Key Idea: In order to survive in our information-saturated culture, we put our minds on “automatic pilot” to protect ourselves from the flood of media messages we constantly encounter. The danger with this automatic processing of messages is that it allows the media to condition our thought processes.

Message Saturation
High Degree of Exposure
The Information Problem
  The Challenge of Selection
  Automatic Routines
  Advantages and Disadvantages of Automatic Processing
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Summary

MESSAGE SATURATION

Our culture is saturated with information. The flood of messages comes to us through the mass media (see Table 1.1).

For example, this year in the United States alone, there will be almost 175,000 book titles published, and each of these is available in public libraries or through online bookstores for a relatively modest price. Furthermore, books are only one channel of information. Throughout the world, radio stations send out 65.5 million hours of original programming each year, and television adds another 48 million hours. In this country alone, the seven major film studios have an additional 169,500 television programs in their archives.
With personal computers, we have access to even more information than ever when we connect to the Internet. The Internet gives us access to about 3,000 newspapers (Kawamoto, 2003). Also, the World Wide Web offers access to about 2.5 billion documents. These are the publicly available pages, referred to as the surface Web. There is also what is called the deep Web, which consists of pages that require memberships, fees, or are otherwise private. This deep Web has been estimated to be 400 to 550 times the size of the surface Web (Lyman & Varian, 2003).

Not only is information easily available to almost anyone today, but information also keeps getting produced at an ever increasing rate. More information has been generated since you were born than the sum total of all information throughout all recorded history up until the time of your birth. Half of all the scientists who have ever lived are alive today and producing information. Also, the number of people in this country who identify themselves as artists increased from 737,000 in 1970 to 2.2 million in 2000, the number of musicians grew from 100,000 in 1970 to 187,000 in 2001, and the number of authors quadrupled to 128,000 (Kiger, 2004). These artists, musicians, and authors are pumping even more messages through our media channels everyday.

How much information is produced each year? Before I tell you, I need to make sure you understand a few technical terms. A byte is a unit of information storage. A kilobyte is 1,000 bytes or the information contained in two typed pages or a low-resolution photograph. A megabyte is a million bytes, which is the information in a small novel or 6 seconds of a high-fi recording. A gigabyte is 1 billion bytes. A terabyte is 1,000 gigabytes, a petabyte is 1,000 terabytes, and an exabyte is 1,000 petabytes. To put these large numbers in perspective, the 19 million books and other materials in the U.S. Library of Congress, if digitized, would take up about 10 terabytes of information.

Okay, now you are ready for the answer to the question: How much information is produced in a given year? In 2002, researchers at the University of California at Berkeley conducted a huge project that resulted in the estimate that in that single year of 2002, there were 5 exabytes of information produced worldwide (Lyman & Varian, 2003). This means that the amount of information produced in 2002 was 500,000 times the amount of all the

<table>
<thead>
<tr>
<th>Medium</th>
<th>United States</th>
<th>World</th>
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<tbody>
<tr>
<td>Books (titles per year)</td>
<td>175,000</td>
<td>968,735</td>
</tr>
<tr>
<td>Radio stations</td>
<td>13,261</td>
<td>47,776</td>
</tr>
<tr>
<td>TV broadcast stations</td>
<td>1,884</td>
<td>33,071</td>
</tr>
<tr>
<td>Newspapers</td>
<td>2,386</td>
<td>22,643</td>
</tr>
<tr>
<td>Mass market periodicals</td>
<td>20,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Scholarly journals</td>
<td>10,500</td>
<td>40,000</td>
</tr>
<tr>
<td>Newsletters</td>
<td>10,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Archived office pages</td>
<td>$3 \times 10^9$</td>
<td>$7.5 \times 10^9$</td>
</tr>
</tbody>
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SOURCE: Information is from Lyman and Varian (2003).
holdings in the Library of Congress. As if that is not scary enough, Lyman and Varian (2003) estimated that the rate of growth of information increases at 30% each year. This means that in 2008, there will be 24 exabytes produced in that one year—or for each and every byte of information stored in the Library of Congress, there will be produced 2.4 million bytes of new information in that one year!

**HIGH DEGREE OF EXPOSURE**

We love our media, as evidenced by how much time we spend with them. A recent comprehensive study of media use found that about 30% of the waking day was spent with media as the sole activity, and another 39% was media use coupled with another activity. That sums to almost 70% of the average person’s day that includes some form of media use. In contrast, less than 21% of the time was found to be devoted to work (Ransford, 2005).

Television is still by far the dominant medium at 275 minutes per day. Furthermore, the time people spend with television keeps increasing according to the A. C. Nielsen Company (Nielsen Media Research, 2006). Over the past decade alone, the average American household has increased the time the TV is on from 7 hours 15 minutes in 1995–1996 to 8 hours and 14 minutes in 2005–2006; during the same decade, the average time a person spends watching TV per day has increased from 3:59 to 4:35. More than half of all American households have three or more television sets (Bauder, 2006). There are now more TV sets than people in America.

Other mass media are also consuming a great deal of audience time. In second place—behind TV—is the computer. Worldwide, there are more than a (U.S.) billion Internet users, which is 17% of the world’s population (Miniwatts Maketing Group, 2006). In the United States, four out of every five people age 12 and older are Internet users (Project for Excellence in Journalism, 2006), and the average person now spends more than 2 hours per day with the computer. Computer use is especially high among college students. In the United States, there are now 17.4 million college students, and 50% of them arrive on campus as freshmen with a laptop computer. The typical college student now spends 3.5 hours a day on the computer e-mailing, instant messaging, and Web surfing. They also spend an additional 7.5 hours every day engaged with other media, such as books, magazines, recordings, radio, film, and television (Siebert, 2006).

It is clear that the media are an extremely important part of people’s everyday lives. The media organizations themselves realize this and continue to provide more and more messages in a wider range of channels every year.

**THE INFORMATION PROBLEM**

Individual people and societies have always had a problem with information. For millennia, the information problem was one of generating enough information about important aspects of life, then providing people with access to that information. But with the rise of the mass media, especially over the past half century, the information problem has shifted from one of gaining access to one of protecting ourselves from too much information.
To illustrate this point, let’s focus on just one medium—books. Until about two centuries ago, the majority of the population could not read, and even if it could, there were few books available. In the early 1300s, the Sorbonne Library in Paris contained only 1,338 books and yet was thought to be the largest library in Europe. Only elites had access to those books. Today, there are many libraries with more than 8 million books, and they lend out their books to millions of people every year. With literacy rates high, the ease of buying books from Web sites, and the availability of free public libraries in every town, access to books is no problem.

Time, however, is a big problem. If you were to try to read only the new books published this year, you would have to read a book every 3 minutes for 24 hours each day with no breaks over the entire year—that is 20 books per hour and 480 books each and every day. All that effort would be needed just to keep up with the new titles published in only the United States! You would have no time left to read any of the other 66 million book titles in existence worldwide. This example is limited to only books. The world produces about 31 million hours of original TV programming each year (Lyman & Varian, 2003). If you wanted to watch all the television programming broadcast in this year alone, it would take you about 35 centuries—if you took no breaks!

We live in an environment that is far different from any environment humans have ever experienced before. And the environment changes at an ever increasing pace. This is due to the accelerating generation of information and the sharing of that information through the increasing number of media channels and the heavy traffic of media vehicles traversing those channels. Messages are being delivered to everyone, everywhere, constantly. We are all saturated with information, and each year the media are more aggressive in seeking our attention. It is a hopeless expectation to keep up with all the information available. The most important challenge now lies in making good selections when the media are constantly offering us thousands of messages on any given topic.

The Challenge of Selection

How do we meet the challenge of making selections from among the overwhelming number of messages in the constant and increasing flood of information? The answer to this question is this: We put our minds on “automatic pilot,” where our minds automatically filter out almost all message options. I realize that this might sound strange, but think about it. We cannot possibly consider every possible message and consciously decide whether to pay attention to it or not. There are too many messages to consider. So our minds have developed routines that guide this filtering process very quickly and efficiently so we don’t have to spend much, if any, mental effort.

To illustrate this automatic processing, consider what you do when you go to the supermarket to buy food. Let’s say you walk into the store with a list of 25 items you need to buy, and 15 minutes later, you walk out of the store with your 25 items. In this scenario, how many decisions have you made? The temptation is to say 25 decisions, because you needed to have made a decision to buy each of your 25 items. But what about all the items you decided not to buy? The average supermarket today has about 40,000 items on its shelves. So you actually made 40,000 decisions in the relatively short
time you were in the supermarket—25 decisions to buy a product and 39,975 decisions not to buy a product.

Our culture is a grand supermarket of media messages. Those messages are everywhere whether we realize it or not, except that there are far more messages in our culture than there are products in any supermarket.

Automatic Routines

The human mind is wondrously complex. It can perform all kinds of creative tasks such as imagining the future, constructing fantasies, making up lies, and contemplating an infinitely wide range of if-then speculations. It also performs many mundane tasks routinely with remarkable efficiency. Once you have leaned a sequence—such as tying your shoes, brushing your teeth, driving to school, or playing a song on the guitar—you can perform it over and over again with very little effort compared to the effort it took you to learn it in the first place. As we learn to do something, we are writing the instructions like a computer code in our minds. Once that code is written, it can later be loaded into our minds and run automatically to guide use through the task with very little thought.

To navigate our way efficiently day-to-day through our information-saturated culture, we rely on automatic processing. Psychologists refer to this automatic processing of information as automaticity. Automaticity is a state where our minds operate without any conscious effort from us. Thus, we can perform even complicated tasks routinely without even thinking about them. For example, typing is a relatively complicated task, but after we learn to type, we do it automatically. Think about your experience in first learning to type. You had to think of the individual letters in each word, think about which key controlled which letter, and then command a finger to press the correct key. It took you a long time to type out a word. But with practice, you are able to type out paragraphs without thinking much about which finger needs to strike which key in which order. Now when you type, you enter the state of automaticity where well-developed habits guide your actions without requiring you to think about them.

In our everyday lives—like when we enter a supermarket—we load an automatic program into our mind that tells it what to look for and ignore the rest. Automatic processing guides most—but certainly not all—of our media exposures. With automatic processing, we experience a great deal of media messages without paying much attention to them; thus we have the feeling that we are filtering them out because we are not paying conscious attention to them. Every once in a while, something in the message or in our environment triggers our conscious attention to a media message. To illustrate this, imagine yourself driving in your car with the radio playing while you are talking to your friend. Your attention is on the conversation with your friend, instead of on the music coming from the car radio. Then your favorite song starts playing, and your attention shifts from the conversation to the music. Or perhaps your conversation is interrupted when your friend notices that the radio is playing her favorite song, and she starts singing along with the music. In both scenarios, you are being exposed to a stream of media messages from your car radio without paying conscious attention to them, but then something happens to trigger your conscious attention to the music from the radio.
Advantages and Disadvantages of Automatic Processing

The huge advantage of automatic processing of information in our environment is that it helps us get through a great many decisions with almost no effort. However, there are some serious disadvantages. When our minds are on automatic pilot, we may be missing a lot of messages that might be helpful or enjoyable to us. We might not have programmed all the triggers we need to help us get out of automatic processing when a useful message comes our way. Returning to the supermarket example from above, let’s say you are very health conscious. Had you been less concerned with efficiency when you went into the supermarket, you would have considered a wider range of products and read their labels for ingredients. Not all low-fat products have the same fat content; not all products with vitamins added have the same vitamins or the same proportions. Or perhaps you are very price conscious. Had you been less concerned with efficiency, you would have considered a wider variety of competing products and looked more carefully at the unit pricing, so you could get more value for your money. When we are too concerned with efficiency, we lose opportunities to expand our experience and to put ourselves in a position to make better decisions that can make us healthier, wealthier, and happier.

THE BIG QUESTION

Given that we live in a culture highly saturated with information and given that we protect ourselves from this flood of information with automatic routines programmed into our minds, the big question becomes, Who has programmed the computer code that governs these automatic routines?

For some of us, the answer to this question is that we have programmed the code that governs our automatic routines. When we are aware of our needs for certain kinds of messages, it is easy to program our triggers. Also, if we have an intensely enjoyable reaction to a media message, we consciously decide to look for that kind of message again and again. And if we have a strong negative reaction to a media message, we consciously decide to avoid that type of message every time in the future. When we consciously think through our decisions, we program our code that automatically tells us what to pay attention to and what to ignore.

For many of us, our automatic code has been programmed by the mass media and advertisers. When we are not consciously paying attention and carefully evaluating our media exposures, the mass media continually reinforce certain behavioral patterns of exposure until they become automatic habits. For many of us, we turn on the radio every time we get in our cars, turn on the television as soon as we get home, and turn on our computers when we get up in the morning. Advertisers constantly program the way we think about ourselves. Advertisers program an uneasy self-consciousness into our minds so that we are on the lookout for products that will make us look, feel, and smell better. Advertisers have programmed many of us into a shopping habit. People in America spend more time shopping than people in any other country. Americans go to shopping centers about once a week, more often than they go to houses of worship, and Americans now have more shopping centers than high schools. In a recent survey, 93% of teenage girls surveyed said that shopping was their
favorite activity (B. Schwartz, 2004). Advertising works by programming our automatic routines so that we shop even when it would be in our best interest to do other things.

For most of us, our minds have been programmed by a combination of us, our friends, our parents, the mass media, and advertisers. Some of these agents of programming truly know you and have your best interests in mind as they reinforce your special strengths and help you overcome your troublesome weaknesses; they are trying to make you happier and make your life better. Other agents of programming are trying to use you as a tool to achieve their goals, which are often very different from your own goals. When this occurs, the programming makes you less and less happy as they “help” you solve problems you don’t have and move you toward goals that are not in your own best interests.

Therefore, it is important that you periodically examine the code that has been programmed into your mind. This is why media literacy is so important.

MEDIA LITERACY

Taking control is what media literacy is all about. Becoming more media literate gives you a much clearer perspective to see the border between your real world and the world manufactured by the media. When you are media literate, you have clear maps to help you navigate better in the media world so that you can get to those experiences and information you want without becoming distracted by those things that are harmful to you. You are able to build the life that you want rather than letting the media build the life they want for you.

Those who fail to develop their literacy of the media will get swept along in a tide of messages. They will have a false sense that they know what is going on in the world simply because they are exposed to so much information. Everette Dennis, who is the executive director of The Freedom Forum Media Studies Center at Columbia University in New York and vice president of The Freedom in Arlington, Virginia, referred to media illiteracy as “potentially as damaging and poisonous to the human spirit as contaminated water and food is to our physical well-being” (Dennis, 1993, p. 4). The metaphor of pollution is an apt one. The media industries provide us with many products that we desire—products that are good for us—but these same media industries are also producing harmful by-products and dumping them into our culture. If we are not literate, we don’t know the difference, and we consume the bad with the good.

This book will show you how you can become more media literate. It will present you with many things to think about, and the more sensitive you are to these issues on a day-to-day basis, the more you will be able to increase the amount of code you are programming into your automatic routines and the less the media will be programming your code without your awareness or permission.

SUMMARY

We cannot physically avoid the glut of information that aggressively seeks our attention in our culture. Instead, we protect ourselves by psychologically avoiding almost all of the
messages in the flood of information. We do this by keeping our minds on automatic pilot most of the time. This automaticity allows us to avoid almost all messages and to do so efficiently.

Automaticity, however, comes with a price. We allow the media to condition us while we are in this automatic state. The media condition us to habitual exposure patterns. They want to attract us to the messages they have planned for us, not necessarily the messages that are most useful for us. This increases the risk that we will miss many of the messages that might have higher value for us. The media also condition us to accept unchallenged the meaning they present in their messages. This increases the risk we will accept faulty meaning.

**FURTHER READING**


A research team at the UC Berkeley School of Information Managements and Systems has analyzed the world’s media and constructed estimates for how much information is produced each year. This is a very ambitious project that presents startling results about the amount of information available.


Barry Schwartz writes about how much choice the average person is now confronted with everyday. He argues that increasing choice up to a point is a good thing but that beyond that point, increasing choice overwhels people, and they cease to make good decisions.


This book is now fairly old. But his arguments about how much information has invaded our culture and how that flood was affecting us are still shocking. And those arguments are even more shocking when we realize that our culture is much more saturated with information now than it was in the 1980s.

Visit the study site at www.sagepub.com/potterml4study for chapter-specific study resources.