

Chapter 1. “New Media” and Marshall McLuhan: An Introduction

“Much of what McLuhan had to say makes a good deal more sense today than it did in 1964 because he was way ahead of his time.” - Okwor Nicholaas writing in the July 21, 2005 Daily Champion (Lagos, Nigeria)

“I don't necessarily agree with everything I say.” – Marshall McLuhan

1.1 Objectives of this Book

The objective of this book is to develop an understanding of “new media” and their impact using the ideas and methodology of Marshall McLuhan, with whom I had the privilege of a six year collaboration. We want to understand how the “new media” are changing our world. We will also examine how the “new media” are impacting the traditional or older media that McLuhan (1964) studied in *Understanding Media: Extensions of Man* hereafter simply referred to simply as UM. In pursuing these objectives we hope to extend and update McLuhan’s life long analysis of media. One final objective is to give the reader a better understanding of McLuhan’s revolutionary body of work, which is often misunderstood and criticized because of a lack of understanding of exactly what McLuhan was trying to achieve through his work.

Philip Marchand in an April 30, 2006 Toronto Star article unaware of my project nevertheless described my motivation for writing this book and the importance of McLuhan to understanding “new media”:

Slowly but surely, McLuhan's star is rising. He's still not very respectable academically, but those wanting to understand the new technologies, from the iPod to the Internet, are going back to read what the master had to say about television and computers and the process of technological change in general.

A number of excellent books, some biographical, have been written about McLuhan and his ideas from a number of different perspectives. The tack that we will take is to describe McLuhan’s work strictly from the perspective of his ideas and how they help us to understand “new media” and their impact on society as well as their impact on and relationship to the older media. The older media play a dual role with respect to the “new media”. They form the ground from which the “new media” emerged and they also

provided the content of the “new media”. In carrying out this mission I will also try to correct a number of the distortions or misunderstandings of McLuhan’s work.

As the first of the two quotes above indicates McLuhan had great insights and taught us much about media and their impacts. He was truly way ahead of his time but as he warned us in the second quote above he did not always agree with everything he said. He was an explorer and some lines of exploration were more fruitful than others. In his search for understanding he was not afraid to make a mistake or try out an idea to see where it would lead. What I believe the reader will find fascinating is how often he was correct and how seldom he led us astray.

1.2 The Methodology Employed and What the Reader Can Expect to Find in this Book

Part I introduces our study and develops some of the theoretical and methodological background to our study. Part II deals with the traditional media that McLuhan treated in UM and Part III focuses on the “new media”. I have tried to present the topics in this book in a logical manner but because of the inherent non-linearity of the development of “new media” and their impacts, a logical ordering of topics is simply not feasible. The order in which topics are presented in Part II follows McLuhan’s original ordering in UM for Chapters 8 through 33. Because we describe the way the “new media” have changed the old media in Part II we must introduce aspects of the “new media” in Part II before we get to Part III. The reader is therefore advised to jump from one chapter or section to another not necessarily in the order they are presented. In other words try to treat the linear text the way you would a text with hyperlinks. I have tried to simulate hyperlinks by sprinkling throughout the text references in parentheses such as (y.x), which refer the reader to Chapter y, Section y.x. References to section x of the Appendix, on the other hand will read as (Ax). I hope these references will prove useful but I cannot guarantee that I have anticipated every reader’s needs. I therefore have taken extra care with the index to facilitate the process of cross-referencing. The development of the “new media” has not been a simple linear progression and hence the inherent complexity of this narrative, which unlike my text, is without a beginning, middle or end. Therefore make sure you jump around as you read this book. Another tool the reader can use if they encounter an unfamiliar term is to make use of the Web site: www.webopedia.com, which is an “online dictionary and search

engine... for computer and Internet technology definitions.” Another good source is en.wikipedia.org the online encyclopedia described in 51.9.

Because the topic of “new media” is so fluid I have made use of a great deal of Web-based resources, which I have referenced with their URL. It is inevitable that some of these sites might be retired and the reader will have trouble finding the original source. In these circumstances I would suggest that you make use of the Way Back Machine (<http://web.archive.org/>), which has been archiving Web sites for a number of years. I was actually able to recover some Web pages I helped to create that were on a server that long ago was retired. I have used this material from Gutenberg.com in this book (6.3).

To carry out this project I have used UM as a template to analyze the impact and fallout of the “new media” as well as the way the older media that McLuhan studied have changed in response to the emergence of the “new media”. As was the case with UM the first seven chapters comprising Part I are devoted to theoretical and methodological issues, which is how McLuhan began UM. Chapter 2 and the Appendix describes the core methodology McLuhan used in his analysis of media and technology, which also forms with some additions the basic methodology employed in this update of McLuhan’s work. Chapter 2 also deals with the issue of technological determinism to show that McLuhan’s notion of cause and effect with media is not the simple minded form often attributed to him by critics who have not read him carefully or thoroughly. Chapter 3 extends McLuhan’s notion of three communication ages of oral, written and electric communication to include two additional ages, namely the age of pre-oral mimetic communication and the age of digital interactive “new media.” In Chapter 4 we describe some of the new patterns that have emerged with the “new media”. In Chapter 5 we provide an overview of the impacts of “new media” and describe their 14 generic characteristics or messages. In Chapter 6 we describe the new “digital economy” that emerges with the “new media”, which incorporates many elements of the “knowledge economy” that characterized the economy at the close of the last century. The “digital economy” has many new features, however, that are just beginning to emerge in the 21st century. In Chapter 7 we analyze “new media” as extensions of older media and introduce the notions of scaffolding and cascading technologies as well as the symbolosphere and the mediasphere. The remaining chapters of this book, which comprise Parts II and III, are then devoted to individual media, as was the case in UM.

In Part II consisting of Chapters 8 through 33 we parallel the same chapters of UM using the same chapter titles and analyzing the same media that McLuhan treated. In these chapters we will study the ways each of these media have responded to the challenge of “the new media” and have changed as a result. As McLuhan pointed out a figure changes depending on the ground in which it is situated. The “new media” have changed the ground in which the old media operate and hence have changed the nature of their impact. We describe how in many instances these traditional media became the content of certain “new media” or morphed into some form of “new media”. In a few cases these older traditional media have for all intents and purposes disappeared or have been transformed. For example the typewriter is hardly used at all any more but has morphed into the computer keyboard with its display function having been taken over by the computer printer and monitor. The telegraph, on the other hand, has disappeared altogether.

In Part III (Chapters 34-50) we treat the “new media” and tools that McLuhan never had a chance to describe in a manner similar to the way in which he might have analyzed them carefully describing their impact and their fallout. Each chapter is devoted to an individual medium that comprise the “new media” with the exception of Chapter 34 which deals with the nature of hybrid and convergent technologies and Chapter 51 which deals with the enabling technologies that are not media per se but which are components of “new media” or make it possible for some “new media” to exist.

1.3 What are the “New Media?”

The term “new media” will in general refer to those digital media, which are interactive, incorporate two-way communication and involve some form of computing as opposed to “old media” such as the telephone, radio and TV. These older media, which in their original incarnation did not require computer technology, now in their present configuration make use of computer technology as do so many other technologies, which are not necessarily communication media like refrigerators and motor cars. Many “new media” emerged by combining an older medium with computer chips and a hard drive. We have surrounded the term “new media” with quotation marks to signify that they are digital interactive media. When we use the term new media without quotation marks we are generically denoting media,

which are new to the context under discussion. To better illustrate the difference in the terminology we can say that today all “new media” are new media. We can also say in 1948 that TV could be classified as part of the new media of its day but not as “new media” as we have defined the term above. TV integrated with a computer to form a digital video recorder such as TiVo system (31.10) can be, on the other hand, classified as an example of the “new media”.

Our definition of “new media” is similar to the definitions of other authors. Some describe “new media” as the ability to combine text, audio, digital video, interactive multimedia, virtual reality, the Web, email, chat, the cell phone, a PDA like the Palm Pilot or Blackberry, computer applications, and any source of information accessible by one’s personal computer. Lev Manovich for one describes new media as

new cultural forms which are native to computers or rely on computers for distribution: Web sites, human-computer interface, virtual worlds, VR, multimedia, computer games, computer animation, digital video, special effects in cinema and net films, interactive computer installations.

(http://www.manovich.net/Stockholm99/stockholm_syllabus)

Bolter and Grusin (1999, p. 45) define new media in terms of remediation: “We call the representation of one medium in another remediation and we will argue that remediation is the defining characteristic of the new digital media.” They then go on to say that “all mediation is remediation (ibid., p. 55).” If this is the case how does one distinguish new media from old media? In fact their idea originates with McLuhan who observed that the first content of a new medium is some older medium (A6).

A similar problem arises when Bolter and Grusin make the excellent point that old and new media remediate or refashion each other mutually. “What is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media (ibid., p. 15).” Once again this statement does not tell us which are the new media and which are the older media and amounts to defining new media in terms of chronology.

Their statement contains a truism, however, that applies to the relation of newer and older media through the ages. The written word refashioned the

spoken word and the spoken word responded to the challenge of the new medium by adopting the new vocabulary that writing made possible. We shall return to this point below when we discuss the changing figure/ground relationships that new media engender in A.34.

An important distinction between “new” and “old” media as we will use the term is that the old media are for the most part mass media, which is not the case with the “new media” with the possible exception of the Internet and the World Wide Web. Although the latter two media may be considered mass media because any one with a computer and a telephone or cable connection can access them, they are nevertheless “experienced on an intimate level, each user working alone with the screen and interface” (Wolf 2003b, p. 11). Another point is that although millions of people access the Net and Web every day they are each accessing different material given that there are over eight billion pages already extant on the Net. The Web and the Net also differ from mass media like TV and radio because they incorporate two-way communication. It is therefore a safe bet to regard the old media as passive mass media and the “new media” as individually accessed interactive media. This is a bit of an over generalization in that some old media like the spoken word in conversation, the written word in correspondence and telephone conversations are highly interactive, but it is certainly the case that all “new media” are highly interactive.

The “new media” permit a great more participation of its users who are no longer just passive recipients of information but are active producers of content and information (5.11). This is certainly the case with those who use email (41.1), are participants in a listserv or chat room (Chapter 42), create a Web site (Chapter 43), blog (Chapter 44), burn their own CDs (28.3), use Web collaboration tools (Chapter 46), podcast (30.4), offer products via eBay (14.4) or simply surf the Internet (Chapter 40) creating their own connections between existing sets of information.

The new media also provide an outlet for creativity as pointed out by Jaron Lanier, a noted musician and a virtual reality pioneer.

The new media are different from the old media, of course, but one of the primary ways is not just in content, but in the solidification of our method of thinking. What we see with interactive media like the Web is not only the end result of the creative process, but the creative

process itself, set down for all people to see and to share. This is extraordinarily exciting (Brockman 1996, Chapter 17).

The use of the term “new media” is of course relative. When McLuhan analyzed television and automation these were the new media of his time. At any given point in time there will always be new media or perhaps more accurately newer media. The term “new media” as it is used today refers to a class of media that are digital and interactive and hence differ from the electric mass media that McLuhan (1964) addressed in UM. In this chapter (and later in Chapters 4 and 5) we will address the question of the way in which the new media (or electric media) of McLuhan’s day, namely 1964, differ from the new media (or interactive digital media) of our time, namely 2007, more than 40 years after than the publication date of UM. The new media that McLuhan studied were the electric media of mass communication and the mainframe computers, which he showed had a radically different impact compared to the mechanical media and technologies like the printing press, newspapers and the clock. Although the mainframe computers that McLuhan commented on were digital, they were not interactive in the way today’s personal computers are nor were they readily accessible to a large audience and hence we do not include them in our definition of the “new media.”

What’s new about today’s “new media” is that they are digital, they are linked and cross linked with each other and the information they mediate is very easily processed, stored, transformed, retrieved, linked and perhaps most radical of all easily searched for and accessed. This is why I believe that McLuhan’s stunning analysis of the new media of his day, namely electric mass media, and their total transformation of education, work and society deserves and requires an updating.

In updating McLuhan’s UM of course we will analyze all the new media that have appeared since the publication of UM. Some of these new media are not usually categorized as “new media” but still they must be included to make our update complete. Here we have in mind the tape recorder, the video camera, fax, the photocopier, and personal computers, which were not treated in UM.

We have carefully defined the distinction between old and new media but we have actually failed to define exactly what we mean by media. When we refer to media we will be talking about more than just the technologies of

which the media are composed but we will also incorporate all of the activities, practices and social arrangements associated with the media by both the producers and consumers of the media. In the case of the “new media” it is more and more the case that the producer and the consumer are the same agent (5.11).

1.4 The Changing Figure/Ground Relation with the “New Media”

Our project encompasses more than merely analyzing the new media that have emerged since UM first appeared. In order to do justice to this project we must reexamine the older media within the context of the “new media.” McLuhan emphasized the importance of the figure-ground relationship and that to understand the meaning of a figure one must take into account the ground in which it acts and is situated (A34). We therefore will re-examine the non-digital electric media McLuhan treated in UM within the context of the ground of interactive digital media, the “new media”. What we will discover is that many of the features that McLuhan attributed to electric communication media have intensified with the “new media” and that a few of them have weakened, most notably, the serious challenge to literacy that television posed in McLuhan’s day.

To better understand the ground in which today’s media interact we will investigate the transition from the non-digital electric media to the interactive digital media. Although McLuhan included computing and automation in his analysis of media, which are certainly digital media they were at the time of the publication of UM isolated figures operating in the ground of electric mass media. Also the computer in McLuhan’s day was not as interactive as today’s because one had to submit a job, which included both the program and the data as part of a batch with other jobs and wait many hours for one’s output. The slightest error in one’s input, such as a missing comma, would result in another delay. With the emergence of the microcomputer, the Internet, email, the World Wide Web and cell phones a new communication and information ground emerged that was truly interactive and which changed the figure of each and every medium.

The emergence of the “new media” ground presents us with two motivations to re-analyze the media that McLuhan studied in UM. First of all, the old media became the content of the “new media” and hence to understand the “new media” we must understand the old media in the new ground. The content of the “new media” will be the old media such as speech; writing;

numbers; photographs; telephony; and audio recordings, radio, movies, and television in the form of audios and videos. Boczkowski (2004, p. 172) underscores this point, “My analysis suggests that it is important to account for the largely offline shaping of content and artifacts that enable users’ online experience.”

A second reason to reexamine old media is that the ground has changed from electric mass media to that of the interactive digital media and therefore the effects and impacts of the old media have changed. Radio, television and the movies are not the same in 2007 that they were in 1964 when UM first hit the presses. They have undergone some technical improvements like large flat screens for TV and Dolby sound and computer animation for the movies, but that is not the real story of their changed impact. The real story is that the ground has changed underneath these media and their place in our culture and their effect on society have changed.

Understanding the interaction of a medium with other media has always been an important part of the approach McLuhan pioneered, which is at the heart of media ecology. Understanding these interactions becomes even more critical with the “new media” because of convergence and the fact that the links between media are even stronger with digitization. Bolter and Grusin (1999, p. 65) express a similar sentiment:

Cultural recognition (of media) comes not only from the way in which each of the technologies functions in itself, but also from the way in which each relates to other media. Each participates in a network of technical, social, and economic contexts; this network constitutes the medium as a technology.

One can carry this thought even further and suggest that all media form a web and that each medium is defined by its interaction within this web of mediation. There is an analogy with the notion of a semantic web in which the meaning of every word emerges from the context in which that word relates to all other words in the language.

Words have a web of relationships with other words as pointed out by Deacon (1997) and Schumann (2003b). Some words such as nouns that point to a referent object in the physical world are defined in a straightforward manner but a word like motivation or love is understood “largely via its relationship to other words”. These words acquire meaning

via reference to other words, not by reference to physical/perceptual things in the environment.

Just as words can only be defined in terms of other words and so it is with media. How could one understand the written word without understanding its relation to the spoken word or understanding the printed word without understanding its relation to both the spoken and written word?

1.5 A “New Media” Taxonomy

One of the challenges I have had in organizing the material for this study has been how to draw the line between “new media” and old media. Manovich (2001, p. 19) also wrestled with this problem and made an important point.

The popular understanding of new media identifies it with the use of a computer for distribution and exhibition rather than production. Accordingly, texts distributed on a computer (Web sites and electronic books) are considered to be new media; whereas texts distributed on paper are not. Similarly, photographs that are put on a CD-ROM and require a computer to be viewed are considered new media; the same photographs printed in a book are not.

I agree with Manovich that to understand “new media” we must consider both the new media that have emerged with digitization and old media, which have been transformed by computers and digitization. But are the old media transformed by digitization “new media” or are they media that are new. Manovich avoids this problem by not identifying which media are new media. He entitles his first chapter: “What Is New Media” (ibid., p. 18). By treating new media in the singular he avoids the agonizing task of identifying which are the old media and which are the “new media”; rather he treats the notion of “new media” as the way in which media are produced, exhibited or distributed.

Our approach differs from that of Manovich in that following McLuhan’s lead in UM we study individual media rather than the phenomena of “new media” as a whole, although we examine some of the generic properties of “new media” in Chapter 4 and again in Chapter 5 where we identify fourteen properties or characteristics of “new media” as a class.

Because one of the objectives of this study is to update UM, I have somewhat arbitrarily divided our task into studying the impact of digitization on the “old media” that McLuhan analyzed in Part II and those “new media” that emerged since UM in Part III. For me the term “new media” is plural and hence the “new media” are those media, which I defined above as digital, interactive, incorporate two-way communication and involve some form of computing.

In Part II of this book we will treat the media McLuhan analyzed in UM even though this entails looking at some media, which might be considered new media. For example in Chapter 18 dealing with the printed word we examine electronic journals, ebooks, and ezines. These three media all belong to the category of “new media” but because they are transforming the printed word we deal with them in Chapter 18. Our discussion of the library and archiving, which are being transformed by digitization and search engines is placed in Chapter 44 in Part III, which deals with search engines.

A number of other “new media” will be treated in Part II because they represent the digitization of media treated in UM. The phonograph record and player have been almost totally replaced respectively by the CD and CD player (both stand alone and those embedded in computers), the Walkman, the MP3 player and the iPod. We will therefore treat these “new media” in Chapter 28 - The Phonograph.

Movies are a medium, which has not been obsolesced by “new media” but rather transformed by them. The digital video camera, VCR devices, and DVD (digital versatile disc) devices have all impacted on the movies and will be treated in Chapter 29 - Movies. Other “new media” have impacted the movies like computers, the World Wide Web, the cell phone and even iTunes. Their impact on movies will also be treated in Chapter 29, but these three media themselves will be treated in their own separate chapters in Part III dealing with “new media.”

Money and its exchange is another medium, which has not been obsolesced but has been transformed by “new media” such as credit cards, ATMs and the World Wide Web through e-commerce, a topic that will be treated in Chapter 14 - Money.

The telephone has been impacted by several “new media” including fax, the pager, and the cell phone all of which except the cell phone will be treated in

Chapter 27 - The Telephone. The cell phone will be treated in Chapter 37 in Part III because its functionality has expanded way beyond the simple function of telephone voice communication.

Both radio and television have been impacted by the “new media” of communication satellites, Web radio, Web TV and MobiTV. These impacts will be treated in their respective chapters, namely Chapter 30 - Radio and Chapter 31 - Television.

The nature of games has changed dramatically because of electronic games, i.e. video and computer games. Although electronic games belong to the category of “new media” we have elected to treat them together with traditional non-electronic games in Chapter 24 - Games.

1.6 A Medium is a Technology is a Tool is a Language is a Medium is a...

In our discussion up to this point and throughout the whole book the use of the terms media, technology and tools is somewhat synonymous. A medium of communication, for example, is in a certain sense a tool or a technology. The movable type printing press that McLuhan analyzed in both *Gutenberg Galaxy* and *UM* was both a tool or technology and a medium of communication. The mechanism that made the movable type printing press was a tool or technology whereas the function of the printing press was that of a medium of communication.

As a consequence of this argument, the distinction between technological inventions and media of communication is somewhat arbitrary. I use the term "technology" in its broadest sense, as did McLuhan, to include not only hardware (machinery) but also all forms of communication and information processing, including the languages of speech, writing, mathematics, science, computing and the Internet. The fact that computers are referred to as information technology supports my notion that the distinction between media, language and technology is an artificial one. The term technology stems from the ancient Greek word *technologia*, which means a systematic treatment, which itself is derived from *techne* the ancient Greek word meaning art and *logos* meaning guiding principle.

Media such as the book, the telephone, radio, and television differ from tools such as the hammer, the bulldozer, the airplane, and the light bulb, but there

are also some very important overlaps. The most obvious one is that all media function as tools serving our needs and all consist of some form of technology. One can also argue, however, that technologies become media, for example in the case of the light bulb when it is used to spell out advertising slogans. The road, the canal, and the railroad are also technologies that serve as media for the automobile, the ship, and the train, respectively. The automobile, the ship, and the train have as their content passengers and freight. Moreover, the automobile functions as another kind of medium when it becomes a status symbol, a symbol of teenage rebellion, a symbol of a macho man's potency, or a haven for privacy. These meanings or functions of the automobile are often as important as its primary "message" of mobility.

1.7 Standing on the Shoulders of a Giant

The project that I have scoped out in this book is not intended as a reinterpretation of McLuhan's ideas but rather it is an attempt to describe the future of "new media" by looking through the rearview mirror of McLuhan's groundbreaking study *Understanding Media*. In attempting to update UM I am being very bold. But as McLuhan once described his work as resulting from standing on the shoulders of a giant, namely Harold Innis, I will attempt to stand on the shoulders of my mentor Marshall McLuhan with whom I collaborated for six exciting years. In the foreword to the 1972 edition of Harold Innis' *The Bias of Communication*, McLuhan wrote,

I am pleased to think of my own book *The Gutenberg Galaxy* as a footnote to the observations of Innis on the subject of the psychic and social consequences, first of writing and then of printing. Flattered by the attention that Innis had directed to some work of mine, I turned for the first time to his work. It was my good fortune to begin with *Minerva's Owl*. How exciting it was to encounter a writer whose every phrase invited prolonged meditation and exploration" (Innis 1972, ix, McLuhan's foreword).

Although this book is in some modest sense a footnote to the original *Understanding Media* it is actually more accurately an attempt at writing an appendix to it. At this point I am sure the reader must be thinking where did I get the nerve to think that I am capable of doing justice to such a task especially given the wealth of literature that has sprung up on the subject of "new media" as documented in the reference section.

It was reading this literature that actually motivated me to take on this task. Some authors were extremely critical of McLuhan's approach. Others ignored him for the most part but paid their respects by mentioning him briefly. And a few like Donald Theall, McLuhan's first student and author of *The Virtual McLuhan* and my friend Paul Levinson, author of *Digital McLuhan* did justice to their subject. Both of these two excellent books have raised the bar for my project. Having worked with McLuhan for six years and having published with him and about him I felt that by using his original UM as a template I could offer something worthwhile to the reading public. You, the reader, will be the judge of that. Given the incredible speed, however, with which science and technology advances this book will be at best a progress report of where things stand at this point in time seven years into the new millennium. As McLuhan used to joke things are changing so fast that every book is obsolete by the time the reader gets their hands on it.

1.8 McLuhan on New Media

The term "new media" is a relative term. One hundred years from now the media that we label "new media" will be considered "old media" and others will be wrestling with the new media emerging in their time. For that reason some of the remarks McLuhan made about the "new media" of his day over 40 years ago are useful for understanding our "new media." The quotes speak for themselves and are presented without comment but as the reader progresses through this book and encounters our discussion of today's "new media" they will see how prescient these remarks of McLuhan were that were made between 1955 and 1969. [The quotes cited were part of a collection that appeared in *The Essential McLuhan* edited by Eric McLuhan and Frank Zingrone (1997). The date of each quote and the page where it is cited by E. McLuhan and Zingrone follow each quote.]

"The new media are not bridges between man and nature; they are nature." (1969, p. 272)

"Today we are beginning to notice that the new media are not just mechanical gimmicks for creating worlds of illusion, but new languages with new and unique powers of expression." (1957, p. 272)

"New media may at first appear as mere codes of transmission for older achievement and established patterns of thought. But nobody could make the

mistake of supposing that phonetic writing merely made it possible for the Greeks to set down in visual order what they had thought and known before writing. In the same way printing made literature possible. It did not merely encode literature." (1960, p. 272)

"It is the framework which changes with each new technology and not just the picture within the frame." (1955, p. 273)

"A new medium is never an addition to an old one, nor does it leave the old one in peace. It never ceases to oppress the older media until it finds new shapes and positions for them." (1964, p. 278)

"As technology advances, it reverses the characteristics of every situation again and again. The age of automation is going to be the age of do it yourself (1957, p. 283)."

In the next chapter we explore the methodology McLuhan developed to study media and technology. We will make use of much of his methods in our study of "new media" along with a couple of new tools that I have added.