

Bit by Bit by Bit: Hypercomplexity and Digital Media Studies

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In his 2003 book “The Hypercomplex Society” (2003), Lars Qvortrup provides a compelling perspective on the social, cultural and economic shifts taking place in the early 21st century, especially as they relate to the processes and practices of digitization. Dispelling the notions of the “information society,” the “network society,” the “knowledge society,” the “learning society,” etc. (p. 3), he advocates for a social theory that describes current trends in social organization. Qvortrup argues that “complexity” is the guiding concept that differentiates the current and emerging society – one that is determined by the “ability to manage complexity” (p. 4). In Qvortrup’s view, complexity is not a problem to be “solved” or “minimized at all costs.” Rather, he asserts “[O]n the contrary, complexity is the solution. Stability is not achieved by the provision of a strong center, but through the provision of means for mutual observation. This is, by the way, the main reason for the importance of currently emerging new media technologies, with the Internet as the basic example. . . . The functional objective of society is not to create “order” out of “chaos,” but to manage complexity by complexity” (Qvortrup p. viii-ix).

Qvortrup’s approach is similar to Poster’s (2001) assertion that “the Internet is more like a social space than a thing; its effects are more like those of Germany than those of hammers” (p. 262). Like Poster, I argue for a deeper appreciation of complex socio-digital dynamics, especially as that complexity influences approaches to emerging trends in higher education. Qvortrup (2003) affirms this belief that experiences and organizational structures in the digital age are fundamentally different. Taking a provocative look at the inscription of complexity within complexity (“hypercomplexity”) - and the Internet’s role in contemporary life, Qvortrup asserts that the Internet (and

specifically the World Wide Web) “is the first communication medium that combines the dissemination- and the effect-media qualities in one media structure” (p. 177). Qvortrup claims that the Internet, as a complex phenomenon, both expresses and manages complexity in ways not possible before its existence. In what he calls a structural coupling between the technological and social systems, “the Internet and the World Wide Web represent a ‘social’ or ‘sociotechnical’ invention, which is capable of tackling the problem of global digital accessibility without destroying the benefits of global access” (p. 179). Qvortrup notes that information and communication technologies play a “paradoxical role” in that they both promote emerging problems (such as “electronic proximity”) and represent the necessary tools for addressing those problems “because the only way to manage social complexity is to establish communication based couplings between people and institutions. Thus, a “sophistication of society must go hand in hand with a sophistication of information and communication technologies” (Qvortrup p. 10).

Not only are the interactions among digital processes and practices increasingly complex, the social contexts in which they play a part are expanding as well. As we might extend Qvortrup’s late 20th-century viewpoint into the current century, we would need to pay careful attention to the proliferation of personal and mobile digital media. The advent of “smart homes,” “smart phones,” “smart cars,” “smart clothing,” etc., suggests that digital processes and practices now stand to impact an ever-expanding range of human activities. As Qvortrup asserts, these new contexts remind us about two crucial aspects of digitization. First, as digital media operate as “complexity-management mechanisms” they stimulate “organizing processes” by organizing their own structure. Second, as they both encourage and express new types of social organization, new

techno-social practices emerge. Qvortrup's examples include "elusive offices," "network universities," virtual classrooms," "computer conferencing," "soft cities," "smart buildings," "electronic libraries," etc. (Qvortrup, p. 183). These expanding contexts and practices inject digital media into a wide range of social contexts and organizations, making it more and more difficult for individuals to carve out "non-digital" roles and unmediated situations in which to exist. They also portend dramatic changes in the ways in which institutions of higher education will conduct their business and also in the ways they will continue to shape social change. This essay will explore the basic tenets of Qvortrup's theory of hypercomplexity and apply them to the emerging interdisciplinary field of digital media studies.

The Digital Situation

In a very broad sense, digitization both embodies and emboldens the blending of forms, contents, functionalities and contexts of human activity in ways simply not possible before. It involves a complex relationship between the processes that make up the digital environment (e.g., generative structures and "solutions") and the practices of individuals that emerge through and shape processes. Andersen (2003) notes that computers either replace or enhance "nearly all artifacts of modern life," and that they blur the boundaries among three previously distinct types of objects: media, tools, and automata (p. 184). In Andersen's characterization, "medium" (what he calls an "artifact" that is designed to affect others "by offering information, issuing requests, posing questions, or yielding emotional experiences"), "tool" (an artifact that is under full control of a human operator and is "designed for producing or changing some physical

object”), and “automata” (that which can, without human interference, “perform some reasonably complicated process that ends in a desired state”) become almost indistinguishable from each other (Andersen p. 184). He notes that before the advent of computers, these three types of artifacts were implemented by completely different technologies, were usually found in distinctly different contexts, and were usually produced and used and studied by clearly separated professions and schools of thought. Now digital media present us with a compelling mixture of media, tools, and automata that are, in most cases, virtually impossible to isolate, operate and control independently. “When one buys one part, one simultaneously buys the other two as well” (p. 183).

Gunther Kress (1998) extends this blurring of boundaries among artifacts and activities to the shifting landscape of human practices. Kress reminds us that digital media make it possible to collapse, blend, and transform what used to be distinctly different activities and skill sets (and thus distinctly different professions) into, via digital media, functionally singular activities undertaken by individuals who possess an increasingly diverse combination of skills and sensibilities. This complicates media production immensely because “this one person now has to understand the semiotic potentials of each mode – sound, visual, speech – and orchestrate them to accord with his or her design” (pp. 56-7). Thus, “multimedia production requires high levels of multi-modal competence based on knowledge of the operation of different modes, and highly developed design abilities to produce complex semiotic ‘texts’” (Kress p. 57).

Liestol (2003) asserts that because the computer has become a “dominant tool for communication and exchange of meaning,” and because of its unique semiotic impacts, we must go beyond traditional conceptions of “hardware” and “software” as “we are now

experiencing the emergence of meaningware” (p. 389). This new semiotic dynamic reframes traditional notions of production and reception, process and practice, effectively turning every “user” into a potential producer of digital media. Blogs, wikis, open-source content management systems (such as phpNuke, Mambo and Drupal), the growing attention paid to digital media production skills highlight this authorial/generative resurgence.

A Closer Look at the Theory of Hypercomplexity

In an effort to look beyond social theories that organize themselves around “absences” or “negations” from earlier phases (e.g., “post-modern”), Qvortrup ushers us into the world of “hypercomplexity” in an attempt to describe “an emerging social system that can be identified according to its own structures and dynamics” (p. 6). Basing much of his fundamental work on the contributions of German sociologist Niklas Luhmann, Qvortrup builds upon Luhmann’s examinations of complexity and its developments toward “polycentric” social systems that apply “different codes of self-observation related to different positions of observation, in order to manage an increasingly complex environment” (Qvortrup 2003, p. 6). Qvortrup’s key refinement of Luhmann’s work extends the concept from one of “complexity,” which is demonstrated by accelerating social processes on a global scale, to “hypercomplexity,” which is demonstrated by “complexity inscribed in complexity.” In Qvortrup’s words, an example of hypercomplexity is “the result of one observer’s description of another observer’s descriptions of complexity, or it is the result of a complex observer’s description of its own complexity” (Qvortrup 2003, p. 6). Thus, we are now experiencing this movement

toward polycentric social systems that apply “different codes of self-observation related to different positions of observation” (p. 7). Qvortrup explores Luhmann’s examples of these self-observational codes that form the social fabric of today’s increasingly hypercomplex society:

The economy applies the code of profit and loss; the religious system the code of transcendence and immanence; the scientific system the code of truth; the political system the code of power, and so on. This means that the concept of universal ‘truth’ or consensus is replaced by the need for transjunctional operations, which make it possible to switch codes and to decide which code is appropriate for specific social operation. One precondition is that the code must be capable of observing the world (and itself) as the differentiation of other codes (i.e., creating a hypercomplex operation)” (Qvortrup 2003, p. 7).

In an effort to “match external complexity with observational complexity,” organizations now develop an increasingly wide variety of observational means and observational codes that draw upon a wide range of social domains. As Qvortrup mentions, business organizations now draw not only upon the economy, but also upon ethics, ecology and more “in order to handle their hypercomplex social environment” (p. 7).

Art has moved from a linear perspective (and a normative definition of aesthetics) to a polycentric perspective (and a reflective definition of aesthetics). The so-called public sphere has changed from a “place” – a lifeworld – in a society, in which “common sense” (consensus) is expected, into a specific meta-level observation and communication system based on public opinion, which isn’t an essential thing but is an observation and communication code based on the distinction between the public and the private. In the public sphere we do not agree, but we observe each other according to special criteria” (Qvortrup 2003, pp. 7-8)

The theory of hypercomplexity embraces the primacy of communication in social processes and the paradox that “the only ideological constancy is the constant absence of a guiding social ideology” (Qvortrup 2003, p. 4). This polycentrism is exemplified by the movement toward a society with an ever-increasing number of “functionally

differentiated centers” that rely on “communication-based processes of coordination.” In this sense, stability emerges from a fragile balance between complex social processes and decentralization. Communication and information technologies evolve to promote the “decentered processes of mutual observation and coordination among social sub-centers” (Qvortrup 2003, p. 4). Social systems are guided by themselves, not by “an external subject” as they strive to match outer complexity with inner complexity.

Qvortrup charts the evolution toward hypercomplexity as an epistemic shift from “theocentrism” to “anthropocentrism,” to “polycentrism,” or as they specifically relate to the ideal of informed decision making - the movement from religious determination to human rationality to paradoxicality. Traditional theocentric societies that are “based on and structured by an ontologically or transcendently given external ‘force’” driven by a “divine rationality” (e.g., God, Destiny) are challenged by or replaced by an anthropocentric society in which individuals “expect to be capable of reaching informed decisions via “unlimited rationality.” As complexity increases and the demands for hypercomplex systems intensify, society becomes polycentric, and unlimited rationality gives way to “bounded rationality” – “the social fact that in every decisional situation the number of possibilities, not only for observation-based conclusions, but also for determining the premises of observations, exceeds the capability to make decisions” (Qvortrup 2003, p. 13). Put another way, instead of producing a social environment where literally anything goes, such systems themselves produce their own “elements, relations, and conditionalizing forces” (Qvortrup 2003, p. 13). And so, society becomes a hypercomplex system of a tremendous number of “communication centers” and codes, within which no universal point of observation is possible and no single individual can

“couple” with all potentialities and therefore actually must “disconnect” (reduce the number of couplings) in order to function. An increasing number of observations within such a polycentric world are recursively turned toward each other – observations of others’ observations (and of the observer’s own observations). Modern-day blogging, with its perspective on perspectives all linked via RSS and search engines to an apparently unending set of related perspectives, might serve as one good example. Wikipedia, with its individual-generated content, its recursive inter-linking among entries, and its categorical refusal to publish “original research” serves as another prime example (http://en.wikipedia.org/wiki/Wikipedia:No_original_research).

Qvortrup is careful to point out that hypercomplexity is evolutionary, absorbing uncertainty by building ever-more complex systems. Indeed, rather than serving as a grand theory of social organization, Qvortrup presents hypercomplexity as “a category that can explain a growing number of observation and communication processes in this society” (Qvortrup 2003, p. 14). He devotes the rest of the book to an explication of these hypotheses, examining practical, aesthetic and rational frames of self-observation and then exploring the relationship between social systems and the “media of self-observation,” paying particular attention to communication, media, public opinion and the ways in which the Internet both reflects and makes possible the shift toward a more hypercomplex life.

One of the most compelling and productive aspects of Qvortrup’s work is that it encourages us to examine the Internet (and all digital media) as “socio-technical inventions” that both express and shape our increasingly hypercomplex society. Regarding the Internet specifically, Qvortrup claims that the “particular structural

qualities of the hypercomplex society have been transformed into the structure of the Internet” (Qvortrup p. 167). This “structural match” makes possible entirely new organizational forms that make it increasingly difficult to regard digital processes and practices as mere “tools” for social activity. In other words, the speed by which the Internet has grown might be partially explained by the increasing technical capacity of its digital systems, but it might be more persuasively explained as a coupling between the hypercomplex nature of its technical processes with the hypercomplex tendencies in contemporary social organizations.

With the potential for global communication between people who are virtually present in time and space, the problems of managing complexity increase accordingly, simply because the complexity-management mechanisms in simple face-to-face communication are relatively limited in scope . . . Consequently, the global Internet – and, in particular, cyberspace – will never become anything like a “global community.” On the contrary, the Internet has to “reinvent” the complexity-management tools of society, such as organized differentiations (for instance in mutually separated intranet systems) and functionally differentiated subsystems, each with its own symbolically generalized medium. Maybe this is the real revolutionary effect of the Internet: that it copies the structure of society into the medium, providing the Internet with an extraordinary social complexity-management potential compared with any other medium (Qvortrup . 174).

Seeing the World (and Education) Differently Through Digital Media Studies

When I use the term “Digital Media Studies” I am referring to the wide variety of efforts among colleges and universities around the world designed to address, in various ways and in various measure, the aesthetic and technical processes and the critical/theoretical implications of digitization through the establishment of formal academic degree programs. Labels for such programs vary widely – from “Interactive Media Studies” to “Digital Storytelling” to “Electronic Media” to “New Media” and more. While only a few are actually labeled “Digital Media Studies,” many of them are

devoted to both the study of designing and producing digital media AND the examination of the personal, cultural, social, economic, political, and global implications of digitization. To put it another way, as far as this paper is concerned “Digital Media Studies” most broadly addresses the inextricable connection between the ways in which digital media are made AND the ways in which digital media transform daily life.

The implications of Qvortrup’s theory of hypercomplexity on digital media studies studies specifically, and higher education generally, are immense. On the surface, it would be easy to assert that trends in interdisciplinary work and the emergence of digital media study in traditional disciplines (such as art, literature, political science, education, etc.) serve as evidence that higher education in America is adjusting well to this new hypercomplex environment. On the other hand, it might be even easier to assert that the structures and functions of higher education have not yet fully embraced the implications of their adventure into the digital unknown (Raschke 2003). This section of this paper will examine ways in which the theory of social hypercomplexity illuminates several key questions the role that digital media studies might play as institutions of higher education adapt to the ever-quickenning pace of social changes.

At the most general level, the theory of hypercomplexity calls into question the traditional notion of what it means to be “broadly educated.” An almost perfect reflection of the anthropocentric faith in the unlimited rationality of human beings, the liberal arts tradition reifies this belief as not only a roadmap of study but also as a pedagogical method through which students are taught the means of self expression, intellectual engagement, and the powers of reason. In most universities in the world (especially in the U.S.) the liberal arts remain distinct from professional studies such as

business, communication, engineering, computer science, education, etc., and in most of such places those fields deemed to be “outside” of the liberal arts tradition are marginalized as less valuable and less legitimate areas of study.

Hypercomplexity requires a conversation about the possibility of a new model for higher education – one that embraces not only the anthropocentric traditions of liberal study, but one that might more systematically reach into the “professional” and “applied” realms that have become increasingly significant aspects of higher education. The broadly educated undergraduate of today needs to become aware of wide range of subsystemic codes, most of which are now digitally mediated in a wide range of contexts. While meaningful collaboration among liberal arts program and professional/applied programs might occur, the fundamental distinction might be no longer valid in a world where digitization and hypercomplexity continue to transform personal, cultural, social and global practices.

The “new liberal arts” must also embrace theocentric and anthropocentric influences in the cultural mashup of digital life today; i.e., the hypercomplex society creates more room for all forms of social expression and organization to exist. The implications of this expansiveness are far-reaching, especially because it paradoxically reduces the distances and distinctions between widely divergent perspectives on contemporary life. As Qvortrup writes, it makes an astounding number of social actions “communicatively accessible” (Qvortrup p. 10), requiring us to construct and operate vastly more complex social structures and institutions. There is no better example than a highly personalizable news portal, such as those available via Google, Yahoo, and others. Through such a portal an individual can construct an unlimited number of vantage points through which

to form an up-to-the-minute perception of “what’s going on” and what “everyone is thinking.” Multiplied by millions, these personalized points of observation can also be made available to others (via blogs, RSS, etc.), inscribing yet another layer of complexity into the social framework.

Hypercomplexity also recasts many of the fundamental questions surrounding the studies of ways in which communicative acts are made explicit. Qvortrup addresses this concern through a discussion of “digital poetics” – the means by which “an artist shapes his or her material in order to give form to the artistic idea; how the process of poetical composition can be described” (Qvortrup p. 76). I would expand this concern beyond the realm of the artist to include all communicative acts that are manifested digitally. In this broader sense, interest expands from notions of traditional literacies (e.g., reading text, writing text, and examining content) toward notions of experience generation (e.g., creating points of navigation, modifying interfaces, and orchestrating interactions). From an educational standpoint, this expansion of “literal arts” underscores the multimodal nature of digital communication processes, where interpretation is often replaced by interaction, where involvement is often shaped (and reshaped) by interface, and where expression is often transformed by involvement (See Kress 2001, 2002, 2003). It also calls into question social stratifications based on traditional notions of literacy (or certifiable literacy skills) and begs us to consider the possibility that one’s ability to effectively reduce complexity is becoming a primary social differentiator today. What social advantages and disadvantages are forthcoming for those who embrace digital practices (both on the individual and organizational level)? This is precisely the role that search engines, blogs, portals, intranets, directories, mobile media, and other complexity

management strategies play in more and more lives in more and more places around the world every day.

As Qvortrup asserts, “digital media have a communication potential that is particularly adequate for making observations of a polycontextural society” (Qvortrup p. 85). Yet at the same time digital media also transform the acts of observing in every literal sense. So while we use digital media to help up focus on phenomena “that have been previously difficult to see” (Qvortrup p. 85), we also transform the very nature of observation by making those observations communicatively accessible on a global scale. So the utterances of a high school geography teacher in Colorado who makes politically controversial remarks in his classroom one day might be recorded by a student on his iPod, distributed via email to the media by his parents, commented on via the web by a journalist in a newspaper 1700 miles away, show up as a national headline on cnn.com, picked up by the global news media in a matter of hours, appear in literally thousands of blogs within hours, and result in the suspension of the teacher the next day. Such an example points out the “need for observing the world differently” (Qvortrup p. 86) simply because we are, indeed, observing the world differently.

Crucial to Qvortrup’s treatment of hypercomplexity is Simon’s idea (1945) of “bounded rationality” – the assertion that a “complex environment cannot be managed by a single human’s rationality, but that we always face a deficit of rationality, i.e., that the complexity of an organization’s environment exceeds the management capacity of the organization. Consequently, the basic function of an organization is to reduce complexity and the challenges for managers is to develop complexity-management strategies and structures” (Qvortrup p. 186). Digital processes and practices play key roles in this

discussion because they offer not only the means by which humans can narrow the range of choices before making a decision (a complexity management function), but they also can be embedded with means of automating, refining, and transformation those decision processes themselves (a complexity amplification function). Zuboff (2000) refers to the latter as the “informing process,” the means by which digital processes not only respond to inputs and perform tasks, but also the ways in which they generate data about data, share those data, and initiate actions based on those data. The situation with the high school geography teacher mentioned above was fueled, in large part, by the automated processes of meta-data creation, data sharing, data crawling, data consolidation and data presentation that required little or no direct human involvement. So, it is not only that humans are seeing the world differently, but also that their world is being increasingly mediated by digital processes that can condense literally billions of self-regulating computational decisions into a matter of seconds. As Qvortrup asserts, this “re-entry function” allows for geometric expansion of the system while avoiding the creation of chaos, making for a truly hypercomplex social phenomena where the system depends on its ability to observe phenomena AND observe observations (Qvortrup p. 181).

Hypercomplexity and Higher Education

So if we’re living in an increasingly hypercomplex age, to what extent are institutions of higher education capable of not only managing complexity themselves but also of producing knowledge and producing graduates that thrive in hypercomplex environments? And what role might digital media studies play in shaping the higher education response to hypercomplexification?

On the most fundamental level higher education needs to more effectively manifest the structural coupling between the media it uses and the forms they take by unifying the conversations about digitization and structure, digitization and pedagogy, digitization and disciplinarity. The processes and practices of digitization need to be examined systematically in every corner of the academic enterprise because they are inextricably linked with transformations of every corner of the academic enterprise. As Qvortrup points out, a society can deal effectively with complexity only by building up complexity - “a society that recreates itself in new versions, on the basis of what it has already learned” (Qvortrup p. 121). In other words, our social structures and institutions much become much more sophisticated “complexity-management systems” (Qvortrup p. 10). It is, to some extent, ironic that colleges and universities around the world have been both the birthing ground for the Internet and have been focused on digitizing many aspects of their operation while at the same time most have remained resistant about allowing the study of digital media into the mainstream of their daily academic enterprise. Institutions of higher education need to embrace a sociotechnical sensibility – one that accepts that contemporary digital forms and practices do not operate outside of, or independent of, social forms and practices. It is here where increased investment in the “digital arts” can serve to illuminate subtle yet significant alterations in the social landscape. By moving digital arts from the margins to the mainstream within higher education it becomes conceivably easier to engage participants in the on-going process of discussion and design that make up such a significant aspect of the self-organizing systems of hypercomplexity.

Given the match between the Internet structures and hypercomplex social structures, it makes sense that colleges and universities need to evaluate the extent to which their own structures “match up,” especially in terms of how those structures help them manage hypercomplexity. The self-organizing, recursive nature of the Internet suggests that universities need to embrace open systems and open architectures that allow for recursive reorganization. One example might be the expansion of multi-disciplinary initiatives as not only important “niche” programs, but also as fundamentally new organizational structures through which the daily business of the university gets done. Because hypercomplexity works through the “coupling” of communicatively accessible actions, and because these actions are accessible because they are digital in nature (and connected via a digital network), more energy needs to be paid to the provision of “coupling points” that allow opportunistic (and often temporary) connections among disciplines to be made (and rewarded). There are many examples of highly successful interdisciplinary efforts at many institutions throughout the world; however, rarely have these efforts culminated in any meaningful rearrangement of the university structure itself. Disciplines need to become “coupleable” to promote both self-observation and cross-disciplinary observation of observations; specializations remain useful only as long as they remain open to couplings with other specializations – as they digitize and become net-centric, so they become coupleable (in principle).

The same is true for curriculum management and curriculum development. Anthropocentric disciplinary models simply cannot endure in a hypercomplex environment because they assume unlimited rationality (and they fly in the face of increasingly dynamic change). Curriculum development needs to be seen as a generative

and inventive process that models the mechanisms of contemporary social change and openly includes the activities of all of its constituents (including students). For example, universities continue to put much energy into course management systems (such as Blackboard, WebCT and eCollege) while at the same time decrying student use of social networks such as facebook and myspace as not only counter-productive but also as anti-intellectual. More often than not college professors, academic departments, university divisions and outside accreditors subject curricular revisions to extensive and drawn-out vetting processes that almost always ensure the new courses and new programs are out of date from the outset. What would happen if more resources were devoted to experimental courses on experimental topics? What would happen if more academics, more departments, and more deans saw at least some aspect of curriculum development as a means of invention, a means of exploring new topics, new approaches, new forms of knowledge generation? What would happen if traditional liberal arts disciplines worked harder to embrace their professional and applied counterparts?

The traditional liberal arts model should be re-evaluated according to the implications of hypercomplexity, especially as it might embrace non-traditional areas of education (and thus be transformed by them). One of the best ways to thrive in a hypercomplex society is to develop the ability to see the world from various (and sometimes competing) points of observation, and one possible way to accomplish this is a fuller integration of traditional, professional and applied studies through hypercomplex practices. Such efforts could rely heavily on individual training in communication and expression that matches the forms of social communication and expression of hypercomplex systems. For example, imagine the potential of a cross-disciplinary campus-wide blogosphere that

expresses, documents, connects, and extends the work done by individual faculty members, students and professionals with an eye toward the ways in which these activities might self-organize into social networks devoted to the intellectual enterprise. Also imagine efforts across a college campus that emphasize the development of digital media creation skills that are embedded in the languages and codes of the specific disciplines. The output of these efforts then form the bases for a dramatic increase in “communicative accessibility” via the Internet, especially those that involve a full range of digital media forms (text, image, video, audio, animation, interactivity, etc.). In other words, universities need to adopt individual training in communication and expression that matches the forms of social communication with contemporary forms of social organization.

Very special attention needs to be paid to the unique role that art (especially digital art) can and will play in illuminating the constantly transforming relationships embedded in hypercomplexity. The extent to which digital art is seen simply as a computerized version of previous non-digital artistic processes is likely to determine the extent to which any particular higher education enterprise is able to detect, react to, and organize around the transforming potential of widespread digital practices.

The study of digital media needs to “get personal;” in other words, higher education needs to carefully (and quickly) examine the potentially explosive impacts of “personal media.” While Qvortrup’s focus is obviously on the social dimensions of hypercomplexity, more attention needs to be paid to the increasingly powerful role that a larger and larger number of individuals are playing in the process of hypercomplexification. For the foreseeable future the media and communication

landscape will be radically transformed by the emergence and expansion of "personal media" and broadband delivery systems. Fueled by convergence between the processes, practices, production and consumption of traditional mass media (film, radio, television, print, etc.) and those of emergent personal media (email, instant messaging, blogs, mobile media devices, digital video recorders, web cams, Internet telephony, file sharing, streaming media, video games, and EoIP – Everything over Internet Protocol), the traditional forms of both mass communication and human communication will be increasingly intermingled and altered by new media forms that offer affordable on-demand, mobile, ubiquitous, instantaneous, and networked personalized media and communication experiences. All aspects of modern life will intersect with these transformations, including interpersonal, familial, organizational, cultural, social and global contexts. Personal media are especially important to examine because they are likely to serve as a hotbed for the creation of new forms of social organization that emerge through the full range of mediated practices (mass, digital, personal, etc.).

And so it is with the Internet, which appears to be a kind of prototype of the spontaneous self-organization of the complexity-increasing society. For the Internet develops through self-growth; it is not organized in advance. In principle anyone can join, and everyone does so with thousands of different motives. But, in the wake of this self-growth of organizations, organized procedures for interaction are constantly being formed. The process gives rise to a spontaneously initiated reaction to complexity (Qvortrup p. 177).

Universities are logical breeding grounds for these types of applications, but such progress is unlikely unless such activities are embraced within the academic mission of the institution.

In its own way digital media studies becomes both the content medium for exploring the impacts of digitization and hypercomplexity AND it becomes the “effect

structure” through which other academic fields (what Qvortrup might call “subsystems”) can evolve toward a more hypercomplex state. Yet until this entire range of activities comes to be seen as fundamental to the functioning and continued relevance of the higher education enterprise I fear that larger and larger portions of what academics do will become overshadowed, marginalized, and potentially eliminated from contemporary social discourse. So if social differentiation is determined, at least in part, by one’s ability to manage complexity, then higher education as a primary arbiter of social differentiation not only loses its ability to produce qualified participants but also loses its ability to participate fully in the future transformation of society. And so we are required to rethink the current position of digital media studies in the academy and suggest that its presence (or absence) in higher education will probably play a very significant part in determining the ability of colleges and universities to not only manage their internal complexity, but also to adequately function in a world of increasing external complexity. The longer traditional disciplines “hold out” as they attempt to stem (or ignore) the increase of digitally mediated hypercomplexity, the sooner they will find themselves struggling to maintain a functional role in tomorrow’s increasingly complex world.

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