CyberOrient, Vol. 2, Iss. 1, 2007 pp. 4-25

Transnational Civil Society, Institution-Building, and IT: Reflections from the Middle East

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Abstract:

The important connectives of information technology will come with institutions that successfully merge IT, transnationalism, and 'civil' society such that each conveys its properties to the other. How to conceptualize and understand these properties is a compelling need for social theory. Comparative study of the Internet in the Middle East, including its supporting and related technologies, points to the crucial role of alliance-building and coalitions that create new institutions. Some of the less-evident ones are the more transnational and 'civil,' providing points of comparison – even suggesting potential future directions – to others not so apparently transnational or civil. Some elements so far not brought into analysis include engineering cultures and the more general practices of thought they privilege, alumni networks that link these cultures with more material resources but also importantly with social capital, and how those pull or are pulled together in projects that are expanding the envelope for IT generally and for its most prominent proxy and gathering point in the region, the Internet.

Keywords:

social networks, democracy, information and communication technology, Middle East

Introduction

Over the years that I have followed the development of the Internet and related information technologies in the Middle East, I've often found myself in the position, familiar to anthropologists, of negotiating between two communities of discourse. Traditionally, this meant communities that met in the person of an ethnographer, whose anthropological task became the translation of cultures, often (but not always) operationalized as "interpretations of interpretations" in Clifford Geertz's famous phrase or as Raymond Aron put it nearer the sociology of these things, making "social or historical content more intelligible than it was in the experience of those who lived it."[1] But in the post-modern world of eroded boundaries, such contact is not a Berkeleyan artifact of analysis. It is a social fact - some would say the defining social fact of the times - and this is particularly the case with infor-

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mation technology. There is a problem and an opportunity here. Let me get to the opportunity via the problem.

Two rather separate communities of analysis and discourse have strong interests in the social, political, economic, cultural life - or as they usually put it, the "impacts" - of information technology. In the world of policy studies, information technology is typically approached from the consumer or user end, which is where social researchers and journalists characteristically first encounter it. From that standpoint, they render IT through a media lens as communications. The composite, "Communications & Information Technology" (ICT is the currently favored acronym), focuses functionally on expanded access to information and a consequent enablement (or not) of human agency and particularly the agency presumed since Kant to inhere in self-informing actors. ICT is identified with tools and uses - in the Middle East particularly with satellite television as the mass version and the Internet as the class version - which imports paradigms developed in mass media studies, a simplified social physics of "impact," and methodologies to aggregate preferences and choices. In applied research, this is known as knowledge-attitudes-practices (KAP) study. This intellectual terrain is populated by intersections of political analysis with market research, opinion-polling and audience-parsing, a commitment to populism and liberal ideal-types actors incorporating information into decision-making.

From the engineering world where these technologies originate also come interests in their social, political, economic, and (more vaguely) cultural impacts, but from producer perspectives that are much more informed about technical side of things. Here, IT is approached not as media but as informational machines that extend or create capabilities, as "embedded intelligence." In this perspective, the Internet is associated not with satellite television but with computing and its extension through networking into an information-storage-and-retrieval tool. A dense familiarity (or "thick description") of technological capabilities, often theoretical capabilities, is combined with a flat view of social action as implementation that is almost a mirror image of a dense view of actors but flattened view of technology on the other side of the screen.

These two communities tend to converge from opposite sides of the screen. For one, IT is the content that appears on or can be summoned to the

screen. For the other, IT is what gets content, which may be anything, to the screen. Initial Internet theory attempted to translate these perspectives into the terms of the other. Software engineers, in particular, project conceptions of a digital future of enhanced agency facilitated by multi-media convergence;[2] on the other side, the political scientist Ithiel da Sola Pool initiated speculation about political and economic implications in the combination of computing and networking that continues to frame discussion.[3] These two bodies of literature also tend to feed off each other as proximal sources for the expertise behind each; but those perspectives remain distinct, one viewing IT as media and generalizing from user experiences, the other as automation and generalizing producer perspectives, exaggerated in software engineering, that anything thinkable is possible to automate.

This complementarity forms a closed loop of intertextual reference in a shared body of ideas about IT that center on enhanced agency that is still sociologically weak. This IT abounds in images of enablement, from porn-surfing teens to on-line students in rural African schools, that ignore or at least background institutional settings and institutional infrastructures in and through which IT is accessed, used, developed, transforms and is transformed. In such imagery, the Internet comes forward as a proxy for ICT generally in which a sense of its institutional dimensions, settings, and backgrounds is particularly weak. This obliterates some while emphasizing other first-mover effects, how IT is institutionalized, what institutions coalesce around it, and how IT-engineering proceeds as a social process of building values into machines. Refocusing on such institutions has the added value of reading the social life of IT from more than American representations.

The Internet in the Middle East

For ten years, I have looked at how the Internet and related technologies spread in the Middle East and its extensions.[4] This is the periphery the IT revolution, which Manuel Castells has characterized as the "new social morphology of our societies,"[5] where this relationship seems a lot more contingent. Comparatively, the region (excluding Israel, but including Turkey and Iran), has perhaps the lowest and slowest rate of Internet growth in end users. Various reasons are advanced for this, most turning on ac-

cess restrictions, poor infrastructures, regulatory and particularly security limitations, linguistic and cultural impediments. Interestingly, all of these impediments are institutional, while individuals profess and exhibit strong interest in agency-enhancing potentials of the Internet and IT generally, and across the board. A new generation of leaders is emerging with strong commitments to IT and centered on the Internet as a development sector and development tool. Modernizing elites see a unique opportunity to reverse the region's eclipse in the industrial period that rendered it a primary producer. These and other visions are taking shape in new institutions from ministries that re-denominate telecommunications in IT terms to faculties that combine subjects formerly dispersed in engineering, business, and arts courses, to the more 'virtual' institutions of Internet portals that represent profiles of what it is to be Muslim in the contemporary world.

These and other developments, processes, or patterns of behavior have a sociological reality that is more than 'virtual'. They neither mimic in another realm nor exist apart from palpable experience. Instead, what they have in common is that they are emerging, to some extent intentional rather than taken-for-granted, and, starting as alternatives to existing institutions, have as part of their self-representation an anti-institutional ethos. This ethos typically operationalizes as an emphatic preference for openness that is at least partly a reflexive response to unresponsiveness of existing institutions. Sociologically, institution-building around and through IT involves more than getting Arabia on-line. It involves (1) the emergence of local developers who participate in a transnational market for products and jobs, (2) applications that introduce local needs, demands, and externalities into technological development, (3) making alliances and forging coalitions in support of IT. How does this work?

The Social Life of the Internet

The Internet is not a single technology but an assemblage of technologies from computing, signal processing, software design, networking, and a site where others developed from email and file archives to remote search and aggregation. These overlap with technologies of communications also used in mobile telephony and with technologies of media, also used in satellite television. Indeed, one of the goals of digital communications engineer-

ing has been interoperability, or multiple "platforms" for accessing the same data, which in computing terms means reprocessing and, in media terms, the "convergence" of multiple data streams. Second, the defining but by no means exclusive feature of the Internet is to unite users more closely with developers in more participatory social spaces than, say, satellite television. It is not only interactivity that is built into the Internet but also barriers to entry that are not much higher for producing than for consuming it. Indeed, the technological trend in Internet development overall has been to blur the very distinction that marks both consumer electronics and mass media produced for it. The first process absorbs social morphology, the second projects it as practices.

These features of the Internet foster uniquely social capital. Contrary to popular representations that it was invented to provide secure communications in the event of thermonuclear war, the Internet was in fact created by engineers for their own work.[6] For that work, engineers built their own work habits and values into an open, universal, skills-based platform that would be interactive, would distributed responsibility for design, administration, and content, and would accommodate multiple uses, multiple users, and multi-media. The Internet has grown sociologically by adding new uses and new users. To the initial remote access to disparate machines, engineers who wrote the software for inter-networking added email (for communicating with the operators of other machines), electronic mailing lists and bulletin boards, archives of information, and means for retrieving it. Every technological innovation down to the World Wide Web that brought the Internet to the widest public and which is the Internet to all new users was initially developed by engineers and applied scientists for their own work. The engineers and applied scientists who conceived and built the Internet were quickly followed first by other scientists, then by other researchers and scholars, and finally by the professionals they trained, each adding their interests, practices, and knowledge to the Internet. So the more basic 'secular' or long-term trend of the Internet is to resemble than to reassemble users, particularly through the development of higher-order applications that resemble existing knowledge practices.[7]

A characteristic social feature of this pattern is that early users tend also to be developers, and the pattern is exaggerated on the peripheries. Among

those users in the Middle East is a predominance of applications developers, both of first-order applications that their own community uses and higher-order applications for a wider body of Arab (and other) users. The resulting Internet in the Middle East has a low public but high developer profile that is comparable to the Internet in the US prior to the invention of the World Wide Web (in 1990). This is not to suggest that the Middle East is somehow a decade behind the US on the Internet, but that the overall process proceeds from emergence from a developer world with developers' values and practices built into the technology, which then develops by incorporating values and practices of subsequent new users into the technology as, analytically speaking, higher-order applications.

At this point, the developers expand beyond software engineers to include financiers, regulators, and others who would define the Internet, and a pattern of reciprocal alliance-building emerges around coalitions of interests, resources, and actors. These tend to coalesce around particularly transnational dimensions of the Middle East as the Internet there has essentially been appropriated by local business as a route to globalization and by Islamic activists modernizing da'wa or updating the socialization of Muslims and seekers in a fashion that is responsive to the demands of modern life.

Parallels

Islam has come on-line in three phases or stages. In the first, Muslims largely in the diaspora, brought Islam on-line in the form of core texts of the Holy Qur'an and Hadith of the Prophet. These were mostly students sent for advanced training to the centers where Internet technologies were developed and where they, like others, brought avocational interests on-line, in their case interests in seeing their religion represented in cyberspace. Their practice was to objectify core texts, which every Muslim learns are the bases of the Shari'a or "straight path" of Islam, by applying the analytical apparatus of science and engineering instead of the interpretive apparatus of textual hermeneutics, to which their early tracking into science and engineering educations had not given them access.

These technological adepts of the 1980s, prior to the invention of the World Wide Web in 1990, were followed by a second phase that emerge by the mid-1990s. It featured first oppositional and then official voices that came

on-line to speak for and from, and occasionally against, the interpretive traditions and techniques of specifically Islamic learning. Arguing Islamic expertise, both oppositional and official voices responded to perceived amateurism in religion of the technological adepts. Their tool was the newer, more user-friendly World Wide Web that quickly morphed into a publication medium, which they used to press critiques and more professional apologetics from inside and about Islamic institutions. By comparison to the more creolized discourse of the technological adepts, this discourse has clear Islamic-insider qualities and specifically Islamic-institutional referents, ranging from Islamic oppositions to Islamic establishments. Moreover, it was transnational in specifically Islamic ways: already transnational Muslim institutions from Sufi orders to exile groups to intergovernmental bodies developed Websites with texts, mission statements, position-papers, essentially republished in a new medium.

This characteristic daw'a or outreach to other Muslims takes a turn to modernizing, more moderated voices toward the late 1990s. A number of websites emerged that modulate traditional Islam in more contemporary idioms and around problems of how to lead a Muslim life in the modern world. These include problems of diaspora life from how to find a mosque or halal butcher to matrimonials and cheap airfares, problems of modernizing life disrupting Islamic rhythms, and problems common to both such as securing proper religious education for children and religious advice about rites and relationships. They tend to feature younger shaykhs who combined wholly orthodox theology with a more common touch in line with the professionals who, often using the Internet at work, turn also to the Internet for Islamic alternatives suited to their concerns, styles, and outlook than offered by traditional shaykhs.[8] There are others with similar profiles, including Shi'a and Sufi sites, as well as some with more conservative Salafi profiles, all variously subsidized by interests in representing Islam not just generally on-line but also specifically to Muslims who are on-line and to potential seekers who might become Muslim.

Much as the World Wide Web was the technology that brought activists into the cyber-space opened by technological adepts, this last phase has been facilitated technologically by the development of more sophisticated text-preparation and database storage and retrieval that has made the Web

more interactive. Users can request both fatwa (religious advice in response to a question about religious requirements, preferences, sanctions) from shaykhs and as well as search databases of responses to previous questioners, find on-line religious instruction prepared for children or, for adults and seekers, apologetics for defending the faith as well as more general advice about psychological or social problems of Muslims, particularly in the diaspora where Muslims are minorities, or where Islam does not denominate modern life. The whole is very text-based and technologically puts religion in the hands of users to complete the process of seeking religion more do than traditional face-to-face methods, which it only partly simulates. Such sites also often provide selections of news about and from Muslim countries that users may further tailor by selecting regional and topical profiles - and in both Arabic and English. Some even run polls. In other words, these sites use the highest available Web technology (currently XML programming) that maximizes interaction and user-participation. Moreover, the providers develop that technology (particularly in the fields of text-processing and natural language processing) using the leverage of Islamic patronage.[9]

This is a thoroughly transnational enterprise. Islamonline.net, for instance, was designed and maintained by a firm that also initially produced the Web site (in Arabic only) of Aljazeera Satellite Television, perhaps the most widely watched news-and-opinion channel in the Arab world and the first transnational Arabic broadcaster to locate in the Arab world. The content for Islamonline.net is edited in Cairo, where the shaykhs are located, several preaching and teaching at Al-Azhar University, while technical design and production unit is done by an international crew in Qatar assembled from Jordan, Egypt, Iraq, Lebanon with financing from Gulf countries. Other firms in the Gulf produce websites with more conservative (Salafi) content and financing from Saudi Arabia. From Amman, Jordan a region-focused rather than religion-focused site, also bilingual, is similarly configured as a user-definable portal for regional news and lifestyle features. Each reaches Muslims who are already on-line with Islam that is already transnational in scope and practice and that becomes more so as it assembles scattered Muslims attracted to its profile into a transnational audience.

What brings Islam on-line does not bring the Middle East on-line; but the regional pattern is similar in some respects to both this pattern of trans-

national institution-building and in some respects to patterns of Internet development in the US. The first phase was dominated by national research centers, largely out-of-sight, housing research-oriented specialists with strong international but weak local ties. They were typically repatriated counterparts of the technological adepts who brought Islam on-line and, like them, more connected to a transnational world of experts and not providing much of a channel to their national societies. With the development of interactive, multi-user and multi-use networked computing that emerged in the 1970s, a cohort of public sector technocrats sought to apply training in these new paradigms of computing and networking to modernization, focusing on the "soft" infrastructure of public administration. Theirs was the paradigm of Management Information Systems (MIS) more focused on data structures and databases and by the techniques of dynamic systems analysis than pure computation. They looked beyond automating procedures to apply those technologies for aggregating dispersed data for decision support, a discipline that emerged in schools of administration in this period as the leading edge of MIS, and pursued these projects in government applied research institutes, think tanks, and other hybrid organizations created for the purpose, apart from bureaucratic pressures and under high-level patronage.

For the most part, these public sector technocrats worked through existing institutions. Theirs were scientific and technical agencies isolated from the regular functional bureaucracies. From such perches of relative independence, they developed networks with counterparts throughout the region through public-sector international (UN, EuroMed, Arab League) organizations. Theirs was a mission of national development under the patronage of the independence generation of national leaders at a time when development was modernization and focused on infrastructure. Like their Islamic second-stage counterparts, they were both critical and official, above all committed not so much to the technology as to institutional tasks. Their focus was the infrastructure of administration, which they sought to reform through new MIS models of computing and networked computing which they acquired through foreign technical-professional training in the late 1970s through the 1980s and that internationally evolved into new disciplines of data-driven analysis and decision support, to which some made original contributions.[10]

This generation of technocrats and their MIS paradigm is being superceeded by private-sector entrepreneurs tied to a technology of more open and dispersed instead of closed and centralized networks, a dispersed-responsibility model of PC-based computing, and to programming businesses that variously sell and integrate software. This shift of technology and work model follows a shift in the international development paradigm from modernization to globalization, from public-sector to private-sector development, driven by international patrons and abetted by standards organizations and the WTO property regime that favors copyright laws and privatization of public sector enterprises. Within this cohort, regional networks of the public-sector MIS technocrats give way to more transnational ones focused more by shared technology than by shared tasks and ties, more in the commercial world than ones forged through intergovernmental organizations. They are often rest on old-school ties kept alive by alumni associations, business relations, and relatives in the US and Europe and a shift in patronage, both internally and external, from the public-sector infrastructure to promotion of private-sector enterprises. They promote the Internet as a development sector that will link their countries - actually, businesses in their countries - not to a regional but to an emerging transnational economy that increasingly rides on the Internet and development of its technologies.

These two sequences of Internet development - appropriation by businesses' leveraging IT skills to participate in the global economy and by Islamic activists projecting a new da'wa modulated to the lives of modern professionals who are Muslims both in the diaspora and scattered throughout home societies - have some common institutional patterns and developments. The initial phase of technological adepts overseas and research centers at home features small, international communities high on technical expertise but low on local linkage; their transnational networks do not provide channels of Internet diffusion into home societies. Those come in a second phase of technocrats and activists with dense horizontal linkages that develop in regional networks, strong institutional commitments, and commitments to applying technology-based models to institutional renewal. The third phase is one of entrepreneurs in business and religion, applying more interactive models of technology and development, engaging supra-national (when not international) patrons, and building new institutions for IT.

Cultural into social capital and the emergence of transnational institutions

These phases and the shifts between them partly reflect shifts in engineering cultures, first from mainframes to more distributed designs that also introduce interactive models, from emphasis on computation to mathematics of organization and representation, and then from closed networks and sharing physical resources to open networks and a paradigm built more around exchanging information (i.e., transactions such as in e-commerce, e-government, e-learning but also in exchanging information in customizing portals, searches, data profiling). The match is not perfect, but shifts in technology and engineering culture associate generationally with cohorts and practices capitalized through them. The relationship, however, is indeterminate. What is problematic conceptually is the stickiness of this cultural capital in comparison to the social capital of patronage that operationalizes as commissions. A possible tool for rendering this is actor network theory, which treats technology not as machines but as relations that include their operators, financiers, and regulators who collaborate, or form coalitions, to design systems with local content.[11] But this, too, is indeterminate, and this micro-sociology stands apart from the more macro picture that seems to support diffusion or encapsulation, itself supported by Zogby polls in ten Muslim countries that find highly favorable regard for American technology, education, and media (alongside precisely the reverse for American government policy toward Muslim countries, regard for Islam, and the Palestine-Israel conflict).[12] Yet, neither evidence suggests that that they are pulled away from their societies.

Part of the answer may well lie in sorting out the ingredients and construction of coalitions that form around new information technologies. In each case, competitions to capture the new technology (as potential sources of rent as well as opportunities in their externalities) are being resolved in the creation of new institutions organized around the technologies' alternative worldviews, on the one hand, and shifts in patronage, on the other. NGOs do not seem to figure large in these processes; only Islamic ones (and, to a lesser extent alumni networks) have both the cultural and social capital that is otherwise split between engineering professionals, on the one hand, and governmental (including inter-governmental, such as UN) actors, on the other hand.

Among the transnational vectors of these processes, four stand out.

1. Entrepreneurs in business and religion are displacing public-sector technocrats and their MIS engineering with a new paradigm of technology, development, and their relationship.

2. They are forging alliances with new rulers and transnational, mobile elites among whom the new paradigm is a description of the present and prescription for the future.

3. They are converting existing transnationalism to globalization through IT.

4. This favors those already transnational or with international networks, such as alumni networks whether of MIT or Al-Azhar.

Islam which is already transnational transitions easily to cyberspace for Muslims already there, while globalizing business piggyback on IT spread by foreign schooling, sponsors, and aid regimes. New patterns of alliance-making and coalition-building emerge around engineering cultures that project alternative social models, which attract sponsors as the world they want to create or at least to participate in. This sponsorship emerges in a new, post-independence, generation of leaders managing transitions to denominating security more in terms of welfare, and in shifts from the more regional ties of the technocrat-activist generation to more transnational ties of entrepreneurs in IT business and religion.

What still needs to be sorted out are conditions and triggers for creating new institutions to contain, develop, and develop with information technologies. Some of the material bases are apparent. In this region, where IT development, and particularly the Internet domain, is being actively appropriated by business and Islamic interests, business appropriation is tied to infrastructure development. In a context of privatizing public assets, this is largely a matter of resource capture in a context of globalization of markets. By comparison, appropriation of IT by Islamic activism is tied to software development and investment, which is a matter of 'mindshare' in transnational public spheres (both of Islam and of software engineering) denominated by professional values.

In this context, new institutions reflect attempts to resolve conflicts over resources and mindshare by fostering coalitions around alternative technological paradigms. Telecommunications and education are particularly significant sites of this competition, overlapping with finance and computer-systems integration. In Egypt a cabinet-office decision support center (IDSC) that established its credibility and model by centralizing and rationalizing Egypt's scattered international public debt went on to promote its model by creating institutions dedicated to IT as a development tool from an NGO (RITSEC) to a company to create a new data-network backbone and a policy of 'free' Internet connection. In Saudi Arabia, conflict over control of Internet service was resolved by placing responsibility in the King Abdulaziz City of Science and Technology (KACST), an independent government agency with functions comparable to the US National Institutes of Health that both conducts and funds others to conduct research. At the same time, regulation made Internet service unprofitable except as leverage for developing other (in practice, existing) IT services such as electronic media publishing, network design and installation, software development. The Syrian Computer Society, organized as a professional association of computer scientists and engineers joined by technocrats from public-sector enterprises and some IT businessmen or would-be businessmen, engaged in a long competition with the state-owned telephone company over Internet service, eventually for the right to redistribute Internet service from the phone company to its members (to show what it could do). In Jordan, public sector technocrats assembled under royal patronage in the Royal Scientific Society were eclipsed by a shift of patronage to private-sector entrepreneurs under a new ruler and a new market-oriented, business-promoting foreign aid regime that aims explicitly to eclipse the old regimes of public enterprises and its culture of "contacts and contracts."

Common to each, and to the limits of their achievements, is a pattern of high-level patronage located just below the ruler and thus outside the representation functions lodged at the highest level. This patronage can speak the combined languages of practicality and moral urgency. A similar pattern emerges in support for such practical but public goods as education: in each country, a high but secondary figure of derived authority promotes incorporation of IT into education, and in a discourse that pivots on combinations of IT as tool in and for reforming education. This is a role given to "first la-

dies" where rulers' wives play public roles (Jordan, Egypt) and to heirs-presumptive where that alter-ego ("softer side"?) role falls to them (e.g., Syria, Saudi Arabia, UAE, and earlier in Jordan). In other words, non-competitive but also non-responsible points for speculation in assembling new constituencies in a changing political economy.

Similar patterns appear in the emergence of Islamic portals that seek to institutionalize uniquely transnational practices. An initial flurry of existing interests and institutions coming on-line has been followed by a sociologically more interesting process of combining doctrinal orthodoxy with expression and interpretation modulated to the rhythms, discourse, and needs of an otherwise dispersed and previously underserved constituency. The link is made by a younger generation of "new Azharites,"[13] who are graduates of (sometimes teaching at) the primary university and public voice of orthodox Sunni Islam but who speak in a more modern idiom. Their link to this new constituency is through shared practice and use of IT in their audience, or at least placement in the social space that does.

Not well-conceptualizable in existing terms is a distinctly class dimension in both business-sector and religious-sector appropriations of the Internet and of IT generally that goes well beyond the "digital divide" issue. The Islamic sector, which is already transnational, and the business sector aiming to become so appeal in their embrace of IT to non-communal interests and bid to gather those into new communities. The bid is stronger in the religious case, which brings a more developed template of transnational ties and a more public one than the business sector. Muslims have always sorted themselves informally into networks and constituencies of the like-minded by study, travel, attendance on particular religious leaders, selections of mosques and other places of gathering; this seeking process is reopened for what locally may be minority interests to assemble in cyberspace, where relations are not only identity-confirming but also transactional. Likewise, IT-business promotion speaks of "doing it at home" but through transnational networks to global markets, often citing Ireland, India, or Malaysia as models of IT business in developing countries. Both rebalance transnational senses of community in ways that would repay examination with the development of more grounded theory of transnational institutions (as opposed to inter-national ones) as spaces not just of (cultural) identity but also of (social) exchange.

Summary / Conclusions

It will come as no surprise that the spread of IT, with the complex of technologies and practices composing the Internet at its core, is not a straightforward diffusion from a few centers incorporating more peripheries. Neither is this spread a function of trimming a disruptive force to local standards. What the periphery adds to the overwhelming focus on agency-enhancement in current thinking about the social life of IT are glimpses of institution-building through the formation of alliances and coalitions, which need to be placed front and center in analysis to link micro-sociology with mega-trends. We seem to understand the trends better than the sociology, but largely because trends engage fewer variables and then loosely. Variables of agency, and particularly its enhancement, foreground the experience of new adopters, which make IT generally and the Internet in particular "strong attractors" of representations: as Manuel Castells put it, "networks constitute the new social morphology of our societies," with a "logic" encoded in a "paradigm" in which "the new information technology provides the material basis."[14] What is less well understood is that new adopters also adopt new relations not just through machines nor with abstractions such as "information" or "technology" but through alliances and coalitions with a range of other actors, and with their systematic responsibilities.[15] These have dimensions that are not best rendered through those representations.

Looking beyond those representations for the sociology that produces them draws attention on the wider surrounding of unrepresented, taken-for-granted practices and relationships that compose technology, information, and the social relations that organize them. The praxis we encounter here includes patterns of alliance-formation and coalition-building that actually compose new institutions whose lineaments - what is new and what is institutional - better appear comparatively. In broad comparisons, the Internet on the periphery shows an initial pattern similar to its history at the center. Its point of entrée is the engineering community. Their values and work habits were the first social practices built into the Internet, which then grew by adding new uses and new users, becoming the composite of their profiles. On the peripheries, members of this surrounding community - scientists, academics, and the professionals they train - join with engineers in variously promoting, demanding, and shaping the technology in the societies of the Middle East. Here, a second feature of the engineering end

of the scientific community comes into play, their continuous engagement with customers and patrons for their skills. A pattern of dual recruitment emerges. Scientific-engineering expertise does not translate directly into local social capital. Engineers, in short, need allies; and what is their actual social capital? Where and how does the conversion of cultural capital (knowledge, models) into social capital occur?

The answers would seem to lie in embedded networks, networks embedded in durable institutions of loyalty and of practice. Two practical-institutional sites here appear in religious and educational domains, and particularly on their peripheries. There, identities of practice loom larger than formal institutions. They are relationship-rich but resource poor, variously dispersed or isolated in pockets, weakly institutionalized in formal organizations, and the sort of weak ties that are strengthened - institutionalized - through resource capture, coalition-building, and gaining authority. It is in these settings of embedded networks that information technologies become a resource with potential multiplier effects that are realized in the creation of new institutions for new technologies.

This helps to unify patterns that emerge in the countries of the Middle East I examine. First, while initial Internet installations in each are superficially the same sort as the Internet's early stages in the US - namely, in research centers and institutes, by scientists for their own work - their own transnational networks are not the starting points for spreading the Internet in their countries. The real starting points are elite training grounds for imparting practices and disciplines of technical expertise to practitioners they train. Among these may be projects apart from bureaucracies, but also elite schools. Their practices and disciplines include connections in the forms of referrals and sponsorship for further training and professional association that operationalize in networks of alumni, but alumni importantly of institutions of relatively weak local integration, which thereby elevates their transnational ties and dispositions. Subsequent development is a continuously negotiated outcome of their alliances and of institutionalizing those through combinations of resource capture and coalition building that are not bound to local precedents.

Second, this process is powerfully influenced by shifts of patronage. There are strong competitors in local and thus multi-functional institutions - no-

tably, phone companies and the military, also religious authorities in some countries - which are socially embedded through tasks and goals having more to do with extended social development. These are "hard" institutions of power and function in contrast to softer constituencies in embedded networks and identities of practice. Third, such networks coalesce as moral constituencies through the emergence of narratives that state dispositions in their explicable form of programmatic doxa, a process of progressive entextualization in higher-order master narratives that attract patronage. Here, we see the creation of new institutions around new technology, in this case information technology, by the intervention of patrons who adopt the narratives, but less in their original lower-level forms than in derivative higher-level ones. Likewise, constituencies in front of the screen have to be assembled by commitments of and to patrons first discursively established but then performatively enacted.

Patronage, narratives, and old school ties are dynamic ingredients of alliance and coalition. Their play helps put in perspective how IT is contained (and its development, if not its developmental potential, is constrained) in existing institutions. These include, in Syria and Saudi Arabia notably, the telephone companies but also faculties established to train personnel for established industrial sectors. Egypt and Jordan have shifted patronage to new Ministries of Communications and Information Technology and new faculties that elevate Internet and newer IT engineering cultures. In the religious sphere, extension of existing ties and networks through IT by both technological adepts and Islamic activists appears similarly limited to alliances that form around information-propagation embedded in more loosely institutionalized transnational networks and in practices of an emerging professional middle class of Muslims, both of which are conveyed through patron-client ties embedded in their cultural practices. The Internet and other information technology is embraced by established religious authorities in Syria (and in Saudi Arabia) in limited ways for purposes that focus, like the more expansive formats of vernacularized Islam, on the "weak ties" of a more dispersed, emergent constituency.[16]

What is built into this Internet and into IT generally are not just the practices of engineers (consultation, efficiency, self-administration), but also those in other applied, composite sciences (including business adminis-

tration) and religion which they engage in wider communities of shared practice. "Mechanical engineering taught me how to think" is how an IT journalist put it to me. It is by now a commonplace that IT facilitates this sharing and potentials for mutual recognition. What is not as clearly conceptualized is how these are embedded through the actions of patronage on the peripheries and in interstices of established institutions. Transnational civil society is a compound of such ties. These include alumni networks that introduce actors to transnational networks; they are found in diasporas and in projects; they accumulate around narratives. Theory has been better at eliciting how narratives accumulate identities than for integrating other loyalties and practices (notably, practices of seeking) into the alliance-building and coalition formation around IT.

What do these patterns suggest we should want to understand or to understand differently? At least five classes of data, I suggest, need to be integrated. These are not mutually exclusive.

1. Alliance-making. This is clearly the critical point of integration of exogenous technologies and their cultural constructions into local systems of practice and action. Not only is alliance-making important in the abstract as a step in the creation of extensive institutions, also important are its own practices, customs, precedents, and prioritizations of resources. Who enters and in what sequences?

2. Internal and external patronage and their interplay. It is not self-evident that external patronage encapsulates or otherwise subordinates local relations to global ones. Internal patronage selects among alternatives that include, but do not monopolize, external patronage, attempts to re-shape the field of alternatives, provide a hearing and a channel, and actively affect design decisions. Boundaries of intentionality are unclear: where does the creation of Islamic websites include intentions to develop software, or do software developers drive those choices and then seek patrons for their projects? When, precisely, do regulators take notice that becomes a design factor, and with whom do they negotiate property rights, restrictions, surveillance and supervision? Whom do primary designers recruit to those negotiations?

3. Prexisting networks and networking practices. How do they come into play or pass into the growing field of relations that are composing transnational civil society, particularly against prejudices of some cultural managers that business and religion don't count as "civil"?

4. Paths of representation. Designers and providers often talk about "educating" consumers, regulators, and others: how do they formulate and pass on representations? On what do they draw for bigger pictures, portable representations, and solemn entextualizations for socializing their interlocutors, and for socializing more parochial narratives? What, if anything, limits the portability of IT narratives?

5. Channel effects. Surrounding discursive representations (doxa, in practice theory terms) are wider, more inchoate bodies of taken-for-granted assumptions, dispositions, and practices whose social channels are embedded networks. Operationalizing mutual recognition, such networks are embedded in durable institutions of loyalties and practices. What is not said in the negotiation of alliances, what/whom "trusted"? What is not any more, or not yet, represented discursively, symbolically, either unintentionally or not?

A larger theoretical question is why new institutions. Common sense would suggest inertia, sociological sense would suggest moral investments, economics would point to interests in 'sunk' costs, politics to entrenched hegemonies, even to personal ambitions that stand in the way of forming new institutions. These are negative reasons. Each points to decisions and theorises their aggregation that leave something missing. That may be in part an adequate account of the aggregation of social capital that includes its conversion of cultural subjectivities into social relations, a process that is not self-evident but is evident in forming alliances and building coalitions. What brings these into a social space of transnational ties and institutions includes religious institutions and ties, businesses based on professions (i.e., knowledge practices), education, alumni networks that connect to counterparts, and that loosest of all variables, class. Comparative study on the periphery turns up connections between alliances and the creation of new institutions for new technology even more than through it. It doesn't suggest very convincing explanations of those connections that are adding up

to a transnational civil society of composite narratives, experiences, and identities of practice that at some point seem to demand new institutions distinguished by weak local but stronger transnational relations gathered up by them and re-narrated in them. What makes this "civil" are relative privileges of alternative moral authorities that respond to evident moral crises in more local institutions.

Much of our understanding, or apparent understanding, of the social life of information technology has been tied to parochial narratives. Turning the inquiry back to the center from the periphery makes problematic not only the unilinearity of the master narrative, a narrative of ultimate success despite setbacks on the way. These narratives prominently arise in the world of software development and convey its animating ethos of anything-is-possible and the elevation of simulacra, which are ultimately closed systems. This is totemism, not sociology, and in it IT becomes a floating signifier. Turning back also suggests what is omitted from the master narrative is an equivalent appreciation of the alliances that float the signifiers. We become cognizant of alliances through rushes of various cultural managers bringing additional design criteria to the Internet and IT in the form of property and propriety rights that in the master narrative are relegated to a past left behind. This can convey a false sense of society catching up. It is easy enough to demonstrate a secular trend in Internet development that increasingly resembles the society it is in, or the social components it accumulates. What is devilishly harder to represent, in terms other than those of the master narrative, is what arises and is transformed.

Notes & References

[1] Raymond Aron. Main Currents of Sociological Thought II. R. Howard and H. Weaver, trans. (New York: Basic Books, 1967). p. 202.

[2] For example, at the height of the Internet's public introduction in the US, Nicholas Negroponte's Being Digital (New York: Basic Books, 1995) and Bill Gates' The Road Ahead (New York: Penguin, 1996).

[3] Ithiel da Sola Pool, Technologies of Freedom (Cambridge: Harvard University Press,1983), Technologies without Boundaries (Cambridge: Harvard University Press, 1990). Compare Manuel Castells, The Internet Galaxy (Oxford: Oxford University Press, 2001).

[4] "Cybarites, Knowledge Workers and New Creoles on the Information Superhighway," Anthropology Today 11(4): 13-15, August 1995; "The Internet in the Middle East: Commerce Brings the Region Online," Middle East Executive Reports 20(12): 8, 11-16, December 1997; Arabizing the Internet. Occasional Paper # 30 of the Emirates Center for Strategic Studies and Research. Abu Dhabi, 1998; "The Internet and Islam's New Interpreters," In New Media in the Muslim World: The Emerging Public Sphere, Dale F. Eickelman & Jon W. Anderson, eds. (Bloomington: Indiana University Press, 1999); "Producers and Middle East Internet Technology: Getting Beyond Impacts." The Middle East Journal 54(3): 419-431, Summer 2000; "Muslim Networks, Muslim Selves in Cyberspace." NMIT Working Papers, October 2001 <http://nmit.georgetown.edu/papers/jwanderson2.htm>

[5] The Rise of the Network Society. Volume 1 of The Information Age (Oxford: Blackwell, 1996), p. 469.

[6] Accounts of Internet history by a professional historian, Janet Abbate, Inventing the Internet (Cambridge: MIT Press, 1999), journalists Katie Hafner & Mathew Lyon, Where Wizards Stay Up Late (New York, Simon & Schuster, 1996),and the creators Barry M. Leiner, Vinton G. Cerf, David D. Clark, Robert E. Kahn, Leonard Kleinrock, Daniel C. Lynch, Jon Postel, Larry G. Roberts, Stephen Wolff. A Brief History of the Internet (The Internet Society,1997) http://www.isoc.org/internethistory/ A critical history of later institution-building phases is Milton L. Mueller, Ruling the Root: Internet Governance and the Taming of Cyberspace (Cambridge: MIT Press, 2002) and a general attempt to theorise the process is Robert Latham, "Networks, Information and the Rise of the Global Internet." In Digital Formations: IT and New Architectures in the Global Realm, edited by Robert Latham & Saskia Sassen (Princeton: Princeton University Press, 2005), pp 146-77.

[7] Surveys by the Pew Internet in American Life Project have shown that women and minorities bring on-line interests (in relationship maintenance and social mobility, respectively) that distinguish them from early adopters (predominately young males) and dilute the profile that the latter give to the Internet. See Tracking Online Life: How Women Use the Internet to Cultivate Relationships with Family and Friends (May 10, 2000) http://www.pewinternet.org/reports/toc.asp?Report=11 and More Online, Doing More (February 18, 2001) http://www.pewinternet.org/reports/toc.asp?Report=30

[8] Malika Zeghal. "Religion and politics in Egypt: The Ulema of Al-Azhar, Radical Islam, and the State (1952-94)," International Journal of Middle East Studies 31(4): 371-99, 1999.

[9] The pioneer of this pattern has been Sakhr Software, a Saudi-owned company formerly based in Kuwait and currently in Cairo that began with the intention of producing Islamic software and found that it first had to produce the underlying software for Arabic text-processing. Sakhr has long since spun off its Islamic software to concentrate on enterprise-level bilingual text-processing and automated translation. The technical designers and maintainers of Islamonline.net likewise leverage its patronage to support development of software components for commercial clients.

[10] Hisham El-Sharif & Omar A. El-Sawy. "Issue-based decision support systems for the Egyptian Cabinet" MIS Quarterly 12(4): 551-69. December 1988.

[11] See, Anderson (2000); for application of actor-network theory to computer-based information technologies, see from David Hakken, Cyborgs@Cyberspace (New York: Routledge, 1999).

[12] Ten Nations Impression of America Poll, individual country reports at http://www.zogby.com/features/features.dbm?ID=146.

[13] Zaghdal, op.cit.

[14] loc. cit

[15] "The Internet and Islam's New Interpreters." In New Media in the Muslim World: The Emerging Public Sphere, edited by Dale F. Eickelman & Jon W. Anderson. (Bloomington: Indiana University Press, 1999), pp. 41-56.

[16] The concept of "weak ties" is Castells', and I'm indebted to Lutfi Arslan for this observation.