Select Aspects of Conceptual Foundations of E-government-3 Moving to the Virtual State

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ABSTRACT

This is the third part of a series of four papers under the title Select Aspects of Conceptual Foundations of E-government. The first paper Clearing the Fog for a Better Vision, was contributed to 5th International Conference on E-governance (ICEG 2007), December 28-30, 2007, Hyderabad, Andhra Pradesh, India (Misra 2008), the second paper E-government: From Networked Society to Networked Governments was contributed to Management in Government, a journal published by Department of Administrative Reforms and Public Grievances (DARPG), Government of India, New Delhi (Misra 2007). In the first paper Clearing the Fog for a Better Vision (Misra 2008), an attempt was made to define, and to distinguish where necessary, select terms currently being freely used in the growing literature on e-government at the level of its basic terminology and relationship of e-government with other related terms and make suggestions wherever considered necessary. This, it was hoped, would clear the fog surrounding e-government terms and some terms related to it for a better vision. In the second paper E-government: From Networked Society to Networked Governments, (Misra 2007) dealt with the relationship of e-government with networked society and mobile networked society, distinguished between e-government and its relationship with other concepts. It concluded by urging to give up the attempt to achieve the ideal of integrated government (i-government), which was not achievable, instead to adopt the ideal of networked e-government (n-egovernment), which was achievable, and could provide seamless one-stop 24x7 e-government to citizens. In this, the third paper, an attempt has been made to describe some of the visions and futures of the Information Society, emergence of e-society, rise and rise of virtual life, and the birth of the virtual state. Concepts of democracy and e-democracy are then introduced and relationship between e-democracy and e-government examined and select e-democracy projects worldwide briefly described. The paper is concluded by observing that though a good beginning has been made for moving to the virtual state, a lot more is required to be done to realize the full potential of e-governance.

Keywords: E-governance Perspectives E-governance Approaches Visions Futures Information Society Memex Global Village Gutenberg Galaxy Third Wave Infosphere Electronic Cottage Infostructure Info-tigers Digital Nomad Microcosm Telecosm Network Society Internet Galaxy Virtual State Database Nation E-society Virtual Life Democracy E-democracy Nation States Centralisation-Decentralisation Federalism

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1. Introduction

1.1 What is Computer?

Computer occupies the centre stage in the ongoing information and communication technology (ICT) revolution. Defined simply it is an electronic, digital device that receives, sends, stores and processes information. But it is an *elementary* definition which does not convey its full potential as it is something more than what this simple definition conveys. For example, it is a tool for increasing efficiency and productivity though *Solow's Paradox*[1] of 1987 continues to remain unresolved till date. Similarly it is a tool for *communication* and *exchange of information* (McLuhan 1962), and for *augmenting intellect* (Bush 1945). It has given rise to *colllective intelligence* (Lévy 1997*), social networking* and *social graph* (*Facebook*, *MySpace*, *Orkut, LinkedIn*, *Ryze*, etc.).

By 2019 a $1 000 computer will at least match the processing power of the human brain. By 2029 the software for intelligence will have been largely mastered and the average Personal computer will be equivalent to 1 000 brains (Kurzweil 1999).

There are 1.2 billion computers to-day (Gartner 2008) and a population online of 1.4 billion out of 6.8 billion (21%) (InternetWorldStat 2008).Thus *one-fifth* of humanity is now connected to the Internet (and the number is growing). This is a very substantial base for attempting to realize the full potential of e-governance worldwide.

1.2 E-governance Perspectives

Perspectives give the big picture. Two basic perspectives on e-governance can be described: *Utopian* and *Dystopian*.

- *Utopian Perspective*: The utopian perspective includes dreamers, visionaries, optimists, and cyber optimists who have full faith in information technology (IT) revolution, information society, e-citizen, e-democracy, and e-society to better the lot of human beings. The optimists include John Naisbitt, Bill Gates, Nicholas Negroponte, Pamela McCorduck, Yoneji Masuda, Alvin Toffler, Kevin Kelly, Howard Rheingold and George Gilder (Hamelink 1997:27).
- *Dystopian Perspective*: The dystopian perspective includes pessimists, cyber pessimists, and realists. They believe that information and communication technologies (ICTs) re-enforce existing order and leads to incremental change, job displacement and de-skilling. The pessimists include Herbert I. Schiller, Ian Reinecke, Frank Webster, Kevin Robins, Joseph Weizebaum, Neil Postman, Theodre Roszak and Mark Dery (ibid: 27).

Similarly, Norris (2001:9) describes three perspectives, namely, those of *optimists*, *skeptics*, and *pessimists* as follows:

The role of technology has therefore fueled a debate among optimists envisaging a positive role of the Internet for transforming poverty in developing societies, skeptics who believe that new technologies alone will make little difference one way or another, and pessimists who emphasize that digital technologies will further exacerbate the existing North-South divide.

1.3 Approaches to E-governance

Four approaches to e-governance are noteworthy:

- *Techno-centric*, driven by a technical Chief Information Officer (CIO 1.0), focuses on *technical* aspects of e-governance like database management, data mining, architecture and standards, inter-operability framework, and virtualization. Not that there is anything wrong with this approach *per se* but a techno-centric approach does neglect the citizen-centric-approach. Techno-centric

approach is the dominant approach to-day but it has failed in business process engineering (BPR) and public service delivery, two key requirements of good e-governance.

- *Socio-political*, driven by politicians and civil servants, called *e-champions*, focuses on *socio-political* aspects of e-governance like digital divides, access to e-government, and computer literacy. E-champions have however disappeared from the scene as targets were found to be either too ambitious or e-governance results were slow to come by or both. Sawyer and Tyworth (2006) propose *social informatics* as a useful and informative analytical bridge between socio-political and techno-centric analyses of information and communications technologies (ICT).
- *Governance-centric*, again driven by a technical Chief Information Officer (CIO 1.0), focuses on *internal* aspects of e-governance like updating databases, setting up and maintaining official websites, joining up various departments to provide one window service to citizens. Both *techno-centric* and *governance-centric* approaches to e-governance re-enforce each other. The pre-occupation of e-governance-centric approach with in-house functions is understandable but its neglect of requirements of citizens is not, making it *self-centric* and largely unproductive.
- *Citizen-centric*, driven by a generalist Chief Information Officer (CIO 2.0), focuses on requirements of citizens in e-governance. However, this frequently declared focus is not found any where in practice. Despite every one swearing by slogans like *citizen first*, *people first*, *consumer is king*, etc., citizen is seldom, if at all, found at the centre stage in any e-governance plan. The consequences are disastrous. An e-governance plan does not succeed in serving the citizens.

2. Visions, Futures, and Select Aspects of Information Society

The ongoing information and communication technology (ICT) revolution owes its birth to a number of visionaries. Likewise, a number of futurists have dared forecast aspects of ICT future. A look at certain select aspects of information society is considered essential for appreciating the emerging information society.

2.1 Bush's Memex (1945)

The immediate roots of present-day Internet/World Wide Web can be traced to the unprcedented devastation caused by science in World War II, notably the explosion of atomic bomb in Hiroshima and Nagasaki in Japan in 1945, and the need to re-orient science from *destructive* to *constructive* efforts. Dr Vannevar Bush (1890-1974), an American science administrator who co-ordinated the work of some 6,000 scientists in the application of science to warfare, in his widely quoted article *As We May Think* (Bush 1945) published in *Atlantic Monthly* in July 1945, made a plea for continuation of scientists' work during the War for *constructive* purposes noting that while science has augmented man's *physical capability* (for example, by inventing microscope, etc.), the same does not hold good for his *mental capability* which was considered essential by him due to 'bewildering store of knowledge.' He therefore proposed:

Consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and, to coin one at random, "memex" will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory (ibid., p-4).

2.2 McLuhan's Global Village (1959) and Gutenberg Galaxy (1962)

Herbert Marshall McLuhan (1911-1980), a Canadian futurist and academic, is credited to have invented the phrase *Global Village* in 1959, when he claimed that emergence of electronic media like radio and television have shrunk the world to a *global village*. The term occurs in his *Gutenberg Galaxy* (1962). It has got a new lease of life with the appearance of the *Internet* and the *World Wide Web* in public life in mid-1990s.

Every technology is an extension of man's faculty or capability. For example, wheel (bicycle, railway train, aero plane) is an extension of feet, telephone an extension of hearing, radio and television extension of communication. Internet/World Wide Web is an extension of communication and computer an extension of memory. All these extensions have made man a mighty creature on this planet which would not have been case otherwise.

Invention of *movable* type by Johannes Gutenberg (1397 - 1468) in mid-1400s changed our world forever. It made dissemination and storage of knowledge in the hands of many possible for the first time. The central message of *Gutenberg Galaxy* is that it is not the *invention* per se which is important but its *twofold* impact, namely, spawning of an array of industries, firms, etc. and its impact on man and his life-style. Both these impacts are now clearly visible in the revolutionary developments following the birth of the Internet and World Wide Web.

2.3 Toffler's Third Wave (1980), Infosphere (1980) and Electronic Cottage (1980)

Alvin Toffler, well-known futurist, in his *The Third Wave* (1980), has divided civilization into three parts: a First Wave *agricultural phase*, a Second Wave *industrial phase*, and a Third Wave *information*[2] *phase*. In the *Third Wave*, there will be decentralization of activities, de-massification of mass media and creation of an intelligent environment. The Third Wave

"…describes the dying industrial civilization in terns of a "technosphere," a "socio-sphere," an "info-sphere," and a "power-sphere" and then sets out to show how each of these is undergoing a revolutionary change in today's world. (ibid.:5).

A noteworthy offshoot of *Third Wave* is that people will increasingly start working from their homes-*electronic cottages*. In the *Second Wave* place of living (home) got separated from place of work (factories). In the *Third Wave* the two will again merge. People may start claiming that whatever work can be done at home should be done at home as a matter of right. This will have revolutionary impact on *socio-economic* change.

2.4 Conners's Infostructure (1997) and Info-tigers (1997)

Michael Connors, a business manager, advances the concept of *infostructure*- information infrastructure, predicts course of events up to 2005, and claims that developing countries, and not the developed countries, will be major beneficiaries of the information revolution. He also calculates an *infostructure index* for 147 countries and predicts the rise of *info-tigers* in the developing countries which will pose a significant threat to developed countries. He concludes that:

…the "information revolution" will have run its course by 2005 but that it will have sown the seeds of a radically altered competitive world order and that a new man-machine intelligence complex will have laid the ground for a revolution in intelligence itself (Connors 1997:ix).

Like other predictions, this too has been wrong as the information revolution continues to run its course.

2.5 Makimoto and Manners' Digital Nomad (1997)

Makimoto and Manners (1997) in their *Digital Nomad* contend that human beings by their nature are nomads and despite best efforts of governments to settle them nomads have survived. Human beings became settlers only about 10,000 years back when they took to settled agriculture. Now digital technologies offer the choice of being a *settler* or *nomad*, a 'mainstream life-style option' in developed countries. After 10,000 years of settled existence, note the authors, predicting the effect of switching to *nomadism* as a main-stream lifestyle is largely guess-work. (ibid: 196). They add:

But some effects seem logical, such as decline in materialism and nationalism, diminishing power for governments, increasing power for corporations, improvements in human relations, an easing of urban pressures (ibid.: 196).

2.6 Gilder's Microcosm (1990) and Telecosm (2000)

In his earlier contribution *Microcosm: The Quantum Revolution in Economics and Technology* (Gilder 1990), George Gilder, a futurist, dealt with *microchip*. In his *Telecosm: How Infinite Bandwidth Will Revolutionize Our World* (Gilder 2000), Gilder boldly proclaims that "The Computer age is over." This according to him is not because it has failed but because it has given birth to a new era- *Telecosm*. The *telecosm* – the world enabled and defined by new communications technology – will make human communication universal, instantaneous, unlimited in capacity and at the margins free. (Gilder 2000:2). This will be a result of *surplus bandwidth* made available to humanity. Gilder notes:

Every age defines itself by the resources it wastes. Our agrarian forefathers wasted human time. The Victorians wasted coal and iron, the twentieth century wasted electricity. Over the past decade, the world had to learn to waste transistors. Now it needs to learn how to waste bandwidth, and begin rebuilding the world yet again. (ibid: 59).

2.7 Castell's Network Society (1996) and Internet Galaxy (2001)

Manuel Castells, an American professor of sociology of Spanish origin, and author of widely acclaimed trilogy- *The Rise of Network Society* (1996), *The Power of Identity* (1997), and *End of Millennium* (1998) – notes: The twenty-first century will not be a dark age. Neither will it deliver to most people the bounties promised by the most extra-ordinary technological revolution in history. Rather, it may well be characterized by informed bewilderment. (Castells 1996:378).

Castells defines *network* as "a set of interconnected nodes. A node is the point at which a curve intersects itself. What a node is, concretely speaking depends on the kind of concrete networks of which we speak. (Castells 1996:470)." Castells says: Networks are open structures, able to expand without limits, integrating new nodes as long as they are able to communicate within the network, namely as long as they share the same communication codes (or example, values and performance goals). (ibid: 470).The information and communication technologies (ICTs) together with other developments have led to the creation of a dominant social structure *Network Society*, a new economy, the *Informational/Global Economy*, and a new culture, the *Culture of Real Virtuality*. (ibid: cf 356).

Inspired by McLuhan's *Gutenberg Galaxy* (1962), Castells advances the notion of *Internet Galaxy* (2001) which examines Internet in all its ramifications like freedom, 'networked individualism,' labour, citizen movements, civil society organizations (CSOs), and digital divide. Specifically in context of e-governance, it deals with the issue of how the Internet through e-governance has allowed for greater levels of accountability, transparency and information access, in principle (Balganesh 2003-04: 6).

2.8 Fountains' Virtual State (2001)

Jane Fountain, an associate professor of public policy at the John F. Kennedy School of Government, Harvard University, popularized the term through her well-received *book Building the Virtual State: Information Technology and Institutional Change* (2001). According to her, a *Virtual State* "is a government that is organized increasingly in terms of virtual agencies, cross-agency and public-private networks whose structure and capacity depend upon the Internet and web" (Fountain 2001:4). Again, she says: The term "virtual," as I use it in reference to the state, refers to capacity that seems seamless but that exists through rapid transfer and sharing of the capacity of several discrete units and agencies as their partners (ibid.:24). She adds:

"….clients interact with a virtual government agency as if they are interacting with a coherent physical organization when in fact they are interacting with several agencies that may be integrated only through digital networks. As the state becomes increasingly networked through information systems, inter-agency arrangements, public-private partnerships, intergovernmental agreements that join federal, state, local, nonprofit, and private actors, and web-based services that link the websites of hundreds of organizations, we may speak of virtual state." (ibid.: 24-25).

Virtuality, Fountain notes, "is a function of the apparently seamless integration of disparate, jurisdictionally separate often geographically separate parts."(ibid.:25). Fountain's definition of virtual state is not only very broad but futurist in conceptualization. Nevertheless virtual state, as state *online*, has emerged as the new ideal in governance to strive for due to enormous advantages it offers to state and citizens like the availability of public services for 24 hours a day and 365 days a year.

2.9 Flip Side

There is also a flip side of the ongoing information and communication technology (ICT) revolution. A number of important issues like *privacy*, *security*, *storage*, etc. have started raising their ugly heads. Take, for instance, the case of *privacy*.

2.10 Database Nation

Computers have made the task of data collection, storage, and manipulation very easy. As a result it has made the task of governments in data collection, storage, and manipulation more ambitious in seeking more information on citizens and covering new areas like pollution. The private sector has however gone far ahead in data collection on consumers, data storage and its manipulation. This has enabled companies to know their consumers more intimately than ever before enabling them to undertake sharply focused direct marketing. This, however, is an attack on *privacy*.

Virtual State is thus no Garden of Eden. There are snakes in the virtual garden. Garfinkel in his *Database Nation* (2000), points out:

Technology is not privacy neutral. The overwhelming tendency of technology is to out privacy. By its very nature, technology is intrusive. Advancing technology permits greater cataloging and measuring of the world around us. It allows us to create a global memory that can be easily searched. And technology allows greater control of nondeterministic processes, whether they're a person's selection of breakfast cereal or the election of a political candidate. We ignore this tendency at our own peril (ibid: 259-60).

3. Emergence of E-society

As a result of launching of Internet/World Wide Web in mid-1990s, a new society –*electronic society* or *e-society*- is fast emerging. The e-Society Programme of the Economic and Social Research Council (ESRC) of the United Kingdom, which "aims to explore how institutions, practices and behaviours are being changed by the technologies that constitute the digital age," defines the *e-society*:

as one that uses digital media in most relationships: peer to peer (personal communications, business to business purchases etc); government to other (government online); other to government (voting/governance); peer to other (business to consumer, etc). While dependent on Information and Communication Technology (ICT) developments, the e-Society changes the mode of social and economic interaction and thus could have profound impacts on social, economic and legal organization (ESRC 2007).

The contours of e-society at present stage of its development show a mix of traditional brick-and-mortar society and a society in cyberspace by way of wide variety of inter-relationships. This by itself is a

revolutionary change in the structure and functioning of society which, among other things, has serious impacts on governments worldwide, most notably in democracies for which Norris (1999:26) has reported "overwhelming support" in most countries.

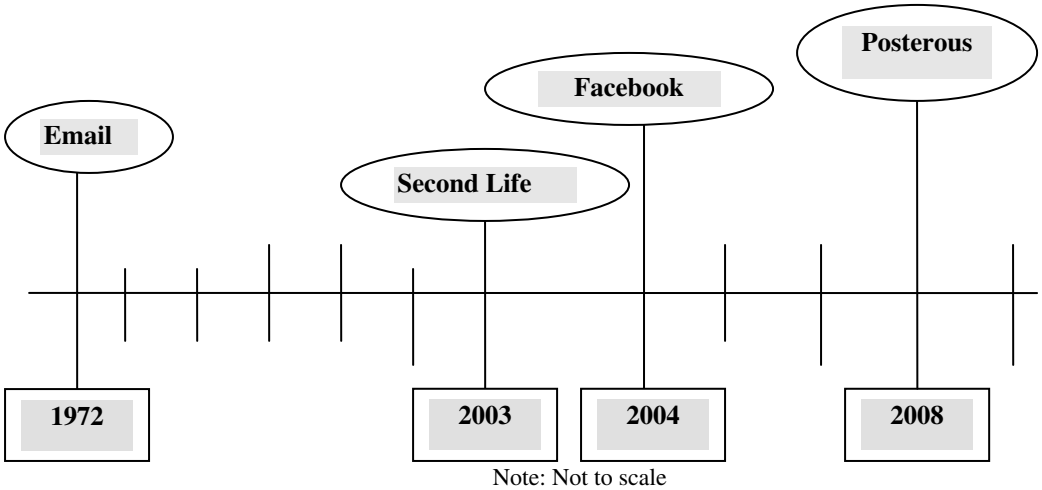
3.1 The Rise and Rise of Virtual Life

Recent years have seen the unprecedented, and also unexpected, rise and rise of *virtual life*, defined here as life *online*, that is, time spent on the Internet/Web. To-day more and more people are joining *virtual life*, check, for example, *Second Life* (2008), a free online 3-D world, and, what is more significant, spending more and more time in *virtual life*. And this has been a long evolutionary journey- starting from *email* in 1972 to reaching the *Second Life* in 2001, which is "fast becoming the next red-hot tool on the Internet" (Bennet and Beith 2007: 36) and now exploding on social networking sites, notably *Facebook* (2008), described as social utility and the leader of this genre and the latest addition – *Posterous*, an email-based blog, launched in May 2008 (Figure 1).

Launched by San Francisco software developer Philip Rosedale in 2001 and opened to the public in 2003, *Second Life* had 1.5 million registered users in 2006 and now has, as on July 30, 2007, more than 8 million users. South Korea's *Cyworld* (2008), a two-dimensional equivalent of *Second Life*, claims 20 million registered users from Asia to Latin America, and is going to be launched in India soon. Bennet and Beith (2007) note:

By 2011, four of every five people who use the Internet will actively participate in Second Life or some similar medium, according to Gartner Research, which recently did a study looking at the investment potential of virtual worlds. If Gartner is to be believed (and it is one of the most respected research firms in the field) this means 1.6 billion—out of a total 2 billion Internet users—will have found new lives online. (ibid.)

According to its website, *Second Life* "is a 3-D virtual world entirely built and owned by its residents. Since opening to the public in 2003, it has grown explosively and today is inhabited by a total of 8,482,072 residents from around the globe."



Note: Not to scale

Figure 1: The Evolutionary Journey from *Email* to *Second Life* to *Facebook* to *Posterous*

It is, however, the *social networking sites*, spearheaded by *Facebook*, launched in 2004, which have stolen march over all other developments in *virtual* or *online* life[3] and unleashed an unprecedented phenomenon

of epic proportions. It had, for example, 34 million active members worldwide as of July 2007 (Wikipedia 2007). Other social networking sites include Flicker, Twitter, You Tube, and Tumblr. (Braiker 2008:10).

3.2 The Birth of Virtual State

The birth of the *virtual state* has spawned a number of phenomena. For every phenomenon, a corresponding *virtual* phenomenon and has born (Table 1). Note that these two worlds- *brick-and-mortar* and *virtual*- though developing in parallel are *not* independent of each other. On the contrary, they are *inter-dependent*, being *joined* together. Thus one can operate in the *virtual* world sitting in the *brick-and-mortar* world and *vice versa*.

4. Democracy and E-democracy

Webster's defines *democracy* as "a government in which the supreme power is vested in the people and exercised by them directly or indirectly through a system of representation." Putting an "e" in front of democracy means nothing more than using information technology tools to facilitate, improve and ultimately extend the exercise of democracy (Caldow 2004:1). Thus e-democracy means democracy making use information and communication technology (ICT) tools.

In less than a decade, e-democracy has passed through a transition from speculative futurology to piecemeal experimentation and embryonic policy; note Coleman and Norris (2005). They however note that "The record of e-democracy initiatives and experimentation is patchy and disparate" (ibid, 11). Despite this record, slowly but surely *e-democracy* is striking roots worldwide, its pace of development being dependent upon the state of development of information and communication technology (ICT) in a particular country. Higher the development of ICT in a country, more rapid is the development of *e-democracy* in that country. However, development of e-democracy in a country is dependent upon policy support it is able to secure from the government of that particular country.

The *Organisation for Economic Co-Operation and Development* (OECD 2003) defines three types of *e-democracy* interaction – one-way information provision; a two-way relationship where citizens have opportunity to give feedback on issues; and, finally, a partnership relationship whereby citizens are actively engaged in policymaking.

Table 1: Brick-and-Mortar Phenomena and their Corresponding *Virtual* Phenomena

S.N.	Brick-and-Mortar World	Virtual World
1	Society	E-society
2	State	E-state
3	Law	Cyber Law
4	Government	E-government
5	Citizen	E-citizen
6	Rights (of citizen)	E-rights (of e-citizen)
7	Duties (of citizen)	E-duties (of e-citizen)
8	Services (public services)	E-services (public services)
9	Grievance Redressal	E-grievance Redressal
10	Citizen Charter	E-citizen Charter

4.1 Three Types of Democracies

Three types of democracies can be distinguished, two existing types and one emerging: 1. *Representative democracy*, 2. *Direct democracy*, and 3. "*Electronically-facilitated democracy*." India, for example, has *representative* democracy, that is, its citizens elect their representatives, called legislators, who represent their constituencies, form government and legislate on behalf of the citizens. In *direct* democracy, citizens

have direct say in the affairs of the state, particularly election (like electing President in the U.S.) and public policy formulation and implementation (notably through polling or referendum). The "*electronically-facilitated democracy*," born in mid-1990s with the advent of the World Wide Web, is a new type of democracy which attempts to influence the course of affairs of the state through online *feedback*, *advocacy*, and *interaction*.

4.2 Convergence of Offline Traditional Democracy and Online Direct Democracy forms To-day's Offline-Online Hybrid Democracy

The traditional brick-and-mortar stream of democracy is not only representational in character but it exists *offline*. The new, emerging *cyberspace* stream, in contrast, is not only direct in character but it exists *online*. The new emerging *online democracy*, however, is not replacing, in whole or part, the existing *offline democracy*. On the other hand, it is complementing the existing *offline democracy*. As a result these two distinct streams of democracy- *offline* and *online*- are converging to form to-day's *offline-online hybrid* democracy (Figure 2)

4.3 E-democracy and E-government

What then is the relationship between *e-democracy* and *e-government*? According to Coleman and Norris (2005: 31-32):

…..firstly, e-democracy cannot be separate from e-government because how governments make policies, pass laws and deliver services—locally, nationally and globally—is the most important democratic agenda facing us; secondly, e-democracy is bigger than government, involving the more autonomous political spheres of communities, workplaces, culture and even the family; and thirdly, as well as government-to-citizen (G2C) and C2G interactions, there is an important sphere of C2C interaction through which social capital is generated and democracy strengthened. These propositions are in tension with one another, but are not contradictory. E-democracy is both top-down and bottom-up; it is both about the institutional processes of hierarchies and the more fluid arrangements of networks.

E-government is a sub-set of e-democracy. If e-democracy is strengthened then, as a corollary, e-government will also be strengthened. It is thus in the interest of *good* e-governance that *e-democracy* is strengthened.

4.4 E-Democracy Projects Worldwide

A number of e-democracy projects, which reflect a wide variety, have been launched worldwide. These include projects aimed at government as well as projects launched by government. Coleman and Norris

(2005), for example, describe a number of them (Table 2). Similarly, European Commission (EC) has launched a number of them (EC 2008). Many of these e-democracy projects attempt to involve e-citizens in public policy formulation. However, developing countries are lagging behind these initiatives even in countries like India which have thriving democracies.

Table 2: Select E-democracy Projects Worldwide

S.N.	Project	Country	Feature
1	iCan project [1]	United Kingdom	An interactive service designed to help people participate in democracy and civic life.
2	E-rulemaking[2]	United States	Regulations that are open for public comment (i.e., proposed) and closed for comment (i.e., final).

3	E-vote project[3]	Greece	Citizen participation in the political process by using the opportunities provided by new communications technologies.
4	E-Poll[4]	European Union	Remote voting based on leading-edge technology.
5	E-Poll[5]	European Union	Electronic Polling System for Remote Polling Operations
6	TELL ME[6]	European Union	TransEuropean Living Labs for an iMproved E-participation

Notes: [1] www.bbc.co.uk/ican, [2] www.regulations.gov/eRuleMaking.cfm, [3]www.evote.eu2003.gr [4]http://www.e-poll-project.net/ [5]http://www.e-poll-project.net/ [6] http://www.tellmeproject.eu/

Source: Coleman and Norris (2005) and EC (2008)

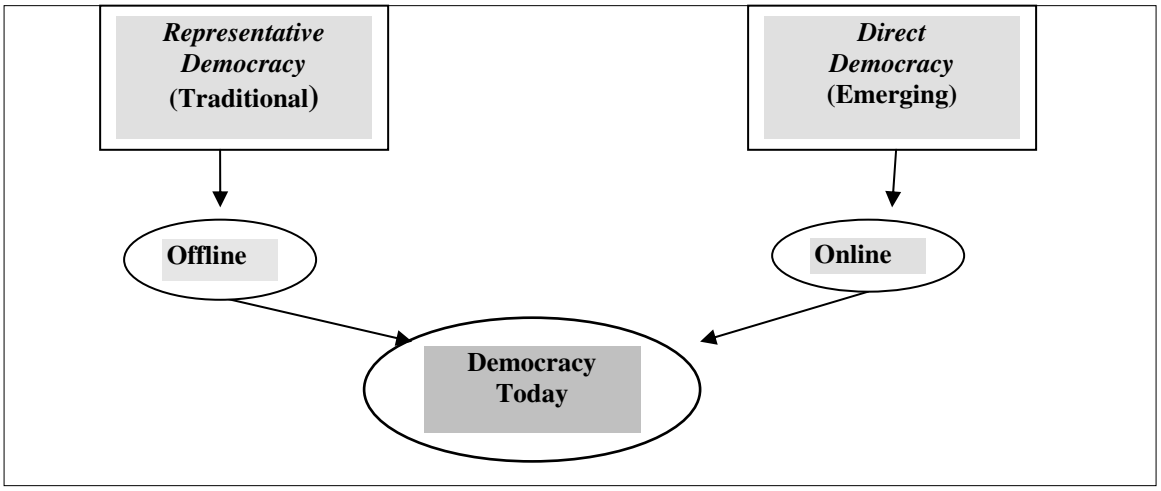


Figure 2: Convergence of Representative Democracy (Traditional) and Direct Democracy (Emerging) as *Offline-Online Hybrid* Democracy

4.5 E-government and Nation States

The emergence of information age has shaken the very foundations of *nation states*. This has been further compounded by parallel development of liberalization, privatization and globalization. As a result, nation states are forced to respond to the new reality and invent new role in the new environment. Hundley et al. (2003:37) note: "The nation-state has been the dominant governmental organization in much of the world for the past 400 years. Some scholars suggest that as the information revolution increasingly allows action beyond the reach of national governments and empowers new political actors, the role of the nation-state could change."

The governance at the three levels- *supranational*, *national*, and *sub-national* levels- impacts upon, and is impacted by, public space occupied by three sectors- *private*, *public* and *civil society organizations* (CSOs). This inter-play of actors (Table 3), under the impact of information age characterized by new information and communication technologies (ICTs) and new developments like liberalization, privatization and globalization, have enabled many actors outside the government to take over some of the functions the government with unknown consequences so far.

4.6 E-government, Centralisation-Decentralisation and Federalism

An important consequence of *e-government* is that it is giving rise to a *centralisation-decentralisation* conflict. This is due to the attempt being made by government in centralizing public service delivery in a single portal, a demand being raised by e-citizens. On the other hand, the central government, due to its declared policy to strengthen grass-roots level democracies, has to decentralize government functions. This gives rise to conflict, which assumes importance when viewed; say in context of India's federal polity. The Indian Constitution provides for India to be a union of sates. E-government's single portal thus requires a *coordinating* rather than an *over-bearing* role in coping with this emerging *centralization-decentralization* conflict.

Table 3: Diffusion of Governance in the 21st Century

Sector➔ / Level ↓	Private Sector	Public Sector	Voluntary Sector
Supranational level	Transnational Corporations	Intergovernmental Organizations	International CSOs
National level	National Corporations	National (Central) Government	National CSOs
Sub-national level	Local Business	State and Local Government	Local Groups

Note: Voluntary sector consists of civil society organizations (CSOs), also known as non-governmental organizations (NGOs), Source: Adopted from (Hundley et al. 2003). See also Nye (2002).

5. Concluding Remarks

The birth of the *Virtual State* is reality. As the Internet penetrates deeper and deeper in developing countries, the *Virtual State* is going to be populated more and more by *e-citizens*. This has already started placing new demands on governments worldwide to meet the new and emerging requirements of *e-citizens* (say, through official websites). E-government *discussion groups*, *blogs* and *wikis* have also been set up. Similarly, exclusive e-rule making portals seeking citizen's views have also been set up. All these steps are in the right direction as they attempt to strengthen *e-democracy* and empower *e-citizens*. But who are these *e-citizens* and how do they differ from the traditional citizens? How do they relate to the state which is also becoming more and more powerful with the adoption of new information and communication technologies (ICTs) in its working? These and similar questions are proposed to be considered in the fourth and last paper on the Conceptual Foundations of E-government-4: *E-citizen: Her E-rights, E-duties, and E-engagement.*

Notes

[1]In 1987 Robert Solow, a Nobel Prize winner for Economics observed that "computers are found everywhere but in the productivity data." Check Clement (2002) for an interview with Robert Solow.

[2]Toffler does not use the word *information* for this phase but calls it the phase 'now beginning' but does mean it *information* phase (p-4). He considers terms like Space Age, Information Age, Electronic Era or Global Village (p-9) for this phase but finds that none of them adequately describes it.

[3]For an account of Email, BBS, SMS, Discussion Groups Online, Blogs, and Microblogs and their possible role in e-government, see Misra (2008).

References

1. Balganesh, Shyamkrishna (2003-04): Freedom and the Internet: A Review of the Internet Galaxy by Manuel Castells, *International Journal of Communications Law and Policy*, Issue 8, Winter 2003/2004, http://www.ciaonet.org/olj/ijclp/ijclp_8/ijclp_8g.pdf
2. Bennet, Jessica and Malcolm Beith (2007): Technology: Alternate Universe, *Newsweek International*, New

York, NY, July 30, pp 38-43, http://www.msnbc.msn.com/id/19876812/site/newsweek/page/0/ (accessed: July 29, 2007)
3. Braiker, Brian (2008): The Technologist: Curse of the Microbloggers, *Newsweek International*, CLII(5)10, August 4.
4. Bush, Vannevar (1945): As We May Think, *Atlantic Monthly*, July, http://www.theatlantic.com /doc/ 194507/ bush
5. Caldow, Janet (2004): e-Democracy: Putting Down Global Roots, Institute for Electronic Government, IBM, January, http://www-1.ibm.com/industries/government/ieg/pdf/e-democracy%20putting%20down% 20roots. pdf (accessed: October 2, 2007).
6. Castells, Manuel (1996): *The Information Age: Economy, Society and Culture, Volume I: The Rise of Network Society*, Oxford, United Kingdom, Blackwell.
7. Castells, Manuel (1997): *The Information Age: Economy, Society and Culture, Volume II: The Power of Identity*, Oxford, United Kingdom, Blackwell.
8. Castells, Manuel (1998): *The Information Age: Economy, Society and Culture, Volume III: End of Millennium*, Oxford, United Kingdom, Blackwell.
9. Castells, Manuel (2001): *The Internet Galaxy: Reflections on Economy, Society and Culture,* Oxford, United Kingdom, Oxford University Press.
10. Coleman, Stephen and Donald F. Norris (2005): *A new agenda for e-democracy*, Oxford, United Kingdom, University of Oxford, Oxford Internet Institute (OII), Forum Discussion Paper No. 4, January, www.oii.ox.ac.uk/resources/publications/FD4.pdf, accessed: October 2, 2007)
11. Connors, Michael (1997): *The Race to the Intelligent State: Charting the Global Information Economy into the 21st Century*, Oxford, United Kingdom, Capstone Publishing, Oxford Centre for Innovation
12. Cyworld (2007): http://us.cyworld.com/ (accessed: July 31, 2008)
13. ESRC (Economic and Social Research Council), Swindon, United Kingdom (2007): E-Society, http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/research/research_programmes/e-society.aspx, accessed: October 3, 2007)
14. EC (European Commission) (2008): Europe's Information Society: Thematic Portal: eTEN Project Database, http://ec.europa.eu/information_society/activities/eten/cf/opdb/cf/project/index.cfm (accessed: July 31, 2008)
15. Facebook (2008): http://www.facebook.com/about.php (accessed: July 31, 2008)
16. Fountain Jane E. (2001): *Building the Virtual State: Information Technology and Institutional Change*, Washington, D.C., The Brookings Institution.
17. Gartner (2008): *Forecast: PC Installed Base, Worldwide, 2004-2012*, April 10, http://www.gartner.com /DisplayDocument? ref=g_search&id=644708&subref=simplesearch
18. Garfinkel, Simson (2000): *Database Nation: The Death of Privacy in the 21st Century*, Sebastopol, CA, O Reilly & Associates, January.
19. Gilder, George (1990): *Microcosm: The Quantum Revolution in Economics and Technology*, New York, Simon and Schuster
20. Gilder, George (2000): *Telecosm: How Infinite Bandwidth Will Revolutionize Our World*, New York, The Free Press
21. Hamelink, Cees J. (1997): *New Information and Communication Technologies, Social Development and Cultural Change*, Geneva, Switzerland, United Nations Research Institute for Social Development (UNRISD), June, Discussion Paper 86, http://www.unrisd.org/80256B3C005BCCF9/ (httpAuxPages)/ 398D6A861127084780256B640051A497/$file/dp86.pdf
22. Hundley, Richard, Robert H. Anderson, Tora K. Bikson, C. Richard Neu (2003): The Global Course of the Information Revolution: Recurring Themes and Regional Variations, Chapter 4, Washington, D.C., RAND Corporation, http://www.rand.org/pubs/monograph_reports/MR1680/MR1680.ch4.pdf (accessed: July 16, 2007)
23. InternetWorldStat (2008): *World Internet Usage and Population Statistics*, May 31, http://www. internetworldstats. com/stats.htm
24. Kurzweil, H. (1999): The Coming Merging of Mind and Machine, *Scientific American,*
25. 1 September, as cited in OECD (2003) (q.v.), p-146, http://www.oecd.org/dataoecd/9/11/35176328.pdf (accessed: November 8, 2007).
26. Larsen, Elena and Lee Rainie (2002): *The rise of the e-citizen: How people use government agencies' Web sites*, Washington, D.C., Pew Internet and American Life Project, http://www.pewinternet.org/pdfs/ PIP_Govt_Website_Rpt.pdf (accessed: July 31, 2008).

27. Lévy, Pierre (1997): *Collective Intelligence: Mankind's Emerging World in Cyberspace*,
28. Cambridge, Massachusetts, Perseus Books. Translated from the French by Robert Bononno.
29. Makimoto, Tsugio and David Manners (1997): *Digital Nomad*, Chichester, West Sussex, England, John Wiley
30. McLuhan, Marshall (1962): *The Gutenberg Galaxy: The Making of Typographic Man*, Toronto, University of Toronto Press
31. Misra, D.C. (2008): Select Aspects of Conceptual Foundations of E-government: Clearing the Fog for a Better Vision, in Agarwal, Ashok and V.Venkata Ramana (2008): *Foundations of E-government*, New Delhi, Gift Publishing, pp 21-33, Paper contributed to 5th International Conference on E-governance (ICEG 2007), December 28-30, 2007, Hyderabad, Andhra Pradesh, India, http://www.iceg.net/2007/
32. Misra, D.C. (2007): E-government: From Networked Society to Networked Governments, *Management in Government*, New Delhi, Department of Administrative Reforms, Government of India, New Delhi, XXXIX (3)17-36, October-December, http://darpg.nic.in/arpg-website/bestpracticesingovt/mig2.PDF
33. Norris, Pippa (ed.) (1999): *Critical Citizens - Global Support for Democratic Government*, Oxford, United Kingdom, Oxford University Press.
34. Norris, Pippa (2001): *Digital Divide: Civic Engagement, Information Po*verty*, and the Internet Worldwide*, Cambridge, United Kingdom, Cambridge University Press.
35. Nye, Jr., Joseph S. (2002): Information Technology and Democratic Governance, in Elaine Ciulla Kamarck and Joseph S. Ney, Jr. (2002) (eds*.): Governance.com: Democracy in the Information Age*, Washington, D.C.: Brookings Institution Press, pp. 1–16. (original not seen. As cited in Hundley et al. 2003).
36. OECD (Organisation for Economic Development and Co-operation) (2003): *Promise and Problems of E-Democracy: Challenges of Online Citizen Engagement*, Paris, France, the Author, http://www.oecd.org/ dataoecd/9/11/35176328.pdf (accessed: November 8, 2007)
37. Pew Internet (2002): *The Rise of the E-Citizen: How People Use Government Agencies' Web Sites*, http://www.pewinternet.org/report_display.asp?r=57 (accessed: July 31, 2008).
38. Posterous (2008): http://posterous.com/ (accessed: July 31, 2008).
39. Sawyer, S., and M. Tyworth (2006): E–Government: Contrasting Approaches and Alternative Insights, Pennsylvania State University, USA. *Sprouts: Working Papers onInformation Systems*, 6(21), http://sprouts.aisnet.org/6/21
40. Second Life (2008): http://secondlife.com/ (accessed: July 31, 2008)
41. Toffler, Alvin (1980): *The Third Wave*, New York, Bantam Books
42. Wikipedia (2007): http://en.wikipedia.org/wiki/Facebook (accessed: October 4, 2007)

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