New Media Cultures

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chapter two

Forms of interactivity: the disappearance of the audience

What is the difference between active and interactive? The supposed distinction serves as a definition of new media – that is, the media form has some embedded notion of interactivity that transforms it from the relationship that traditional media forms have possessed. On superficial levels, the level of activity and engagement of someone reading a novel may be as high or higher than the claimed interactivity of the computer-game player. Although this claim of greater engagement and activity can be made on behalf of the non-interactive novel, interactivity implies some sort of transformative relationship between the user of the media and the media form itself. Encoded into new media is the capacity to transform the actual flow and presentation of the material itself. This transformative relationship is critical in understanding the difference between active and interactive, and also provides the perceived superiority of the interactive media environment over the active media environment.

Let's ponder the idea of activity and how it has been conceptualized in cultural studies of media. In the introductory chapter I indicated that the active audience thesis provided a useful starting point for understanding new media because it investigated the productive qualities of media consumption and reception. Active can be conceptualized in a variety of ways. It can imply an engaged fan audience or a music-inspired subculture, or simply a negotiated or perhaps ironic reading of a newscast. Thinking of the audience as active means that audience members 'work' on media texts. Where we can see this activity most pervasively represented by audiences is in their 'intertextual' work on media texts. Intertextuality acknowledges the presence in any media form of other texts. Those other texts help determine the interpretation and reading of the given text through comparisons of similarity and difference with other texts. Although these connections to other texts may be encoded by the producers of the text, they only become enacted through the audience's process of interpretation. The activity of the audience generally with traditional media is at the point of consumption or reception even as the activity begins to change the meanings of these terms into something productive.

Interactive implies some element that transcends what we have described here as activity, which can be useful to investigate the cultural shift in identity and subjectivity that is connected to new media. Unfortunately, the term interactivity has been overused by the new media industries in order to sell the distinctiveness and value of their new technologies to the

hype. Nonetheless, interactivity can be a useful way to distinguish new media culture. In order to reclaim the term, it is perhaps useful to explore its various incarnations in usage and through that etymological tracing identify some of the unique qualities that have shifted.

The roots of the term 'interactivity' provides us with some interesting insights. It is easy for us to forget the routineness with which the verb 'interact' was once used. To interact simply meant to relate on multiple levels to others. It implied a kind of group dynamic that one would foster in the classroom or other meeting settings. Fundamentally, interactions were a more elaborated interpersonal form of communication. The *OED* defines interactive as simply 'influencing each other' and involves 'people working together'. Thus its most common usage prior to new media was connected to two areas: group psychology where new therapies were developed that expanded beyond the talking cure through interaction with others; and in education where the effort was to improve the learning experience. Interaction had the connotation that the exchange between people identified a further engagement and investment in what was being presented – in others words, participants would take a greater possession of the ideas talked about because they had exchanged and debated those ideas and made them at least partially their own.

It is important, then, to read the concept of interactivity as emerging very directly from the value of interpersonal communication. Embedded in the concept is also some sense of more egalitarian relations among participants. Interactivity, at least in its ideal form, represented something that displaced the authority of any discourse in its dispersion among a group, and in its appropriation and articulation by that group's members.

Another key usage of interaction has been in any field that has connected to environmental discourse. Interaction implied a sensitivity to an ecology of space and place. In architecture, building materials were chosen that made sense in terms of their environment and interacted appropriately in that space. Buildings themselves were seen as environments that people could use and which they could move through appropriately. Similarly, in theatre space, light and acoustics were designed to provide the right mix for the particular production. Interaction and interactivity as concepts were thus connected to something that was complete or at least holistically represented in its acknowledgement of the interplay of many elements in the constitution of any space. Ecology and systems theory would be drawn to expressing the inherent structure of an environment in complex patterns of interactivity.

These two terminological origins of interactivity are foundational in understanding why interactivity has been such a powerful metaphor for describing new media culture. Using interactivity is as much a reflection of the desire to reach or return to these states with new cultural technologies as it is a celebration of the new. Calling something interactive expresses a utopian conceit that this return can be achieved and possibly successfully attained in a better way than in the past.

In new media culture, these two usages, albeit transposed from environmental discourse and interpersonal communication, can be seen to manifest into two clear forms of interactivity. One form of interactivity relies on replicating the interpersonal and its value for the appropriation of meaning. New media forms that privilege this dimension provide

the cultural form. New media forms are thus modelled on providing the possibility of exchange and interplay. The second form of interactivity privileged in new media forms is their capacity to provide complete environments. The objective of these new media is a kind of immersive state. Virtual reality is the endgame of this ecological form of interactivity, where the individual becomes part of a complete system in a game or an environment. The greater objective is complete simulation within these environments where sight, touch, taste and smell are recreated within the new media form for the player or user.

A third direction in the development and use of interactivity was a kind of representation o difference from the forms of interaction that past media forms presented. In a simple one-upmanship, new media was a reaction to the limitations of its predecessors. Interactivity thus meant a greater connection to an audience, where the past radio or television form of interaction was indirect and through forms such as fan mail. New media's interaction was a continuous connection or at least the promise of continuous interactivity between source and audience. Interactivity thus expressed the breakdown of the broadcast model of the delivery of information. This third usage became prevalent in the hype of new media. Its promise of chang and empowerment intersected with the audience's desire for greater control of its media forms.

Each of these kinds of interactivity usage has been deployed in the development of new media by both industry and users. Together, these three conceptualizations of interactivity point to a transformation in expectations in popular and media culture. From the vantage point of these three key terminological origins of interactivity, we can investigate how other authors have thought about the meaning and significance of interactivity.

With its overuse related to new media, interactivity lost some of its connection to its past meanings and began to represent the technological versions of interaction. As Espen Aarseth intones: 'To declare a system interactive is to endorse it with a magic power' (Aarseth, 1997). Many other theorists and writers agree that interactivity has become an ideological construct of the industry that has lost its empowering value. The actual term interactivity was more or less coined to describe new media, as previous derivations of the word such as interact and interactions were not as strongly associated with technology. Indeed, the *OED* added this definition of interactive, which identifies this shift in meaning to become a technical term in computing by 1967: 'Pertaining to or being a computer or other electronic device that allows a two-way flow of information between it and a user, responding immediately to the latter's input' (*OED*, 2002). The term interactivity remains outside of the dictionary despite its ubiquity in use. This has led many others to identify that interactivity refers primarily to the relationship and 'interface' between human and machine. There is a spectrum of levels of interactivity, but the ultimate form refers to complete simulation:

> [A]n attribute or functionality, intentionally designed into man-made objects, physical, or virtual environments, characterized by the ability to sense accurately, then respond or react dynamically and intelligently to movement, gestures, expressions, or changes in human bodily or psychological states and intentions, changes in geographic location, changes in environmental condition, or any combination. Such dynamic intelligence may be achieved by the use of

> and network connections to other systems and data. Ideas or concepts for new applications exhibiting interactivity are traditionally communicated to other people through user scenarios.
>
> (Interactivity Consultants, 2003)

Over the last decade, there have been many efforts to define this new form of interactivity. For instance, the game designer Chris Crawford explains that interactivity has to be thought of more as a process than an object or an endpoint (Crawford, 2002). The investigations of interactivity in computer-mediated communications have generated some interesting insights. Writing in 1995, Rogers set as the objective with technology that interactivity must be seen as a goal: '[interactivity is] the degree to which participants in a communication process can exchange roles and have control over their mutual discourse' (Rogers, 1995: 314). Working out the new relations between human and machine led some writers to coin new terms that underlined the key differences between traditional media and new media forms. Goldsmith and O'Regan explain that we can no longer think of the viewer in the era of the internet: 'Interactivity, at some levels, transforms the relation between consumer and producer as the "viewer" is intimately involved in mixing or producing their screen media experience' (O'Regan and Goldsmith, 2002: 103). In their work on how new media 'remediate' existing media presentation, Bolter and Grusin explain that interactivity is essentially how new media continuously engage the person in making choices as to what they see and how they see it (2000: 29). Where looking at a film demands a continuity of viewing position, new media often demand that you make decisions about what you will see next. The immediacy with which the computer screen transforms to these decisions defines the distinctive quality of the interactive experience. Lev Manovich, while outlining the redundancy of the term 'interactive' because all computer–human communication is interactive, provides some nuanced readings of what interaction entails and attempts to theorize how this changes the actor who engages in new media. He wants to think beyond the simplicity and 'literal interpretation' (2001: 57) of interactivity being defined by the press of a button or a mouse-click to a new hyperlinked web page. These material objectifications of interactivity allow us to overlook the way in which these are not our own decisions but rather the links provided to us by someone else. To identify this difference Manovich explains: 'The cultural technologies of an industrial society – cinema and fashion – asked us to identify with someone else's bodily image. Interactive media ask us to identify with someone else's mental structure. If the cinema viewer, male and female, lusted after and tried to emulate the body of the movie star, the computer user is asked to follow the mental trajectory of the new media designer' (2001: 61).

One can discern that there is a clear dialectical tension that emerges from these attempts to comprehend interactivity in new media. On the one hand interactivity implies a form of empowerment of the player or user, where the individual gains a sense of control over the time and images with which they will engage. Moving from link to link on the web is indeterminate and unpredictable except by the user themselves. So the user has control. On the other hand, interactivity implies only apparent control. In reality the new media choices in advance. Although very rich in possible pathways and information, virtual reality, for example, is an entirely constructed environment where the possibilities are mapped out into patterns of engagement quite completely. To explore this tension further, it is worth thinking through the two faces of interactivity: control and freedom.

Control

One of the defining features of new media is its dependence on the technology of computers. No matter what new media form one contemplates, the computer chip, the microprocessor and computer languages are somehow at its core. These computer technologies have developed in a number of directions over time. Certainly the microchip has allowed for the miniaturization of the functions of computers and this has permitted the technology to be integrated into the design of many products. For example, the mobile phone is more than telephony in its capacity to store numbers and addresses, and in its ability to have simple games displayed on its screen precisely because of the integration of computer technology with telecommunications. Similarly, even the more elaborate remote controls of digital television or the new digital video recorders are reliant on computer-related hardware and software. The plethora of electronic toys such as Game Boys and electronic 'pets' can only have emerged from the expansion of use of computer-related technologies to new consumer uses. New media is therefore an extension of the uses made of computer technology into other consumer, information and entertainment domains.

The controlling aspect of new media is derived from this computer technology and how it works. First of all, it is important to understand that computers and their powers of computation are related to a reduction of information to basic units. At the core of the development of computers is this binary system of allocating meaning and significance. All computations are related to a series of ones and zeroes. They may be a very long string of ones and zeroes, but nonetheless everything that is placed into and through a computer is in effect transformed into ones and zeroes – a kind of elaborate switching device between off (0) and on (1). For example, your computer screen is composed of pixels, bascially small dots of light. Each of those pixels in terms of its colour constitution is defined by a code of 1s and 0s which define that colour. Every key stroke that you press on your keyboard is likewise defined into this code at its very base. Computers from their origin developed two capacities: the ability to store numbers in a memory and the ability to exercise a series of operations or commands on those codes to complete the computations. Computer languages that have developed over the last 50 years are ways to write, manipulate and read the code.

The reduction of all information to a binary code is called digitalization. One prominent form of digitalization, the process of converting sound and image into digital form, has transformed the video and music industries as their formerly standalone technologies have been absorbed into computers that can read and manipulate the content. The basis of media convergence that we associate with new media is the ability to convert all media forms into computer code. This conversion is into a digital message. Musical compact discs and film-related DVDs are the original products of this conversion. Current variations of the

The beauty of computers and their storage and computational capacity is that they can handle incredibly complex codes and codes upon codes of information. With the development of the microchip the storage of complex information no longer required the vast space of very large computers and, progressively, could be handled by more compact machines.

As we have mentioned, digitalization can only be read through codes and commands generated by computer programmers who can produce it through various computer 'languages'. The development of the 'software' that runs on the hardware of computers is thus generated code that builds layers of code to produce the graphic user interface we are used to seeing on computer screens. These layers of codes are a series of interrelated commands that make the programs actually run. These commands are likewise built on the same system of binary codes that are the basis of all computers and their work.

The programs generated are thus shaping, by their design, the way people use computers. It may not be obvious because of their complexity; nonetheless computer programs provide clear boundaries and borders for their users. These design boundaries can be thought of as very elaborate systems of control. Perhaps the best example to illustrate how computers are systems of control is people's use of videogames and computer games. Many games are quite complex, with multiple levels and possibilities. Ultimately, however, games as computer programs are designed with specific objectives and goals that cannot be changed by players. There may be a feeling of the power to manipulate and engage in the game as a player, but the basic parameters of the game are fixed. The feeling of interactivity is thus constructed and defined within a range of choices and boundaries.

Control is at the very core of how computers developed as a technology. Conceptually, computers can be thought of as 'smart machines' that exhibit some qualities of what researchers call artificial intelligence. Smart machines demonstrate two key elements:

1. they can act autonomously, and
2. they can interact with humans in an appropriate and useful way.

The integration of 'smart' behaviour is what differentiates old media fundamentally from new media. Our televisions are smarter because they can adjust the picture semi-autonomously to light conditions and they can interact through digital technology to an array of consumer desires via the remote control. Similarly our various appliances, such as heating and cooling systems, are 'smarter' because they can be programmed to adjust and modulate the temperature appropriately and regularly to the needs and conditions of a household.

The conceptual origins of 'smart' technology and computers is something called cybernetics. Cybernetics means simply a system of self-steering. Its history is connected to ballistics research from the Second World War, but it emerged contemporaneously in the fields of environmental science or ecology and systems theory in political and social sciences. The theoretical breakthrough associated with cybernetics can best be explained through ballistics. Researchers such as Norbert Wiener were faced with the problem that when people shot missiles at aeroplanes in the sky they missed too regularly. By the time the missiles

developed the idea of integrating the target, the missile and the missile launching into one interrelated system. If technology could be developed that linked the plane to the missile in some way so that when the plane changed course the missile would adjust accordingly, then more missiles would be launched successfully and more planes shot down. The objective or goal of the system was gruesome but simple: to have the plane and the missile meet. What was needed was a feedback system that allowed for information or 'communication' to occur between plane and missile. The nature of that information would work to adjust the missile to maintain the objective of the system (Wiener, 1948). Ultimately, ballistics research developed 'smart' missiles that had the ability to alter their course to match their target; we have seen them in use in both Gulf Wars. This cybernetic insight was not limited to missile research but became a way to model both the human and natural world into interrelated and interacting systems.

In cybernetics, any information generated was there to constrain the system towards its objectives. Simple cybernetic systems that demonstrate this constraint are devices such as thermostats, where any change in temperature from what is the norm or objective of the system leads to feedback that turns the heat on or off. When everything is on target, the system is described as in equilibrium or homeostasis.

Understanding cybernetics allows us to comprehend how the kind of interactivity developed by computers (which works on this cybernetic model) is really about integrating the person into the objectives of the system and conserving its outcomes. The cultures of new media mean living in this cybernetic world of control or, at the very least, the potential for control.

Let's go through a few examples to get further into the controlling quality of new media cultures.

Constant surveillance

One of the cultural conditions of new media cultures is that we are constantly surveyed and surveilled. The techniques of monitoring people have grown in their sophistication and their cybernetic feedback loops. For over 20 years, public and private spaces have had increasing numbers of video cameras. With their miniaturization through microchips, cameras can be located virtually anywhere. The performance cyber-artist Stellarc graphically demonstrated this in one of his works, where he allowed a miniature camera to explore his throat and stomach. In the more everyday world, the camera has become ubiquitous in its collection of information for feedback to control spaces. Because cameras can be more easily operated remotely, they can more effectively control spaces and report back to some central base for disciplinary action. One of the more interesting variations on camera use includes the nannycam to monitor the activities of baby-sitters while parents are not home. Web rings have been set up internationally to monitor the security of houses. Gated communities are models of the cybernetic world: their systems of surveillance ensure that the goals of the system are maintained while anything foreign or extraordinary to the system is treated as a kind of feedback that has to be eliminated. The effect of the massive video surveillance can

the potential for being watched we begin to internalize the constraints of the system into our own behaviour patterns and our consciences: we in effect adopt the goals of the system.

The surveillance in new media culture goes beyond the camera. Our believed anonymity when we use the internet is a myth. Although the sheer number of users shields us from the reality, our actions do leave digital traces, in the form of 'cookies', of where we have been. The lack of privacy in email has been demonstrated in countless corporate fraud case, such as the Enron scandal. Similarly, law enforcement has been deployed regularly since 11 September 2001 in the United States and elsewhere to track various internet uses by individuals and to monitor individuals who have frequented certain sites or newslists that are deemed to represent national security or terrorist risks. The capacity to monitor is related to the ability of programs to work intelligently to find apparent risks relatively autonomously. What would appear to be an intimidating amount of information that the internet presents becomes possible to comb through with 'bots' and spiders that are very like search engines in their methods of compiling and organizing information. The memory and storage capacity of supercomputers also allows even more elaborate cross-referencing to occur even as information is simply archived.

Even that which appears benign in new media cultures can operate as a system of cybernetic control. In supermarkets in the United States patrons are given cards to access savings on their purchases. Each time you shop, you give information about your shopping preferences into an elaborate structured database. The encoding of that information determines to a degree what coupons for new products and specials are handed out, printed on the back of the receipt for the customer to use in future shopping trips. The imparting of information helps construct a consumer profile and this profile is then sold on to companies for further direct marketing and advertising. The cybernetic system in this case is wonderfully articulated to individual preferences; but it works to structure us into the larger unified objective of the consumer capitalist economy and the need to maintain the economic equilibrium through maintenance of our consumption levels and our consumption identity.

Technological adaptation

The array of products that possess interactive capabilities seems endless. The smart technology that allows for human–computer interaction where greater and greater elements of our lives are automated also patterns our thinking and our behaviour. This patterning is subtle but ever present in contemporary everyday life. What is occurring is a form of technological adaptation to the cybernetic designs of products. We become acculturated to the feedback loops and where we, as users, fit into the design of the system. The capacity to adapt to new technology is noticeably more rapid with younger people than older people. Nonetheless, we all experience a learning process with any new program, any new television guiding system or any new mobile phone system. These require us to work out the way a particular technology/system works best and coordinate our use to that objective. Over time, the processes become second nature; in other words, they become normal and relatively mundane and uneventful. For example, the process of using a mobile phone for text or sms messaging was originally onerous, yet over time heavy users have come to consider it just

It is important to isolate and analyse those particular moments where the technology is alien and difficult, and the process of learning the appropriate way to use it unnatural and lugubrious. Those moments point to how we are fitting into a particular cybernetic system where our interactions are still not in tune with the technology. For example, we have all experienced automated phone systems when we call large corporations or institutions. These systems have become very sophisticated. Some are organized around voice and word recognition, and respond to these by repeating key words to ensure that the program has 'understood' what the client is seeking. When automated phone systems use this technique, they are working within a range of possible responses and have determined an appropriate range. As often happens, one's particular query falls outside of the cybernetic range and presents a problem. We as users experience the frustration of interactivity that does not acknowledge our own unique cases as it attempts to group likely problems and issues. This feeling of disjuncture with a cybernetic system helps us understand the way that a particular system demands adaptation and also the way it regulates our behaviours into regularized solutions.

Inclusion/ideology

In the film *Minority Report* (2002), Tom Cruise's character is regularly hailed directly and by name by passing advertising billboards of major retailers, encouraging him to buy. The billboards determined his presence and interacted by scanning his retina and thus were able to make a vocal appeal to the character. Although the film is set in the middle of the twenty-first century, the collection of information on individuals makes this direct address through interactive advertising a distinct possibility. Through the elaborate collection of information we are included in an intricate and interconnected system of consumer culture. When we buy one product as described above, the information circulates to advertisers and producers to speculate what we might buy next. The cybernetic system then provides a series of connections that often seem endless. We receive related junk mail; we are solicited via email; we receive phone calls. Our information is bought and sold regularly in this system. The accuracy of our identity is the cybernetic component that makes these pitches increasingly more precise in their address. In a related way, digital video recorders offer a program that tries to anticipate what we would like to watch based on our past practices, and if left to its own automated controls will begin recording its selections.

How can we understand the inclusionary feeling that is produced by the interactivity of cybernetic systems that begin to read our moods and predispositions? What metaphors can be used to help us understand this contemporary structure of feeling? On one level, the system is becoming more accurate in its identification of the individual and their desires; on another we are being brought into pre-existing patterns. This represents the anxiety that besets contemporary experience. New technologies derived from the digital appear to be liberating; yet they are designs that are also highly structured.

One term derived from media and cultural studies that may have some explanatory value here is the concept of ideology. Ideology can be thought of as a useful metaphor to describe and help us move towards a useful critique of the cybernetic condition. The ruling ideas in a

From a cultural studies perspective, we all live in a world of ideology; in other words, we cannot escape either its presence or its impact. Ideology positions us towards accepting the contemporary reality as legitimate, natural and normal. Like cybernetics, ideology expresses a conserving notion of what any culture (or 'system' to use cybernetic terminology) sets as its goals or objectives and thus works to pattern our behaviour. The idea of myth was originally used by Roland Barthes as a synonym for ideology and it is this use that has been advanced prominently in cultural studies as various critics have worked through the signs and sign systems of contemporary culture (Barthes, 1972). For example, the idea of the nuclear family is presented and represented in various guises in American television programmes, both dramatic and non-fictional as the norm and natural; this process of representation reinforces the myth of the family as it operates in contemporary culture. Both ideology and myth have been used as part of a structuralist understanding of our world as a cultural system. In analysing sign structures that ultimately reveal the underlying mythology of a culture, cultural studies, via structuralism and semiotics, was working towards a critique of the system that was produced.

In a similar vein, we can use this understanding of ideology from a cultural studies perspective to interpret and ultimately critique how the various strains of new media draw us into the appropriate patterns and interpretation. In cultural studies approaches, the media text 'hails' or 'interpellates' the viewer through identification. We identify with the lead character in a film or television programme, and through that process we accept to a degree that interpellation. Through that process of accepting how we have been interpellated into the meaning of the text and narrative, we are by implication brought into an acceptance of the dominant culture, its myths and ideology. In new media, with its forms of interactivity, the elaborate structures of identification are customized and highly directed through the experience of engagement in the media form. Identification is intensified to such a level that we become the player/actor in new media. For a videogame player, interpellation and identification inadequately express the level of becoming and the kinds of investment that are normal and natural. The cybernetic nature of new media, both in its potential to personalize the way that we are hailed by the various forms and the way that we are fabricated as the actors and agents in various new media texts, identifies the potential immersive power of new media to reproduce ideology and myth.

Beyond inclusion: becoming the content; becoming the object/actor

As we have already described, the capacity of new media to personalize and customize content transforms the media experience fundamentally. The interactive dimension that is at the heart of cybernetically inspired systems is all about feedback loops. The feedback loops are between machine (or its screen representations) and human actor. Feedback thus implies that the human's actions are read and interpreted, and fed back as a form of information to guide the overall objectives of the system. Through interactivity, the old division between

into the 'guidance' of the program, game or internet browser and its outcomes. This integration into the system goes well beyond the processes of identification that have helped explain the formations of pleasure we gain from watching film or television. It is more accurate to say that users of new media are becoming the content of the form. On a basic level, chat programs in their multi-logue conversations pull the user into talking for others or performing some version of the self: their correspondence in collaboration with the other members of the chatroom is the entertainment and they are performers. Similarly, webcams provide a way to become the content quite explicitly. In another vein, the avatars and skins that are employed by online gamers express their presentation of themselves and their representation among the avatars and skins of other players. In game worlds, the gamer is part of the content as well as the agent or protagonist in the game. Becoming the media image is as much part of the production by individuals of personal websites as it is an element in the transformation of television towards reality television programmes. As we shall explore in chapter six, television has made its own audience members the content of its shows in various game-like scenarios, in an effort to reproduce the 'becoming' nature and agency of new media.

Interactivity and the cybernetic commodity

One of the defining features of contemporary cultural production is that any major cultural product is released in multiple formats and variegated possible uses. Think of a Hollywood film and one thinks of a series of related products that are timed to coincide with the release of the film. Websites are not just promotional vehicles, they sometimes offer the possibility of online games. Promotional trailers envelope the film with a particular and highly constructed meaning. With action films a computer game and videogame are inevitably released. Aligned with making the film significant, television networks will broadcast a programme detailing the 'making of ...' the particular film. As the film moves through its various windows of exhibition from cinema to pay-per-view television to video rental to network television, one of the most significant of these is the DVD, which becomes a release of even further variations of the film with commentary by directors, actors and editors along with an array of interactive passages for exploration. Book releases and publications may be timed to coincide with the film's debut. Music compilations and soundtracks are timed and packaged for coordinated sale. In the case of children's films, there is massive coordination with fast-food restaurants and the marketing of character toys.

This array of related products can be thought of in cybernetic terms. The cultural product is designed to have a complete system of interaction for the audience with all forms of investment and engagement made possible and realizable. The cultural industries are coordinated to structure play in what I have called elsewhere the intertextual commodity (Marshall, 2002), but can equally be thought of as an elaborate cybernetic and relatively closed system of organizing play and engagement. The cultural product is exhausted by this array of possibilities; yet it is an intricate patterning of the audience's use so that any variation re-implicates the audience and user through the cultural commodity system. The

the impossibility of commodifying something as rich and diverse as play seems to be more realizable in the era of interactivity and customization.

The antithesis: empowerment of the user

We have mapped the cybernetic dimensions of new media's interactivity and identified how systems and patterns serve as control mechanisms in this transformed cultural landscape; but there is always a countervailing force that envelopes cultural forms and cultural practices. In cybernetic terms it would be described as entropy – the tendency for elements to disperse and to not maintain their structure and order. From a cultural theory perspective, there is persistent evidence that the structures do not hold. Change and transformation is ever present, regularly threatening established orders and challenging the ideology that maintains the hegemony of any culture or state. Post-structuralism, which investigates the strategic and tactical dimensions that challenge structure and reshape cultural and political boundaries, can be thought of as a conceptual theory that has informed cultural studies and helps us understand how these new media systems, in their formation and use, actually produce transformed identities and subjectivities. In new media, although the patterns of how one should use these forms are highly developed in interactive and automated structures, it is equally true that these new media forms also present different possibilities that are not totally determined.

An analogy might help us understand this post-structural reality that new media forms permit: the game of chess is highly structured and patterned. Different pieces are allowed to move in specific and highly defined ways. Moreover, there are only 64 squares on a chess board and at the beginning of a game, 32 of them are occupied by different chess pieces from opposing sides. This relatively rule-based structure has led to a millennium of engagement in the complex world of chess playing. The range of positions, moves and strategies multiply exponentially in any game so that it is a nearly infinite source of variation for any player. What appears to be a highly structured game operating with many constraints has led to thousands of books advising people how to play, an elaborate international system of ranking players from expert to grand master, and endless debates among these experts about particular moves and games. This richness of variation attracted the brightest of intellects to devote their lives to chess. It was only in 1999, that a computer chess program actually beat the world chess champion for the first time.

What this analogy explains is that structures can produce endless combinations of directions that are not completely determined by the designers of new media. In fact, the new media, whether in games or websites, are specifically geared towards providing ranges of choice and direction that any player or user can take. The individual thus has to invest and commit to the process of fabricating his/her mediated experience through new media. The key difference between new and old media is the kind of subjectivity that is produced. Whereas the viewer or listener would be an adequate way of describing someone who

experience that are part of browsing on the web. As we have explained, interactivity engages the individual differently in the process and that difference is an endowment of a certain power in the individual.

To identify what we are calling a transformed subjectivity in new media, we need to use new terms. In film theory, the viewer defined as a film subject is 'interpellated' by the drama that is unfolding, and drawn into a form of identification with the characters. In new media such as the web, the individual is asked to choose the link and thereby be part of the process of making his media form. This may seem minor, but the changed relationship to media is very significant and has had repercussions throughout all cultural industries and into the wider dimensions of contemporary culture. This action of choosing from a menu of choices, the very tactile dimension of clicking on a mouse, shifts our default media consumption from that provided for us to one that is fabricated by us. In new media culture, we are involved in the production of the text and images that become part of our reception and pleasure. Simultaneously we are engaged in new media at the level of identification and at the level of making. Choosing what we wish to watch and read is not entirely unique to new media forms such as the web – after all, the television remote control has allowed us for many years to surf television channels with relative ease and transform television viewing practices from watching individual programmes into something that is a polyphony of messages – nevertheless new media, such as the web, have both intensified the cultural experience and made it more routine in our everyday lives. Thus, the television remote control is a precursor to the use made of the web through browsing and surfing – both cultural practices identify a productive activity that dramatically challenges conventions of production and consumption delineations that have been elemental to the experience of television.

Several metaphors could be used to describe this new subjectivity generated by new media. It is a different sensibility that acknowledges a relationship developed by the interactive functions of new media between the individual and the media form. At the beginning of this chapter I identified that the essential feature of new media is connected to the capacity of the individual to transform the media form. To uncover that relationship and to acknowledge its hybrid quality of both production and consumption, some have suggested new terms such as the 'prosumer' or the 'produser'. Certainly, other terms become more precise to identify the spectrum of involvement that is possible with new media. In distracted uses of new media, the term browser may be most accurate: an individual casually moves through screens and pages in search of articles on a particular area of interest. The subjectivity of the browser resembles how people read newspapers – they move in and out of an investment with the particular stories presented. Similarly, a browser describes a kind of use made of libraries: it is less specific and resembles the *flâneur* that Baudelaire celebrated in early twentieth-century Paris and Walter Benjamin analysed as a kind of engagement with the cityscape. Surfing has been used to describe both television watching and using the internet. Surfing implies a surface engagement with content, a distracted playfulness with what might be presented. The term also underlines the possibility of distance from material and, with that distance, anonymity. To capture the higher level of investment possible in new media forms, its subjectivity can also be identified with the idea of player. The term 'player'

dimensions of a game. In some senses, it transforms the individual into a much more circumscribed subjectivity – an identity that may be rich in detail but coordinated with the objectives of the particular game and the pleasures of the game play. Still another term, 'lurker', describes the new media experience that is most closely associated with voyeurism. Instead of participation, the subjectivity of the lurker is defined by silence in chatrooms and a desire to observe rather than engage. The lurker becomes the point where more traditional media subjectivity intersects with new media: the lurker watches and listens much as the viewer/audience subjectivity is produced by television or radio. The difference between the lurker and the viewer is the solo and individuated experiential quality of the lurker that is never part of the audience-subjectivity as it is defined by the apparatuses of television, film or radio. In this spectrum of subjectivity in new media it is important to indicate that past relationships to media can be channelled through new media. Someone working on a computer can stream audio and thereby reconstruct either recorded music or the equivalent of radio. Similarly, a film can be viewed through DVD players on the computer screen. In other words, the kinds of subjectivity that have been associated with these traditional media forms have been absorbed into the spectrum of use that defines new media. New media, as many writers have emphasized, provides for the multiplicity of engagements, sometimes simultaneously (multi-tasking) and always with the potential to be what has been described in the language of convergence as multimedia forms.

To group this spectrum of subjectivities that are part of new media can only be done accurately through thinking about what elements combine these practices. There are two central elements that help us identify the different sensibility of new media: first, the concept of the user and, second, the sensation of production in new media use.

User helps us identify the active nature of the new media subject. The individual's engagement is filled with choices and decisions. They may seem like banal decisions – for instance the decision to play a game on a mobile phone while waiting for a bus as opposed to emailing a friend – but nonetheless new media demands this kind of interaction with its user. A user then is called to interaction through the new media interface. Like the ringing or vibrating phone, new media culture's user must respond in some way or anticipate a response. The mobile phone in its collection of messages perpetually demands the user to respond to even those calls missed. Once again decisions are made and the relationship to the new media form with its capacity to interact through smart technology in its various guises maintains the connection to the user in a perpetual interaction. Similarly, browsing the internet invokes rather than evokes (Chesher, 1996) the user to advance to another link and a related web page. The modality of interaction or interactivity pulls the individual into an engagement with the website in a way that television attempts through address but never achieves because of the separation of experience. Using implies an appropriation of both the technology and its applications that can be analogous to driving a car or riding a bike. We are drawn into the various kinds of needs and responses of the particular technology and we become immersed into its needs even as we use it for our own. New media fulfils the personalization of our needs in a way that past media could never achieve. It goes beyond the dimension of choice and abundance as it has been defined by television channels and into

possibility and potential for ultimate differentiation in consumption as new media forms interact with their users. The category of the user helps us understand further the dimension of what can be a new media culture sensibility. The interconnection and convergence of technologies through new media, digitalization and convergence has allowed the channelling of greater aspects of our lives through these various technologies. There is less distinct separation of tasks, for example, between work and leisure, or between work and shopping, or even between entertainment and education.

Along with employing the concept of the user to identify the subjectivity derived from new media, this new media culture sensibility that pervades contemporary culture derives much of its cultural power and differentiation from past sensibilities, specifically through its celebration of production. New media forms increasingly naturalize both the sensation of control and the sensation of producing. In electronic games, we are invited to fabricate our identity through avatars and skins. In other words, we are incorporated into the production process of the game itself with the game's very design allowing for this integration of production. Likewise, when we use the web we are producing individuated experiences of browsing through our various choices. In fact, we are drawn to personalize our research and our discovery of information outside of its structured distribution by traditional media such as books, journals, radio and television. The proliferation of homepages on the internet designed by individuals has been exemplary of the desire to produce and how it is articulated through new media forms. What has changed is a kind of media literacy that not only leads us to interpret media, but advances us towards producing.

The user subjectivity of new media with this production ethos is a massive and unparalleled challenge to the traditions of media use that have been in place for most of the previous century. The reception/consumption ethos and dichotomy of the twentieth century has given way to a production ethos of users. In some ways, new media has heralded a transformation of contemporary culture through a democratization of cultural expression. Websites of the most personal form of production can resemble some of the most professional forms of publication. On the web, these two types of production, the professional and corporate, and the personal and idiosyncratic, now naturally intersect in a world of converged distribution and exhibition. What Hans Magnus Enzensberger had hoped for with the democratization of television production and exhibition in the early 1970s is much more realized through the web and its system of distribution (Enzensberger, 1974). Hundreds of thousands of websites appear each day that have produced a testament to the production ethos of new media subjectivity that is unparalleled in human history.

A transformed cultural politics: the politics of interactivity

What has been identified in this chapter is the new terrain of tension that has been engendered through new media. The interactive dimensions of these new forms is critical for understanding how patterns of control can be deployed; that same interactivity is the locus

parentage is the field of cybernetics. Like new media itself, cybernetics has a history connected to control and governance as well as aspects that are both encompassing and inclusive as they attempt to describe highly interconnected systems. As our various media forms have been reconstituted through their computerization and digitalization, we have to be aware of the new cultural politics that are developing.

From the negative dimension, surveillance of our activities is possible as greater aspects of our lives are channelled through computers and the internet. That potential knowledge is lurking as a form of control even as we believe in our relative anonymity online. In the United States that potential has become more real in the way that the Patriot Act 2001 has been interpreted to allow the invasion of private electronic correspondences. The divisions that once separated work from leisure are also blurring through our use of new media such as the internet both at home and in the office. Moreover, the interactive dimensions of our online experiences likewise provide 'transactional' communication about where we have been and what we have been visiting.

From the more positive dimension, the developing new media and its interactivity has transformed our status as audiences to that of participants. We have attempted to identify this shifted subjectivity with the term 'user'. The interactivity developed through a variety of software has to be seen as providing a terrain for play, which by its very definition as play has both a defined and indefinable and indeterminate status. The dimensions for that playing terrain have had wide enough parameters to lead to the proliferation of uses and activities not defined by any overarching cybernetic design that has produced the interactive interface between human and machine. This proliferation of production and activity represents the challenge of new media to contemporary culture. The engaged quality of play and activity can articulate a potential shift in politics to much more participatory designs. Likewise, new media cultures in their transformation of the audience challenges the conventions of what is seen as acceptable in cultural forms such as television and film, and moves those media to experiment with play, interactivity and participation.

Both of these dimensions, control and productive empowerment, are part of our transformed cultural politics. They embody the critical new dimensions of cultural studies in contemporary culture.