orientation for further thinking.

5. TEMPORAL STRUCTURES OF SOCIAL PRACTICES

We have speculated that it is possible to construct a series of roles that would powerfully support empowering emerging collectives as they navigate through various phases in the development of innovative social practices. The purpose of these roles will be to provide stable orientations and sound frameworks for organizing concrete plans and experiences. The easiest place to look to observe emerging businesses is the individual start-up. In the context of commerce and commercial enterprise, we guess that the start-up will be a central focus for the *Glimpser's* role. The *Alerter* will make assessments of potential value, evaluating start-ups in the context of a particular emerging industry. The horizon of the *Alerter*, in this sense, stretches farther into the future than that of the *Glimpser*. The *Mobilizer* will be concerned with changing the horizon of competition within particular industrial systems that s/he is observing. The *Expander* will be concerned with distributing the benefits of an emerging new horizon to the whole community.

Each of these temporal horizons can be articulated in terms of fundamental ontological structures. Although this is a fundamental topic, we will mention only a few dimensions of it here. Our main purpose will be to bring to the forefront a stable theoretical framework that can support us in managing our experiments as we develop capacities to deal with and shape emerging worlds and collectives.

In any emerging collective (and in and around the new world it is bringing), we will find forces of stabilization and forces of change. The most important of these forces will come from recurrent exchanges of value and capital (symbolic, pragmatic, financial) that have made the historical antecedents to the collective viable, and which will eventually make the collective itself viable. The stabilizing forces will be given identities out of current articulations of the "we" (with its declarative powers), and from consensuses about divisions of labor and role identities. An intricate web of commitments and exchanges holds the collective together as a unity. There are also other forces of destabilization and change in the dynamic of the emerging collective. Some come from the past, and some come from the future⁹. From the future come tensions, new demands, calls to explore anomalies and become more involved with adjacent communities, and demands to deliver expanded value. From the past come the ways of doing things that are already obvious, simple, inexpensive, accessible, and also the increasingly demanding standards and benchmarks for all sorts of performances.

We can use the following diagram to organize our conversations about stabilizing and destabilizing forces.

⁹ In this context, we understand time as *the dynamic of emergence and marginalization of social practices*, and not merely as a chronological sequence of observed events in which past is behind, and future is ahead.

TEMPORAL STRUCTURE OF SOCIAL PRACTICES

	PAST: New constraints and possibilities disrupting the past: A past pregnant with futures	PRESENT: Everyday way of engaging with others in worlds: Core exchanges that organize current social practices	FUTURE: Bridging with the Future: Anomalies that unsettle current practices & bring new values
<i>Our Future: Practices that support the reconfiguration of current identities</i>	Gathering Flexibility from other emerging collectives.	Governance. Constitution of the “We” and the “Them,” and the modalities of relations between them. Declaration of a new language of distinctions. Positioning of constitutional narratives and text.	Betting on new capacities, and potentially valuable role identities.
<i>Everyday Transactional World: Practices that support current identities</i>	Standards, Rules and Norms that support current practices.	<i>Daily Living and Working: Distinctive and valuable practices that gather a particular collective.</i> <i>Exchanges between customers and suppliers, allies, members of a community, neighbors, family, etc.</i>	Improvements: New ways of doing things together. Development of practices that bridge old concerns in emerging styles. Assembling new methods and offers for products and services.
<i>Background that supports current Identities: culture, infrastructure, institutions</i>	Basic Ways of Being, Fundamental Values, and Concerns: Historicity and style of culture.	Infrastructure of Institutions, Practices, Technologies, Competences: Transparent support network of help and tools.	Diversity: The range of practices and ways of being found in this immediate world.

This diagram and those we have presented earlier in the document will support us in organizing our observations in powerful ways. The diagrams allow us to bring order and to make interpretations and assessments that focus our attention on the fundamental forces shaping a particular situation. The diagram makes visible the key social relations and dominant habits that are bringing stability, tensions, and that are unsettling common sense. On top of that, the diagram sketches the historical context of relations that make the situation intelligible and actionable. In short, this framework can help conceptualize, design, and create capacities to deal with evolving phenomena.

In the process of constitution of the collective, the identity of the emerging collective makes sense in terms of the possibilities it brings to other collectives. Initially at least, there is no “identity of the collective” in itself. In the evolving process of articulating and discovering the identity of a collective, the distinctive language of the emerging collective (how those in the collective make its identity

intelligible for themselves and others) is defined, enriched, challenged, and influenced by the others it interacts with. (The members of the collective and those interacting with it understand their “We” in terms of modalities of the “Them”: friends, enemies, communities that have no connection to the collective, and so forth.) This is the fundamental process in which the production of text takes place. It is shaped primarily by large historical forces, and is therefore essentially out of the control of the emerging collective (or any collective).

We are trying to articulate a rich phenomenological approach in few paragraphs. This is very challenging. Nevertheless, our objective is not to produce an exhaustive, explicit, methodological approach. What we intend here is to give illustrations, making the phenomena partially visible, and triggering questions to help the reader understand the interplay between technology, the production of texts, and the generation of value through innovations in social practices.

Consider several cases:

- The 1952 collective of J.D. Watson, F. Crick and colleagues creating the DNA model,
- The 1960-1970 ARPA collective that created the Internet,
- The 1980’s Open Source collectives creating open software,
- Today’s collectives creating Globally Contextualized Local Media in third world countries.

All of these belong to a sort of phenomenon we are trying to grasp with the framework we are sketching. Thinking and studying these phenomena can help us to develop our framework, discover its insufficiencies, and design efficient actions for supporting our collectives/ customers.

6. DISRUPTIVE FORCES SHAPING COLLECTIVES' LIFE CYCLES AND DYNAMICS

At a high level of abstraction, we may say that science and technology are the spaces in which most new forces are created. Later on in their evolution, new forces will transition from the laboratory to manufacturing plants, and from plants to the retail store and to customers. Then they will become controversial and connect with various departments of their local communities' governments, or even perhaps their criminal justice systems. They may connect to legislators and legislation, and can erupt into the stock market, and be picked up by our Internet Media Aggregator.

Along these complex journeys, new materiel components created in laboratories, become real in our communities as stories ascribed to them by vital collectives. The collectives speak and produce texts that reveal how those new components might show up in their lives and affect their practices, their concerns, and challenge their current understanding of their lives and worlds. In Latour's words, human and non-humans entities become increasingly complex and perpetually intermingled in an inseparable whole.

The process of emergence and dissolution of collectives is shaped by major materiel forces born in Sciences and Technology. These materiel forces in turn conflict with and contribute to the communal culture, and to its established social practices in spheres of activity such as business, politics, or spirituality. Each sphere plays different games, and has different structures and elements for bringing forth realities. The following diagram distinguishes some of the fundamental practices found in these spheres.

PRACTICES FOR ACCUMULATING POWER AND BUILDING IDENTITIES IN SCIENCE, TECHNOLOGY, BUSINESS, POLITICS AND SPIRITUALITY.

	Science	Technology	Business	Politics	Spirituality
	Emerging Material Forces		Hierarchy of Social Practices and Roles		
Point of the Game	To produce valid scientific explanations and establish new facts.	To produce networks of devices of increased power that operate on recurrent bases.	To create markets which transform people's dissatisfactions into new offers.	To articulate and reconfigure a collective's identities by shaping its communal practices.	To articulate and nurture practices in which beliefs, values, and myth frame the space of what matters as ethical orientation and as unsettling constitutive mysteries.
Sources of Identity and Authority	Publication of papers in Recognized Scientific Publications. Quotations in RSP.	Production of Patents, Trade Secrets.	Accumulation of Financial Capital.	Votes. Promulgation of Laws.	Followers, and followers' social influence.
Sources of Viability	Funding research programs. Schools of thought. Big grants.	Intellectual Properties.	Market exchanges.	Variety of found rising activities.	Voluntary contributions. Private resources.

Each space has its own rhetorical styles. Dialog between spaces is not always fluent. Restrictive mutual classifications narrow the realms in which potentially fruitful understandings can be developed. Effective dialog is often principally available in realms governed by modern rationalism.

We can see a good illustration of this situation in [The Stanford University Singularity Summit](#) of this past May (2006). Ray Kurzweil spoke about important technological trends (in computers, networks, biotechnology, nanotechnology, and other spaces) and of the potential implications in terms of new scenarios for material capacities and human life. Kurzweil is a scientist, an engineer, and an entrepreneur. Attending the summit were twelve official commentators, and many bloggers speaking out on the subject. People from many technological fields questioned the grounding of Kurzweil's predictions, making many marginal comments. Many social scientists said things that we interpreted were fundamentally complaints that Kurzweil was not solving their challenges in their own terms. Something on the order of three quarters of those speaking out during and after the "Summit" can best be understood as criticizing Kurzweil for various misdemeanors or actual sins: not resolving basic social problems, dehumanizing the future, and/or for missing some basic technical or political questions. The Summit could make multiple collectives more aware of the

coming forces colliding with their historical practices. It was organized to produce, through streaming video and by invitations to bloggers and authors, contributions to the *production of texts* that could make scientists more sensitive to the social construction of their objects of study. Collectives' production of texts connect power and meaning, facts, and values in controversial, consensual, and most of the time, messy ways. Collectives often transition from one sphere to another without noticing that they are doing that. As hybrids of reactionary and innovative forces, collectives, at the end, only become focused on competing and collaborating with other collectives when they arrive at adequate environments.

If we want to improve the effectiveness and efficiency of collectives as they bring relevant social innovations to our worlds, we must bring to them some important capacities to move across a multiplicity of historical discourses. Further, we must support those collectives in how to build those capacities as *distinctive* elements of their style.

7. NEW CAPACITIES FOR THE LIBRARY OF CONGRESS; NEW VITALITY FOR INNOVATIVE COLLECTIVES

As we already mentioned in the first pages of this document, the organizing concern of this project is to produce a new interpretation of the role of The Library of Congress, more adequate to both the accelerated path of technological innovations in the Internet environment, and the opportunity to support emerging collectives in developing valuable innovations in social practices.

In the end, the interpretations we are developing will succeed to the extent that:

1. They produce openings for new service offers that support emerging collectives that are in turn producing innovation in social practices.
2. They contribute to a new stage of vitality of our national community, in which institutional hierarchies can collaborate with flexible networks of collectives in a fruitful way.

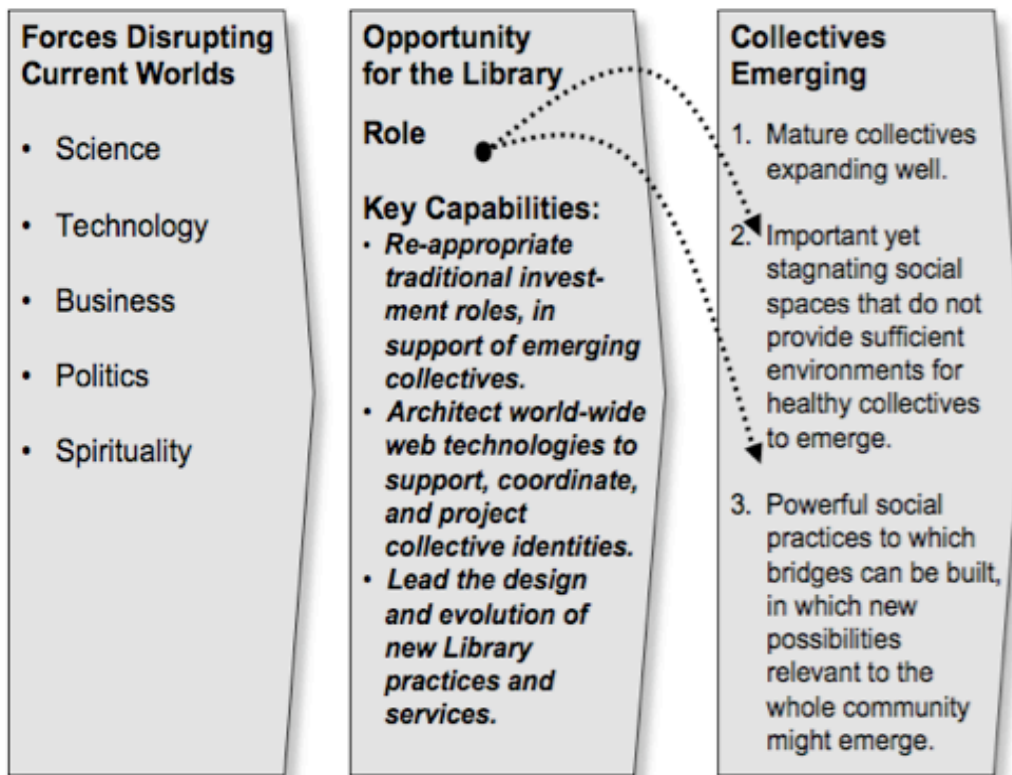
We did not set out in the paper to define specific new offers in ways that others could just go to work on them, but rather to begin to shape the space in which such offers might be developed, and to offer basic orientations that could serve as tests and refine this proposal.

NEXT STEPS

As a point of departure for the new initiatives, we recommend that The Library pick as initial targets of attention a small set of collectives embracing concerns that touch valuable dimensions of the national community that are currently in motion. Working with those collectives, The Library can begin building basic capacities, developing the paradigmatic roles we have suggested, and setting up basic Web Technology. With those experiences and the skills that will emerge from them, The Library can begin creating the whole set of capabilities for developing collectives in which The “New Library” can begin supporting the evolution of national practices in new ways.

The diagram following illustrates at a high level the whole view of this proposal including disruptive forces, emerging collectives, and spaces and capabilities in which The Library can participate.

Priorities and Capacities for a New Role for the Library of Congress



INITIAL CAPACITIES

Our recommendation is that The Library of Congress organize itself for this new initiative around a few key capacities. In using the word “organize,” we do not mean to call for organizational structures at this moment. Rather we are recommending that The Library bring and begin to maintain certain new capacities, through minimal staffing, collaborations with other institutions, outsourcing, and other modes of networking.

Here is what we suggest as an initial list of the main capacities involved:

1. Develop a capacity to architect digital devices to support local collectives:
 - a. Support basic practices of “blogging” and web “collectives”.
 - b. Couple with Open Source and General Public Licensing type of initiatives.
2. Develop and test the Paradigmatic Roles that we have suggested for supporting emerging collectives:
 - a. Gather and organize a network of collaborators and talents (skills, style, know-how).

- b. Develop the key roles: Glimpsing, Alerting, Mobilizing, Expanding.
3. Expand networking through private/public networks to amplify the dimensions, membership, and skills of the collective that will support this Library of Congress' initiative.

DEVELOPMENT STRATEGY

The approach that we recommend to developing the new role and capabilities we have sketched in this document is one that we call a "Design and Discovery Approach." The point is to recognize at each step that the development of really new capacities can be anticipated only very broadly and sketchily. If we are building an office building, and we have built many before, we can lay out a great deal of the project with precision. If we are bringing a new role, we must put more of our attention on creating the environment in which the role can be developed and discovered, nurtured, stabilized, supported, and finally institutionalized. This is an essential feature of all parts of what we have recommended for The Library's New Services.

The project should begin by initiating tests with a few relevant collectives, and then proceed to the next steps of the project: discovering, designing, and developing all along the way. We want to mention in passing three sets of skills that we have not spent time on in the document which are especially relevant for developing The Library's capacity to shape aspects of the skills and styles of collectives with which it will work:

- a. Listening Skills,
- b. Cross Appropriation of Historical Discourses,
- c. Cultivation of Trust.

We have sketched in this document a broad context for guiding and contextualizing the development of new practices for The Library. We have shown relevant aspects of the process out of which collectives bring innovations in social practices. We have articulated several paradigmatic roles that we believe can powerfully support the emergence of collectives. We have sketched a temporal organization of new and appropriated social practices to support the emergence of collectives. We have pointed to enumerated key disruptive forces shaping collectives' possibilities. Finally, we sketched a few capacities in which The Library can focus its efforts to launch an initiative to build a new role of lasting relevance for the national community.

8. FINAL REMARKS

Beyond the obvious value that will come from renewing a State Institution with the stature of the Library of Congress, we trust that this initiative may have effects in a larger horizon. It can contribute to creating a growing awareness and sensitivity to the distinctive advantages available to a small country in a global economy. In today's world, a country of our size has very little to say about the development of basic sciences or core technologies. Making significant contributions in those fields is, for reasons of history, capital, infrastructure, and population, the purview of a dozen or so of the largest and most developed countries. Basic science and technology are practices that demand vast resources and refined traditions of disciplines that are well outside our present reach. That is a fact. However, this does not mean that Chile is not in a good position to produce valuable innovations.

Innovation requires scientific insights and technological breakthroughs, but those are only a part of the equation. The value that innovations generate comes almost entirely from the effect of those innovations in concurrent innovations in social practices. In that respect, a small country like ours has significant advantages. With smaller populations, closer social networks, smaller institutions, and less rigidity, there is less inertia to break, less time that must be taken in developmental conversations, smaller and shallower bureaucracies to bend, and lower costs for basic scientific research and in basic technological development.

In the view of Steven Weber¹⁰, just to mention one facet of the opportunity, he claims that: "The degree to which a software tool can be used and expanded is limited in practice. But with open source software, it is limited only by the knowledge and learning of the potential users, not by exclusionary property rights, prices, or the power of rich countries and corporations... Knowledge and learning of the potential users are real constrains, but they are a different kind of constrains than are exclusionary rights and power."

A number of countries of Chile's size currently orchestrate large networks of collectives, institutions, and resources to make their way through shifting global worlds. Vibrant collectives are a fundamental dimension in those adaptive and competitive cultures.

In the moment this paper is being finished, Chilean high school students from both the public and private sectors are protesting, organizing meetings, and demanding policy changes to improve education. The students are an emerging collective, breaking an unhealthy inertia in the country. As we have mentioned along these lines, emerging collectives are a messy mix of both the past and future and are not yet clear what they are looking for. In the moment of the eruption, the cohesive force of the collective is a mood. This mood is one with

¹⁰ Steven Weber. [The Success of Open Source](#), 2004.

some dissatisfaction that is mixed with conviction to bring forth some new possibilities. The process is just starting for the Chilean students to articulate their purpose, their proposals, and their identity. In other words, this collective is at a point where it should be unsettled and nurtured by new conversations and practices. They need *Glimpsers*, *Alerters*, and other roles to support them in the production of their vital, preliminary, networked texts.

In our increasingly digitalized and open source worlds, networked collectives often collide with institutional hierarchies. Collectives are about disruption and innovation. Institutional hierarchies are about consensus and bringing order. Innovation never happens by consensus. Latour makes this fundamental point when he articulates the distinctive phases of *Perplexity* and *Consultation* in a collective's Life Cycle.

If this process is interrupted, the creative mood of the collective will dissipate, and the vindication will not bring any radically new possibility. New crisis will come. But worse than that, we may lose the possibility to expand a vital network of autonomous collectives, which would help us to think about education, to test innovative practices, and to implement relevant changes.

The student's demand for representation is not a fundamental dispute; it is just a symptom of a background of distrust, poor listening, and lack of adequate design principles to address current dissatisfactions. Addressing these more basic issues may expand the value of what we have called education by contributing to more valuable controversies, new discourses, new experiments, new texts, new roles, and new social practices.

The good news is that today, technology is working in favor of this intermediary social space. With some fortune and care, a core contribution of this project will be a blossoming of healthy collectives.

This brief project has been reinvigorating and thought provoking to us. We are extremely grateful to Soledad Ferreiro, Director of the Library of Congress, Jose Miguel Muga, manager of this project, and many others that brought key practical questions, research insights, valuable theoretical discourses, and decisively contributed and shaped the production of this text.

APPENDIX I:

Relevant Dimensions for Developing a Collective's Empowering Roles:

Establishing facts; displacing power; defining and assessing value and waste; value conflicts

	<i>Dealing with emerging events and facts: science and technology</i>	<i>Dealing with displacement of power and emerging identities: politics</i>	<i>Dealing with emerging sources of value and waste: economics</i>	<i>Dealing with value conflict, moral norms, and common ground: ethics</i>
Constitution of the Collective: <i>"Power to take into account"</i>				
<p><i>Perplexity and the emergence of a new collective:</i></p> <p><i>Glimpsing:</i> Investigation into the best way of detecting propositions that are candidates for existence, and getting them to talk.</p>	Instrument allowing the detection of invisible entities	Sense of danger allowing the rapid return of the excluded voices	Rapid mobilization of the attachments between human and nonhuman, between goods and people	Scruples that make it necessary to go looking for invisible entities and appellants
<p><i>Consultation and consolidation of a new collective:</i></p> <p><i>Alerting:</i> Investigation into the best means for constituting the jury capable of judging the effects of each proposition on the habits of the others.</p>	Construction of suitable tests, reliable witnesses, ad hoc judges	Production of opinion-holders, concerned parties, stakeholders	Articulation of differences in processes of interest	Defense of each concerned party's right to redefine the problem in its own terms
Incorporation into National Community: <i>"Power to arrange in rank order"</i>				
<p><i>Hierarchy:</i></p> <p><i>Mobilizing:</i> Investigation into the contradictory scenarios that gradually make it possible to compose an optimal hierarchy.</p>	Innovations allowing compromises, shifting the burden to other less important entities	Transformation of a spokesperson made to represent other aspects of his constituency	Production of a common language allowing commensurability and calculation	Obligation to find one and not two hierarchies and thus to resume at once the work of composition
<p><i>Institution:</i></p> <p><i>Expanding:</i> Investigation into the means to be used to stabilize the inside and the outside of the collective.</p>	Attribution and distribution of causalities and responsibilities, with the produced consensus being irreversible	Production of an inside and an outside through closure and designation of an enemy	Obtaining a justifiable decision at the end of the calculation	Against the distinction between inside and outside; offering a right of appeal to excluded parties

APPENDIX II:

Relevant Dimensions for Developing a Collective's Empowering Roles:

Cultivating the overall context in which collectives thrive.

New Legislative Practices:		<i>"Power to maintain and evolve the roles of the New Practice"</i>		
	<i>Dealing with emerging events and facts: science and technology</i>	<i>Dealing with displacement of power and emerging identities: politics</i>	<i>Dealing with emerging sources of value and waste: economics</i>	<i>Dealing with value conflict, moral norms, and common ground: ethics</i>
Separation of Powers: 1. To take into account 2. To arrange in rank order	Protection of the autonomy of questioning against the obligation to be reasonable and realistic	Distinction between phases of deliberation and decision on the division between liberties and necessities	Total distance between attachments and their reduction to calculations	Resumption of the shuttle between the two houses, to prevent them from separating
Articulation of the whole	Opportunity to imagine a simplified but coherent and total common world	Production of the one/all relation through continual motion and resumption of totality through multiplicity	Definition of the inside and the outside and modeling the public for itself	Continual rejection of totalization and pluralism as equally unfounded; obligation of resumption
Power to follow through (<i>learning curve</i>)	Scientist: Detection of a research front. Administrator: follow-through on the protocol of experiments, failures, and tests.	Choice of opportunities that allow the reversal of power relations	Unstable equilibrium that ensures movement	Quality of intentions and directions