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A Long Look Ahead: NGOs, Networks, and Future Social Evolution

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The information revolution favors the rise of network forms of organization, so much so that a coming age of networks will transform how societies are structured and interact. The environmental movement, like many other transnational civil-society movements, has gained strength over the past several decades largely because it has made increasing use of network forms of organization and strategy. In the years ahead, the movement's strength (and sometimes its weakness) will continue to be asserted through social network-based wars against unresponsive, misbehaving, or misguided corporate and governmental actors. But in the long term, network dynamics will enable policymakers, business leaders, and social activists to create new mechanisms for joint consultation, coordination, and cooperation spanning all levels of governance. Aging contentions that "the government" or "the market" is the solution to environmental or other particular public policy issues will give way to new ideas that "the network" is the optimal solution. The rise of network forms of organization and strategy will drive long-range social evolution in radical new directions.

Long-Range Social Evolution

Four forms of organization—and evidently only four—lie behind the evolution of all societies across the ages:

- The first to emerge and mature, beginning thousands of years ago, was the *tribal* form, which is ruled by kinship and clan dynamics and gives people a distinctive sense of identity, belonging, and culture, as manifested today in nationalism and even in fan clubs.
- The second to take shape was the *institutional* form, which emphasizes hierarchy and led to development of the state, as epitomized initially by the Roman Empire.
- The third to take hold is the *market* form, which excels at free and fair economic exchanges; it was present in ancient times but did not gain sway until the nineteenth century, starting mainly in England.
- The fourth to spread and mature is the *network* form, which is only now coming into its own, so far strengthening civil society more than other realms.

Each of the four forms, writ large, represents a distinctive set of beliefs, structures, and dynamics (with both bright and dark sides) of how a society should be organized—about who gets to achieve what, why, and how. Moreover, each form enables people to do something—to address some societal problem—better than they could by using another form. Each form engages different kinds of actors and adherents. Each has a different ideational and material basis, and of course, different organizational and leadership structures. Much of modern-day environmental policy and protection has drawn heavily on opportunities provided by the institutional and market forms. Today, collaborative networks are on the rise as the next great form, the cutting edge being among activist nongovernmental organizations (NGOs) associated with civil society.

As each form arises and matures, energizing a distinct set of values and norms for actors operating in that form, it generates a new realm of activity: the state, the market, and so forth. As a realm gains legitimacy and expands its space, it places new limits on the scope of existing

realms. At the same time, through feedback and other interactions, the rise of a new form or realm also modifies the nature of the existing ones. An example would be the evolution of European absolutist regimes into democratic regimes, as the old hierarchical state institutions gave up on mercantilism and were remolded by the rise of the market system, including through the rise of marketlike electoral politics.

The main story is that societies advance by learning to use and combine all four forms, in a preferred progression. What ultimately matters is how the forms are added, and how well they function together. They are not substitutes for each other. Historically, a society's advance—its progress—depends on its ability to use all four forms and combine them (and their realms) into a coherent, balanced, well-functioning whole. Societies that can elevate the bright over the dark side of each form and achieve a new combination become more powerful and more capable of complex tasks than societies that do not. A society's leaders may try to deny or skip a form (as in the case of clannish ethnic groups that have trouble forming a real state, or Marxist-Leninist regimes that oppose the market), but any seeming success at this will prove temporary and limited. A society can also limit its prospects for evolutionary growth by elevating any one form to primacy—as appears to be a risk at times in market-mad America.

Over the course of time, the monoform societies organized in mainly tribal (T) terms—and many still exist today—are eventually surpassed by societies that develop institutional (I) systems to become biform T + I societies, often with strong states. These are in turn superseded by triform societies that allow space for the market (M), and become T + I + M societies. At present, the network (N) form is on the rise. Civil society appears to be the home realm for the network form, the realm that is being strengthened more than any other—but it is possible that a new, as yet unnamed realm will emerge from it. Thus a new phase of evolution is dawning in which quadriform T + I + M + N societies will emerge to take the lead, and a vast rebalancing of relations among state, market, and civil-societal actors will occur around the world. To do well in the twenty-first century, an advanced, democratic, information-age society must incorporate all four forms and make them function well together, despite their inherent contradictions.

In historical terms, it is often difficult—and it may take decades or longer—for a society to adapt to each new form and relate it to those that have developed earlier. Success is not inevitable. Every society, every culture, must move at its own pace and develop its own approach to each form and their combination. There is no single way to get a form or a combination right. What is right and wrong may vary from society to society. A society may get stuck, go astray, prefer to stay with an old design, or even be torn apart as it tries to adapt to a new form. For example, the great social revolutions of the twentieth century—in Mexico, Russia, China, and Cuba—occurred in mostly agrarian, biform T + I societies where old clannish and hierarchical structures came under enormous internal and external stresses that derived partly from inadequate or flawed infusions of capitalist market practices. Failing to make the +M transition, they reverted to hard-line T + I regimes that, except in Mexico, remolded absolutism into totalitarianism. Today, to varying degrees, these nations are trying anew to make the same + M transition. Again except for Mexico, none of them is yet hospitable to the presence of networked NGOs who represent + N dynamics.

The United States, along with countries in Western Europe and Scandinavia, is on the cutting edge of the world's current prospects for generating a quadriform T + I + M + N society, and this explains some of the social turbulence we have been experiencing at home and abroad. In general, the society that first succeeds at making a new combination stands to gain advantages over competitors and to have a paramount influence over the future nature of international conflict and cooperation. But if a major power finds itself stymied by the effort to achieve a new combination, it risks being superseded.

Implications for Future Modes of Conflict and Cooperation

New modes of conflict and cooperation emerge with each evolutionary shift. A society's efforts to transition from one stage to the next, or relate to a society that is at a different stage, are bound to create internal and external contradictions; indeed, the values, actors, and spaces favored by one form tend to contradict those favored by another. Thus, the rise of a new form induces epochal philosophical, ideological, and material

struggles that are jarring to a society's stability, transformability, and sustainability. This happened in the past when tribal systems faced the rise of states, and states the rise of market systems. It will happen anew now that the network form is on the ascendance, energizing mainly nonstate actors.

Network forms of organization are attracting enormous attention these days; new books and articles appear every few months (with some of the best analysis coming from researchers at the Carnegie Endowment for International Peace). But it remains quite unclear what a new network realm may ultimately look like. One way it may evolve is through a four-stage progression in network topology: from an initial scattering of groups and individuals that have sparse network ties ("scattered emergence"); to their combining into a "single hub-and-spoke" design where the central hub acts mainly as a clearinghouse and coordinating agency; then to a deeper, more dispersed, specialized "multi-hub small world" design; and eventually to a dense, vast, sprawling "core/periphery" mass of organizational networks.[1] To some extent, the environmental movement (not to mention other civil-societal movements) is already moving through this progression. But just as the molding of a network realm will take time, so will the development and understanding of its interactions with the other, existing realms.

Near-Term Scenario: More Social Netwars

When a new form arises, it first has subversive effects on the old order, before it has additive effects that serve to consolidate a new order. For the age of networks, this subversive phase means the advent of netwar across the spectrum of conflict—from terrorist and criminal netwars at the violent end, to peaceable social netwars at the civil end.[2]

The term *netwar* refers to an emerging mode of conflict (and crime) at societal levels, short of traditional military warfare, in which the protagonists use network forms of organization and related doctrines, strategies, and technologies attuned to the information age. These protagonists are likely to consist of dispersed organizations, groups, and individuals who communicate, coordinate, and conduct their campaigns via the Internet, often without a precise central command. Thus, netwar

differs from modes of conflict and crime in which the protagonists prefer to develop formal, stand-alone, hierarchical organizations, doctrines, and strategies, as in past efforts, for example, to build centralized movements along Leninist lines. In short, netwar is about Mexico's Zapatistas more than Cuba's Fidelistas, Hamas more than the Palestine Liberation Organization, the American Christian Patriot movement more than the Ku Klux Klan, and the Asian Triads more than the Cosa Nostra. In the "Battle of Seattle" the NGO activists who clogged the streets were the ones engaging in social netwar, not the traditional AFL-CIO marchers who held a largely ineffective mass meeting nearby.

Social netwar may be particularly effective where a set of protagonists engage in "swarming"—an approach to conflict that is quite different from traditional mass- and maneuver-based approaches. Swarming is a seemingly amorphous, but deliberately structured, coordinated, strategic way to strike from all directions at a particular point or points, by means of a sustainable pulsing of force, fire, or both from close-in as well as from stand-off positions. This "force and/or fire" may be literal in the case of military or police operations, but metaphorical in the case of NGO activists, who may, for example, be descending on city intersections or emitting volleys of e-mails and faxes. Swarming works best—perhaps it will only work—if it is designed mainly around the deployment of myriad, small, dispersed, networked maneuver units who converge on a target from multiple directions. The aim is sustainable pulsing—swarm networks must be able to coalesce rapidly and stealthily on a target, then sever and redisperse, immediately ready to recombine for a new pulse. Rapid information spread via Internet and communications systems may be indispensable for this to work well.

The Direct Action Network's operations in the Battle of Seattle provided an excellent example of swarming behavior that disrupted a major meeting of the World Trade Organization. Elsewhere, environmental groups such as Greenpeace and Robin Wood have used swarming to great effect in various environmental campaigns. Many of these actions have taken on David versus Goliath proportions as these NGOs have faced off against large transnational corporations or nation-state interests and won. Indeed, Home Depot, the world's largest lumber retailer,

publicly committed itself to stop purchasing timber from endangered forests after the Rain Forest Action Network and Greenpeace organized an e-mail and mass media campaign based on Internet coordination among hundreds of environmental organizations and grassroots groups around the world.

Long-Term Scenario: New Approaches to Policy and Strategy

As the subversive effects subside and additive effects take hold, a society adapts to the rise of a new form and learns to combine it with the prevailing forms (realms). This may take decades, probably much longer. The deepening of the network age will cause a leap in the strength of civil society, or the emergence from it of a new network-based realm whose name and nature are not yet known. An end result will be the creation of next-generation policy mechanisms for communication, consultation, and collaboration among state, market, and civil-societal (or new-realm) actors, at home and abroad.

Because of the rise of a realm of networked actors and forces, current approaches to domestic and foreign policy will go through radical revisions. Some oft-noted trends will deepen: First, the boundaries between domestic and foreign policy will blur further, as activist NGOs continue to press for transnational perspectives on policy problems and solutions. Second, public-private cooperation, so needed in so many issue areas, will continue to extend beyond state and market actors to include socially minded nonprofit NGOs (who are sometimes said to comprise a new social sector separate from the traditional public and private sectors).

Meanwhile, new challenges will take shape. Taking advantage of the information revolution, people and organizations in advanced societies are developing vast sensory apparatuses for watching what is happening in their own societies and elsewhere around the world. Many innovations are occurring in organization and strategy, often by taking advantage of the new information and communications technologies. For example, one unusual benefactor of the Internet has been birdwatchers in North America, a group that contains an estimated one in four of all

U.S. citizens. A few years ago, with the help of the National Audubon Society and Cornell University, bird watchers started sharing data on-line and have used the network to better understand and map migration patterns.

Mining and analyzing data culled from large networks is not new and has long been used by existing government regulatory, law-enforcement, and intelligence agencies; corporate market-research departments; news media; and opinion-polling firms. What is new is the looming scope and scale of this sensory apparatus, and its increasing inclusion of NGOs who watch, monitor, share information, and report on what they see in diverse issue areas. One example is Global Forest Watch (GFW), an international network of local forest-protection groups linked by the Internet and a common data-gathering format. The World Resources Institute collaborated by e-mail with over a hundred scientists in different parts of the world to create a unique set of digital maps showing the location and extent of the world's old-growth forests. The GFW network monitors all these areas, recording any illegal cutting, burning, or other violations of forest leases on the digital maps. This information is posted to the Internet in near-real time, naming specific violators. Review processes check the accuracy of the data collected and ensure that participating network groups are acting responsibly. The information makes it possible for activists to mobilize quickly, apply market pressures to companies, and pressure governments to regulate effectively.

Developing the kind of early warning capability illustrated by GFW is an increasing concern for many environmental NGOs; so is gathering information to affect the framing of policy options. Determining appropriate designs, and roles, for this array of sensory organizations and their (centralized? decentralized?) internetting will be a growing challenge. Perhaps one day in the future, advances in autonomic and pervasive computing will even enable us to build self-regulating systems that can monitor and report on conditions without the constant involvement of humans. How such networked-based, self-regulating systems may interface with traditional forms of top-down regulation by government is only a speculative question today.

The emergence of a network realm—and of massively networked systems and infrastructures with it—will pose significant challenges for the

agencies responsible for environmental protection. Their advisory councils and decision structures will have to open up to more regular participation from NGO representatives, at least in consultative capacities. Indeed, various environmental, health, consumer, and other activist watchdog and advocacy groups are already working—perhaps with more success in Canada and Europe than in the United States—to see that such reforms occur. And as stronger, more transparent connections are built among the responsible government agencies, NGOs, and companies, they will have to learn to work more cooperatively to formulate policy through new governance systems that embrace not only government and business but also NGO representatives. Climate change is probably the best example of an environmental issue that can only be resolved by networking across institutional boundaries of every kind.

Public policy dialogue has, for over a century, revolved around contentions as to whether government or the market represents the better solution for particular policy issues. In the network age, this choice will prove too narrow, too binary, even for blending. New views will come to the fore that the *network is the solution*. These views may well open up possibilities for major improvements in environmental protection.

Historically, the environmental community began by seeking top-down, command and control strategies (and still does) and then branched out in the 1980s into market-based incentives (emissions trading, etc.). Environmental NGOs have used network-based strategies to influence corporations and governments. But agencies responsible for environmental protection have only just begun to explore the potential of network designs for improving environmental monitoring and policy making and for accelerating progress in environmental science. Moving environmental protection into the age of networks is crucial for identifying and heading off potential environmental problems in their early stages, before they have massive impacts. It is also essential for dealing with the really hard environmental problems, the ones that require global cooperation and, the ones we have not dealt with yet because they are diffuse and distributed, involving myriad small sources with large aggregate impacts.

If this view of the role of networks—and of the eventual rise of a new network realm—in long-range social evolution is correct, the growth of

transnational NGOs, and the ability of NGOs, states, and market actors to network with each other, should prove a major asset for democratic societies. It may help reanimate the concept of progress—giving it new direction and credibility. It may point the way to developing the structures and organizational processes that will make a sustainable future possible.

For Further Exploration

John Arquilla and David Ronfeldt, *Networks and Netwars: The Future of Terror, Crime, and Militancy*. Santa Monica, CA: RAND, MR-1382-OSD, 2001. Full text posted online at www.rand.org/publications/P/P7967/.

Krebs, Valdis, and Holley, "Building Sustainable Communities through Network Building," 2002. Posted at http://www.orgnet.com/Building Networks.pdf.

David Ronfeldt, *Tribes, Institutions, Markets, Networks: A Framework about Societal Evolution*, Santa Monica, CA: RAND, P-7967, 1996. Full text posted online at www.rand.org/publications/MR/MR1382/.

Notes

1. This four-stage progression is taken from a 2002 article by Krebs and Holley.
2. The concept of netwars is taken from John Arquilla and David Ronfeldt's *Networks and Netwars: The Future of Terror, Crime, and Militancy*. Santa Monica, CA: RAND, MR-1382-OSD, 2001. Full text posted online at www.rand.org/publications/P/P7967/.