

“We speak in code, in case the telephone operator should be eavesdropping!”: How Popular Movies Reflect Society’s Attitude Toward Technology

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Movies are cultural artifacts that both require technology for their production, and yet make use of technology in their plot. This paper analyses the realistic use of telephone and computer technology in various movies. The scenes discussed provide snapshots in history, explaining society’s attitude toward technology at a given point, and the adoption and diffusion of certain technologies throughout society. Analyzing realistic use of technology in movies helps to understand both what old technologies were like when they were new, and the interplay between media and technology, and culture.

SINCE their invention, movies have been popular with the masses. They allow us to escape reality by transporting us through time and space. Whether to wartime Germany or on outer space Odysseys, movies can take us on travels to worlds that are beyond our reach. However, movies can also open our eyes about our current reality. As cultural artifacts, popular movies have been analyzed many times before. Examples can be found for issues such as gender (Hobby, 2000), sexual reproduction (Kimball, 2001), nuclear weapons (Taylor, 1993), the Ku Klux Klan (Dessommes, 1999), journalism (Ehrlich, 1997), growth of a country (Marsden, 1982), even abstract topics such as death (Sobchack, 1982), and probably many more.

Movies have also always had a special relationship with technology, and technology, in turn, with culture. As Benson and Anderson (1990) say, “Technology is imagined by culture and in turn constructs culture” (p. 257). This triad of relationships is analyzed in more detail by Frenz and Rushing (1990) using the example of the movie *The Manchurian Candidate*.

As technology has developed, today’s movies became possible. From silent to voice, from black-and-white to color, movies have evolved as technology did. Without a doubt, special effects and digital technology have once again dramatically changed the process of making movies within the last years (Fink, 1996). In addition to using technology to make a movie, technology is often used by the plots’ characters within the movie. This technology use can be the focus of entire scenes, or appear rather casually, almost imperceptibly or in a background plot. More important, though, a distinction needs to be drawn between technology use in movies that is realistic, and technology use that is unrealistic. Many examples can be found for the unrealistic portrayal of technologies in movies. A personal favorite is the movie *Independence Day* (1996), in which Jeff Goldblum’s character not only flies an alien spaceship into the insides of another alien spaceship, but then single-handedly uploads a computer virus to the alien mother-ship which completely disarms the military protection shield of the invaders, allowing the heroes of the movie to destroy the spaceships. Other examples can be found easily, especially, but not exclu-

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sively, in science fiction movies. In the movie *Disclosure* (1994) it is possible to delete a secret computer file by simply typing "Delete secret file" into the computer interface. The summary "Things computers can do in movies," author unknown, is available in several places online (see Appendix). It lists a multitude of examples for the unrealistic use or portrayal of computer technology in popular movies.

The focus of this paper, however, is not on the unrealistic use of technology in movies, but on its realistic use and portrayal. When technology is used realistically, it takes on a dual role. Technology use in movies both *reflects* and *influences* society's use and attitudes toward the portrayed technology. By looking at particular scenes in popular movies and comparing them to the chronological diffusion of the technology throughout society we gain a snapshot understanding of society's attitudes toward and beliefs about certain technologies at certain points in time. The way characters in movies use the technology *reflects* general attitudes. A detailed mass media and societal analysis may show actual *influence* of these movies on society's technology use, though this paper only hypothesizes these outcomes. Though examples of other technologies could be given (i.e., the ticker in *The Hudsucker Proxy*, released in 1994 but taking place in 1959; the VCR in *The Full Monty*, released in 1997; or the pager in *Clueless*, released in 1995), the paper focuses especially on the telephone and computer technology.²

Telephone

ALMOST a hundred years ago, telephones were already used in movies as narrative elements. At times, they took on roles central to the plot, such as in *The Physician of the Castle* (1908; released the same year in the US under the title *A Narrow Escape*). Here, a doctor treating a patient at the patient's home receives an urgent phone call from his wife about their house being burglarized. He races home and, with the help of two gendarmes whom he picks up, he manages to arrest the burglars before they can do any serious harm. The telephone's ability to overcome time and space saved the situation.

Displaying phone conversations in movies also led to a technological development from the perspective of movie making, setting a new fashion, as Gunning (1998) explains:

After 1908 the most frequent device for portraying a phone conversation was parallel editing, cutting from one end of the telephone line to the other. While the earliest instances of extended parallel editing only occasionally portray telephone conversations, the fit between the spatio-temporal form of the event and that of its portrayal has a particularly satisfying effect which one suspects rendered the innovative technique particularly legible to film audiences (p. 219).

The movie *Meet Me in St. Louis* (1944, but taking place 1903) includes a scene in which a young woman in St. Louis is expecting a phone call from her beau in New York. The movie makes it clear that calling from New York to St. Louis is so extravagant that the only explanation anyone can find is that the young man is going to propose marriage over the phone. Obviously, at this time the telephone was not used for frivolous chatting, especially long distance. Instead, a phone conversation was a serious affair.

² The Charles Babbage Institute provides a Web site with many additional examples of Hollywood's use of technology in movies without analyzing these examples in depth: <http://www.cbi.umn.edu/resources/hollywood.html>.

Both of these brief examples show that in the early twentieth century, telephones were not yet commonplace objects, and their use still implied a certain degree of urgency. The telephone itself was patented in 1876 by Alexander Graham Bell, though many similar inventions preceded his accomplishment. The movie *Topsy Turvy*, produced in 1999 but taking place in 1885, only nine years after the official invention of the telephone, depicts one of the earliest historical uses of a telephone in a movie. The telephone is not the focus of the movie, but one scene in particular reflects well the attitude of the time toward the technology of the telephone. The movie tells the story of Sir William Schwenck Gilbert, played by Jim Broadbent, and Arthur Sullivan, played by Allan Corduner, and how they write and produce the operetta *The Mikado* to escape financial ruin. The following paragraphs provide a transcript of the movie scene, followed by analytical remarks.

In the scene, Mr. Barker (played by Sam Kelly) is seated in a chair behind a desk. Mr. Barker says, "Mr. Hollingshead" (reaches forward and presses the button on the phone, then says the rest of the sentence as he stands up) "has no need to lie to me, Mr. Carte." As Mr. Carte (played by Ron Cook) proceeds to talk, Mr. Barker turns his back to him and walks toward the wall. He stops and rubs his chin with his left hand, and he puts his right hand in his pocket. Mr. Carte (he has a teacup held up in his right hand and says the following without looking in the direction of Mr. Barker, but he turns more toward him when he says "especially you") says, "Mr. Hollingshead has much need to lie to everybody, Mr. Barker, *especially* you."

A woman who was seated across from Mr. Carte stands up and says, "Gentlemen." She looks directly at Mr. Carte and then turns and exits the room with a teacup in her right hand.

Mr. Barker turns around and rests his left arm on the top of the armchair Mr. Carte is seated in. He sort of nods to himself and looks down quickly at Mr. Carte. He is holding a cigarette in his left hand. Mr. Carte takes a sip of his tea and continues to look down.

The phone rings. Mr. Barker jumps forward to answer it, and he picks up the receiver with his right hand. Mr. Carte moves his teacup farther away from him. Mr. Barker shouts into the receiver, "Are you there?" Mr. Carte slowly opens a book on his desk. He looks down at it and then strokes his chin with his left hand. Mr. Barker says into the receiver in a tone that appears to be somewhat disgruntled, "Yes. Eight five oh five." He then reaches forward and puts his cigarette out with his left hand.

The scene cuts to Mr. Gilbert in a different room, walking toward doors in a wall with his back to the camera. A phone is ringing again. He opens the top two doors, and then the bottom two doors. He reaches into this closet with his right hand and moves or opens something, and then he picks up the phone receiver with his left hand and puts it to his left ear. He bends his head down as he talks. Mr. Gilbert says loudly, "Hello," in a declarative tone.

The camera cuts back to the room with Mr. Barker. Mr. Barker shouts into the mouthpiece, "Is that you Mr. Gilbert?" Mr. Carte is touching the book with his left hand, but he is still looking down. As the conversation continues, the camera and scene continuously cut back between Mr. Barker and Mr. Gilbert and the respective rooms.

Back to Mr. Gilbert on the phone. Mr. Gilbert says, "Hello," in the same tone he did before.

Close up to Mr. Barker's face. He says, "Hello," more quietly than he was speaking before. His eyes are moving back and forth as if he is confused.

The camera shows the back of Mr. Gilbert. He says, "Good morning, Barker."

"This is Barker speaking," says Barker as the camera is still focused on only his face. He stresses *Barker*. He stutters very slightly before he says this sentence. While he speaks, the camera shows Mr. Carte look up and over toward Barker. Barker's head barely moves in Carte's direction, but his eyes glance over, and then he looks back down. He then lifts his left hand toward his ear as if to cover it, but does not touch it.

The camera cuts to Gilbert on the phone. He says, "Gilbert here," and he turns his body slightly to look over his shoulder into the room, and then he turns back inward to the phone. The men on the phone are speaking rather loudly. The shot does not return to Barker, but you can hear Barker saying through the phone, "Good morning, Mr. Gilbert."

The camera focuses on an old man and a young woman standing side by side in the room behind Gilbert. They are Gilbert's father and wife. The woman is holding a blue square pillow in her hands. The man is standing with his arms at his side, and his mouth is slightly open. While the shot is on them, Mr. Gilbert says, "How are we today, Barker?" The camera then focuses in on the left side of Gilbert's face, the side to which he has the receiver held up. Gilbert says, "Are we popular, or are we mad?"

The camera cuts back to Barker on the phone. He has a piece of paper in his hand. He flips it over a few times. "Oeh," (a sort of mumbling noise), "We are popular." He smiles and nods as he says this. Gilbert is heard through the receiver saying, "Carry on, carry on." Mr. Carte, still with a very solemn look on his face, stretches his right arm out and holds a slip of paper out for Barker who is still looking at the piece of paper in his hand. Mr. Barker says, "Here is your message for *today*. Ah, U U plus ten shillings and sixpence." While Barker is speaking this into the phone, the camera focuses on the piece of paper in his hand. The letters "FAVOURITES HYSTERICAL" are spelled out on two lines, with a number (one through zero in order) under each letter in each line.

Back to Gilbert on the phone – the view from the side. "Can you repeat that please?"

Back to Barker on the phone. "Yes. U U." (enunciates, and shouts)

Back to Gilbert on the phone. He is writing something down. “So that’s u for udder?”

Barker is barely heard through the phone, seemingly acknowledging that Gilbert is correct. It sounds like a muffled “right.” “U for udder,” says Barker. “Plus ten shillings and six pence,” Barker continues, this time louder. While Barker and Gilbert are having this part of the conversation, the camera moves for a few seconds to Gilbert’s father and wife standing side by side. They look the same as they did before—barely moving and looking confused.

With the camera on Gilbert, he says, “So you have two udders, Barker?”

With the camera on Barker, he says, “Uh, uh, yes.” His eyes are wide. He raises his head a little and reaches to touch his glasses or his face.

Back to Gilbert. “I always suspected as much.”

Back to Barker. “Hahahahahaha.” He laughs and smiles. “Hahahaha.” As he laughs more, the camera shows Carte with Barker again. Carte has his hand up to his mouth and he is staring away from Barker. Barker looks at him briefly, and then stops laughing. Carte strokes his beard and then puts his hand down, and Barker has stopped laughing. Barker shouts, “Thank you.”

Back to Gilbert. “Good bye.”

Back to Barker. “Good bye, Mr. Gilbert.” As Barker goes to hang up the receiver, Gilbert is heard saying “I’m going to hang up the telephone now.” Barker quickly puts the receiver back up to his ear and shouts, “Indeed you are sir.” Barker puts the receiver back in its place and presses the button on the desk.

Gilbert puts his receiver back and walks away from the phone closet.

Barker stands straight, looks around, reaches to his right and walks out of the shot. Carte is still sitting in the chair leafing through the book at which he is looking down, and he still looks very serious. He puts his hand back up at his mouth.

Gilbert is near the door now. He says, “Well um, I’m going out to seek a little Italian hokey pokey, and I care not who knows it.” He turns and walks to the door.

Carte looks up and says, “Thank you, Barker.” It does not sound very sincere.

Barker opens the door and walks through it. In the threshold, he turns and says, “I shall not return with any for you sir . . . because it would melt.” He nods slightly and says, “Au revoir,” and walks out the door and closes it.

Carte sits still in his chair and blinks a few times.

Gilbert walks through the room and toward a desk near the window. To his wife he says, “I owe you an apology, Kitty. It would appear you weren’t exaggerating after all.” He sits down in the desk.

Kitty turns toward him (his back is facing her) and says, “Apology accepted (nods). Thank you, Willy.” She turns to the old man and, enunciating every word, she says, loud and clear, “Schwenck speaks to the Savoy every morning in code, father-in-law, just in case the telephone operator should be eavesdropping.” She points to a point off in the room, probably toward the telephone.

The old man, her father-in-law, says, “Well, might as well open the window and shout on the street.”

The scene described above gives several examples both of society’s attitude toward technology at the time and the technology’s diffusion. Gilbert’s father’s comment at the end of the scene clearly shows his mistrust in the modern technology of the telephone. He believes that a technology that requires one to shout and use code is just as good as no technology. In addition, his comment may imply that using the telephone is just as bad manners as shouting out of a window would be. Clearly, in his opinion the way the telephone is used in 1885 conflicts with that time’s social etiquette.

With regard to etiquette and norms, the scene also shows that no real telephone etiquette exists yet. While both phone operators (Barker and Gilbert) are acquainted with the technology enough to use it, there is still confusion as to when and how it is acceptable to terminate a conversation, as indicated by Gilbert’s comment, “I’m going to hang up the telephone now.” As Baron (2002) explains, phone norms and etiquette had to be developed indeed when the telephone first spread throughout society. She explains how “hello” as a phone greeting was first considered vulgar, as it originally was a duck hunting shout. Members of the upper social classes objected to this greeting for a long time before it finally became accepted. Similarly, Gilbert is not entirely sure how to end a phone conversation yet. Thus, he announces his intention as might be done in radio conversations nowadays (“Roger out”).

The fact that Barker and Gilbert use code when talking about something of low importance (the popularity of a theatre play) indicates their concern for privacy when using the phone, which at the time still required a human being to make connections. Other details of the scene, such as the repeating of information and the shouting, indicate technological difficulties, which are familiar as “static” to today’s cell phone users.

Overall, the scene in *Topsy Turvy* provides a good snapshot of social and technological history. The scene reflects that in 1885 the phone was used by few people, and those of presumably higher class, who still were not entirely comfortable with its use, norms, and etiquette. The scene also reflects common negative attitudes toward any new technology. At the same time, the scene reflects the time’s belief that the phone was a valuable tool to transfer information quickly and efficiently. Looking back from today, the scene is entertaining because people today have learned to overcome the obstacles the scene’s characters still struggle with. In 1885, the telephone was a new technology. Today, it is old and taken for granted.

Though the regular phone is now an old technology and its use has become routine, only a decade ago people had to get used to cell phones. Similar to the time where people needed to adapt to the phone in general, the two scenes described below are examples of the diffusion and acceptance process of cell phones throughout society. When the movie *Pretty Woman* came out in 1990, cell phones had thus been in use for just about seven years in the US. The brief scene described below reflects clearly that in 1990, the cell phone was still considered a status symbol of the rich and possibly famous, similar to expensive cars, jewelry, and designer clothes.

Vivian Ward (played by Julia Roberts) is a prostitute who is picked up on the street by a rich executive, Edward Lewis (played by Richard Gere). After the first night in the Beverly Hills hotel Edward gives Vivian money to buy a dress. The scene begins when Vivian is leaving the hotel. She is walking across Rodeo Drive, one of the most expensive shopping streets in the world. There are many people walking around her. Many of them are carrying shopping bags, and they are all dressed expensively and conservatively. Vivian is dressed in a midriff tank top and a blue miniskirt. She is looking around her with an excited and amazed expression and is smiling in awe as she walks. While she is in the middle of the street, a man in a business suit walks by her with a cell phone to his ear. (The cell phone is as big as a brick, because that was the size for cell phones in 1990.) He walks past Vivian and then turns around to look at her again with a slightly surprised expression. Vivian looks back at him with a provocative look on her face.

The camera cuts to several store signs. These include Louis Vuitton, Chanel, Diamonds on Rodeo, and Gucci. Vivian walks by a storefront window displaying watches and other jewelry. She stops and looks for a moment, touches the glass, and then continues to walk with a bright smile on her face. She continues to walk on the sidewalk by several stores. As she passes people, they all look at her strangely. Her appearance makes her stick out from the crowd, and she doesn't seem to fit in with everyone else.

A storefront window with three female mannequins is shown. They are all wearing large hoop earrings and are dressed in expensive clothes. She sees another mannequin wearing an elaborate outfit with sequins and rhinestones. Vivian looks and smiles.

She passes more storefront windows. One is displaying silver sequined hats. The other is displaying a Monopoly board game with real money, playing cards, and gold pieces to play. She looks at it and purses her lips. She continues walking, then stops and looks at a car parked on the side of the road.

Her attention is diverted by a blue BMW convertible driving by on Rodeo Drive. A father and son are sitting in the car. The father is talking on a cell phone while driving. The son, in the passenger seat, has a yellow cell phone. The scene concludes when the camera cuts back to Vivian's face, which has an amazed and awed expression.

The setting of the scene on Rodeo Drive situates the context in a world of luxury and money. Rodeo Drive in Hollywood, California also implies the possibility of fame. As the camera shows several examples of clothes, cars, jewelry, and expensively dressed people, the viewer understands that Vivian is now in a world of privilege. Her excited and awed facial expressions indicate that she is positively impressed by the display of wealth around her. At the same time, the expressions of other people's faces indicate that they recognize Vivian as not belonging in this place. The two brief incidents in which cell phones are displayed clearly identify them as status symbols. The businessman carrying the cell phone indicates financial success. The father

and son driving by in an expensive car while holding cell phones indicate wealth and leisure. This scene clearly reflects that in 1990, society still thought of cell phones as a privilege to be enjoyed and afforded only by the rich, successful, and maybe famous. Cell phones were not for the general masses yet. Today's viewers also notice the size of the cell phones, which are at least five times bigger than the average cell phone today.

Nine years later, in 1999, cell phones had become more commonplace. In fact, they had diffused throughout society to the extent that every businessperson could be expected to own a cell phone, not just the extremely successful executive. The movie *Bowfinger* includes a scene that reflects that status quo.

Steve Martin plays Bobby Bowfinger, an unsuccessful movie producer in Hollywood. Bowfinger intends to impress another producer, Jerry Renfro (played by Robert Downey, Jr.) in order to stir up talk about his (non-existent) movie. The scene begins as Bowfinger is driving a silver Mercedes convertible with the top down. He parks his car at the curb, turns off the engine, and grabs some papers. He reaches for the car phone and rips it out of the console, tearing the cord. He takes it and the papers with him, gets out of the car, and walks toward the sidewalk. He stops briefly as he rounds his car and looks at two men in suits similar to his own coming out of the restaurant in front of which his car is parked. The two men walk away. He pulls his fake ponytail off the back of his head, sticks it in his left pocket, looks around, and then quickly walks to the building.

Bowfinger walks up to the Maître d' of the restaurant. Bowfinger says to him, "Hi. Can you seat me next to Jerry Renfro?" He slips money into the maître d's hand, and the maître d' smiles a bit, takes it, and murmurs, "Uh huh," as they begin walking into the restaurant.

Bowfinger follows the maître d' into the dining area. Bowfinger puts his car phone up to his ear and pretends to talk into it. "Hey, Tony . . . How are you? . . . No. Say the deal back to me . . . Uh huh . . . Net net?" While he is "talking" on the phone and following the maître d' to his table, he passes a table with two men in suits seated at it. They are talking to each other. He nods at them as he passes, but continues to talk on the phone.

Bowfinger is seated at a table right next to these two men but separated by a small partition. He sits down with his back to their table. Before the maître d' puts Bowfinger's menu on the table and seats him, the conversation between the two men is overheard.

The man facing the camera and closest to Bowfinger is Jerry Renfro. He says to Ed (played by Brogan Roche), the other man at the table, in a very serious tone, "If I'm going to put 85 million into an avalanche movie, I've gotta know where the snow is."

Bowfinger is seen in the background and heard talking into his phone, saying "Uh huh."

Jerry says, "And Ed. It better be Aspen."

Then Bowfinger is shown in a close-up, talking into his phone, say-

ing, "Yeah," slightly louder than he was talking before.

The camera focuses on Jerry and Bowfinger, who sit divided by the partition, and their statements bounce off each other like ping-pong balls, though they are not talking to each other. Jerry talks to Ed, and Bowfinger pretends to talk into the phone.

Jerry says quietly, "And I wonder what asshole is gonna direct."

Immediately after that, Bowfinger says into his phone, "Yeah, well we gotta get a director. Just get me a list."

Jerry is heard in the background saying, "Who's my star?" They mumble some things to each other that aren't really audible, and then Jerry says to Ed, "He's got to be international." Ed says, "Gotta have international."

Bowfinger turns and puts his arm on the partition separating their tables so that his body is turned toward them, and says clearly, "I need an international star," into his phone.

Jerry says to Ed, "I need a star. Who's my star?" Ed suggests to him, "How about Kit Ramsey?" Jerry, still very serious, says, "Kit Ramsey is the hottest, sexiest action star in the world. When I think of Kit Ramsey in this avalanche movie, I get very comfortable." (He makes a sexual facial expression when he says "*I get very comfortable.*") While he is saying this, Bowfinger is still overheard in the background saying "Uh huh" and "Yeah."

The camera focuses more on Bowfinger, who still has the phone up to his ear and his arm resting on the partition. The severed cord of the phone is still hidden in Bowfinger's jacket arm. He says into the phone, "Yeah, well I'm not gonna get into a bidding war with [he utters some sounds that don't sound like words at all] because, ah, you know, even if Kit Ramsey's interested, you know, we might not want Kit Ramsey."

Jerry stops his conversation with Ed and turns toward Bowfinger to listen to what he is saying into his phone. He looks back at Ed and makes a few facial expressions with his eyes, mouth, and eyebrows that indicate interest and surprise. Then Bowfinger leans over the partition, comes off the phone for a second, and says in an exasperated tone, "Can you believe this? Now they try to tell us who's gonna be in our movies," and puts the phone back to his ear. Jerry is still looking in Bowfinger's direction, then he slowly turns back to Ed. They start talking again, but none of what they are saying is audible.

Bowfinger says into the phone, "Yeah get me Kit . . . No, get me Kit right now" Bowfinger starts shouting, "Yeah, you don't put me on hold, I put you on hold. You put me on hold, and you're a dead man!" Jerry puts his finger in his ear, indicating that Bowfinger is speaking too loudly. Jerry looks over toward Bowfinger, and Bowfinger puts his phone down and talks to Jerry.

Bowfinger says, "Hey, Jerry. How are you? Bobby Bowfinger, Bowfinger Films." He reaches over to shake Jerry's hand. "We worked together on that thing, you know, a couple years ago." Bowfinger points toward

Jerry when he says “*that thing*.”

Jerry responds quietly, “What, what thing?”

Bowfinger says, “That that, that, uh the uh, [another phrase that doesn’t sound like real words] movie.” He puts his phone back up to his ear. You can clearly see the severed cord dangling from the phone in the air. Jerry notices it, too.

Jerry looks at Bowfinger for a few seconds, and then to Ed. Ed makes a face that sort of implies that neither of them know who this guy is.

Bowfinger, into his phone: “Hey...Oh hi, Kit. How are you? . . . My ma-an. How’s Dolores? . . . Good . . . Well, you are first in line for the script, Kit. You can’t be more first than first.” While Bowfinger is talking into the phone, Jerry turns his gaze toward him, trying to listen in on what he is saying.

Jerry takes a breath and looks toward Bowfinger, “Can I talk to him?”

Bowfinger, looking toward Jerry with the phone still up to his ear, says, “Huh?”

Jerry repeats, “Can I can I talk to Kit?”

Bowfinger smiles, “Absolutely. Kit, hey Kit. Got a surprise for you. Kit. (louder) Kit? I’m losing you. Ki...Ooogh!” He removes the phone from his ear and presses a button on it. He has an aggravated expression on his face.

Jerry, quietly and somewhat knowingly, says, “Bad line, there?”

Bowfinger replies, “Yeah, these cell phones are so bad.” He still has the aggravated look on his face. He says right away, “You know, Universal is begging me for this script, and I don’t want to give it to them because they screwed me once. You really oughta take a look at this.” He hands the script to Jerry over the partition.

This scene reflects several things about the technology of the cell phone in US society in 1999. First, the entire movie up to the point of the scene has portrayed Bowfinger as an unsuccessful producer who has financial problems. Even the car he uses to drive to the restaurant where the scene above takes place is not his own. The fact that Bowfinger rips the car phone out of the car and takes it into the restaurant with him indicates that by 1999, any businessman, except for the least successful ones, can be assumed to have a cell phone. From a status symbol used by the rich the cell phone has become a commonly used technology. Bowfinger knows how to use a phone and some of its technical difficulties. This becomes apparent when he pretends that the connection has been cut in order to avoid handing over the phone to Jerry Renfro.

Second, the scene also reveals that by 1999 business deals were often discussed and possibly even sealed via the cell phone. While the *Topsy Turvy* scene reflects the distrust people had in the phone—distrust that was so deep that people even used code to transmit information of mediocre importance—the scene in *Bowfinger* reflects the casualness with which important business is discussed, not just over the phone, but in public where others are capable of listening to the conversation. This switch of phone etiquette reflects the diffusion of the telephone throughout society, and its transformation from a rarely used technological wonderwork whose use alone

indicated importance (such as in *Meet Me in St. Louis*) to an everyday conversational tool that is used everywhere for almost any communication purpose.

Though the three movies and their scenes discussed above were chosen mostly according to personal preference, these movies provide snapshots in the history of the telephone through the eye of popular movies. The movie scenes reflect society’s attitudes toward certain technologies. Today’s viewers notice the differences between then and now by comparing what is normal and accepted now to what they see in the movies. The movies’ reflection of missing phone etiquette, or the symbolic value of cell phones helps to understand history both from a social and a technological perspective. Similar to the technology of the telephone, movies also reflect adoption and diffusion of other technologies. The following paragraphs discuss computer technology.

Computer Technology

SINCE Babbage developed what is now considered to be the first mechanical computer in the early 1820s, computers and computer-related technologies have come a long way. Personal computers are now present in almost 90% of college students’ homes (Bunz, 2003), and in the US the ability to perform basic computer tasks is a bare requirement for a large number of jobs. However, less than 35 years ago, using a computer was not commonplace. Few people knew how to use one, and hardly anyone owned a personal computer. The original version of the movie *The Thomas Crown Affair*, released in 1968, includes a brief scene involving computer use early in the movie.

Two two men and a woman are walking through an office. They are all wearing business suits. They are all looking through some papers they are holding in their hands. The sound of typing is heard constantly in the background. Thomas Crown (played by Steve McQueen) is walking in front of the other two people. While walking, he says, “Carol, have Legal simplify the mutual accounts, huh? I can’t even read them myself.”

Carol looks at his papers while he says that. They are all still walking. She says, “Yes, sir,” and writes something on the papers in her hand. She falls behind as they continue walking, and the other man moves up closer to Crown.

The group turns to the left. They enter a different part of the office now. Crown turns his head back to the other man and says, “Sandy, you and Razzle have to handle the Goddard account. He’s gotta be in it for me.” The trio stops. Crown looks at Sandy (played by Biff McGuire), who is also looking at him, and says, “Oh, uh. Cancel that insurance. Take my name off that building.” Sandy sort of smiles and says, “See ya, Tommy.” Crown says, “Okay.” And the three go off in different directions.

A younger man in a short-sleeved button-down shirt with a tie, but no jacket, joins Crown. He follows Crown as he walks into a large, open office space and says, “Mr. Crown, we’re up 3.7 percent on the principal accounts of all five portfolios . . . that’s plus all the trading gains.”

Crown doesn't seem to be very interested in what this young man is telling him.

The two keep walking, and Thomas Crown walks toward an office computer. It's a big bulky machine. It stands on its own, not on a desk. Crown stops at it and pushes a few keys on the keyboard casually, then looks at the screen. The young man stops with him and says with a smile, "That's not bad since the first of May." Crown looks at him and says, "Very good, Walter," and then the two of them walk away from the computer in different directions.

This brief scene holds significance for the movie and also provides a snapshot of the status of the computer in 1968. First, the scene occurs only a few minutes into the movie. As it shows Crown using a computer—a technology not very familiar to the average American at the time—expertly and without apparent confusion, the scene establishes Crown as savvy and possibly even worldly. On the other hand, the fact that a successful businessman such as Crown, and not the jacketless and obviously inferior office worker Walther, uses a computer indicates that in 1968 the computer was still fairly novel. It required education and smartness for its use. In movies such as the James Bond series or both versions of *The Thomas Crown Affair*, technology is often used in unrealistic ways. Science fiction-like gadgets such as invisible cars (e.g., in the James Bond film *Die Another Day*, released in 2002) are used to impress upon the viewer that the character in the movie is far superior to the average person. However, the brief scene above is a scene in which technology is used in a realistic, almost casual way to express the same message, which makes this scene unique. As for the technology itself, in 1968 the computer was as unreachable for the general masses as was an invisible car in 2002.

As the computer became smaller and more affordable for the general masses, it diffused throughout society more readily. Other technologies began to develop, such as the Internet and its components, including the World Wide Web, chat, and email. In the movie *You've Got Mail*, released in 1998, Meg Ryan's character, Kathleen, and Tom Hanks's character, Joe, form an online relationship. When they meet in real life, they see one another as business adversaries and decide that they cannot stand each other, each not realizing who the other is online. Meanwhile, their online relationship is getting stronger. Through a twist of events, Joe finds out about Kathleen's being his online friend, but he does not reveal this knowledge to her. Toward the end of the movie, Kathleen is in love both with Joe and her online friend when she finds out that they are the same person. The following scene is the opening scene of the movie.

Kathleen Kelly (played by Meg Ryan) is still asleep in her bed when her boyfriend, Frank Navasky (played by Greg Kinnear), walks into the bedroom area. She wakes up to him walking toward her with a newspaper in his hand saying, "Amazing . . . this is amazing. Listen to this . . . the entire workforce of the state of Virginia had to have solitaire taken off their computers because they hadn't done any work in six weeks." As he is talking, he is walking toward her in the bed while looking at the newspaper in his hand. He sits down next to where she is lying. She is just waking up and looks uninterested in what he is saying.

Kathleen sits up and shakes her head and says, "That's so sad." Frank looks right at her and says, "D-do you know what this is?" He

seems very serious and enthusiastic about this discussion. She says, "No." Frank continues, "What we're seeing here . . ." She says, "What?" Frank says, "It's the end of western civilization as we know it," and he kisses her on the cheek. She nods but it is obvious she doesn't really care or agree with him. He looks again at the newspaper. She starts to climb out of bed and says, "Hey aren't you late?" as she walks into the adjoining bathroom and begins to brush her teeth.

Frank gets up after her and says, "Technology. Name me one thing, one, that we gained from technology."

Over her toothpaste, Kathleen shouts, "Electricity."

Frank walks toward the desk in the middle of the bedroom/living room area and picks up his blazer and puts it on. He says, "That's one. You think this machine's your friend, but it's not." A laptop is briefly visible on a nearby desk. Frank picks up his bag from this desk, looks down at the computer, then says, "I'm outta here," and walks away.

Kathleen shouts, "See you tonight."

He yells, "Sushi!"

She yells back in agreement, "Sushi!!" Then she says, "Bye," after she spits toothpaste out into the sink.

After Kathleen finishes brushing her teeth, she tiptoes out of the bathroom and around the bookcase and then looks out the peephole in the apartment's front door. She sees Frank quickly walking down the stairs. She then jogs over to the window on tiptoes, moves the curtain and peeks out. Kathleen sees that Frank is walking down the stairs outside. She jogs toward her desk, zooms around to the chair, taps the computer screen to take it off its screen saver, and switches on the desk lamp.

The computer displays her screen name, which is "Shopgirl." She sits back and looks at the screen and then clicks a button to sign online. The dial-up connection noises start, she takes a deep breath, and she moves around impatiently in her chair waiting for the computer to connect.

The connecting noises stop, and AOL's computer voice says, "Welcome. You've got mail." She says "You've got mail," out loud along with the computer. She smiles. "NY152" has sent her an e-mail with the subject "Brinkley." She begins to read it, her eyes moving about as she looks at the screen. She loosens up by shrugging her shoulders and wiggling her body a little bit before she actually starts reading.

This scene itself, but also the entire movie, provides an interesting insight into society's attitude toward email only a few years ago. Email was invented in 1972, but twenty-five years later it still had not diffused entirely throughout society. Throughout the movie, Kathleen and her corner bookstore represent tradition, and the "olden but golden" way of doing things. Joe, on the other hand, owns a super-bookstore and represents the new, advanced way of doing things without the personal touch that Kathleen represents. The old and the new constantly battle throughout the movie, both in Joe's and Kathleen's personae, but also in other characters. One example is

Kathleen's bookkeeper, Birdie Conrad (played by Jean Stapleton). Birdie is an old woman who has worked in Kathleen's and Kathleen's mother's bookstore for decades. On the other hand, she is a Microsoft stock owner and millionaire. In the scene above, the conflict between the old and the new is represented in Kathleen's boyfriend, Frank. He inquires of her what good technology has ever done them. His surprise at her answer ("Electricity") indicates both that he hadn't really expected an answer, and most certainly not something so obvious.

In terms of computer technology the scene reflects multiple things. First, Kathleen Kelly is an average businesswoman with an average income. Nonetheless, she owns a laptop computer, which indicates clearly that between 1968 and 1998, computer technology has developed greatly and is now diffused throughout society. While in *The Thomas Crown Affair* only the especially savvy knew how to operate a computer, this knowledge has now become commonplace.

Second, Kathleen has an email account and is using this technology to form a relationship with a person she has never met face-to-face. Though many people in the US had email accounts by 1998, and many were using email to form or maintain relationships, the general opinion still was that forming online relationships was not entirely acceptable. The movie reflects this attitude through Kathleen's tiptoeing through her apartment even after her boyfriend has left before hurrying to the computer and waiting impatiently for it to boot up. To many people in 1998, the fact that Kathleen was maintaining an online friendship would have meant she was cheating on her boyfriend. Kathleen is trying to hide her eagerness to go online, but her guilty conscience is reflected in her movement. From another perspective, her eagerness to go online could also be seen as a first indicator of Internet addiction disorder. In any case, the overall message this scene sends is that computers have diffused throughout society, as has email, though forming and maintaining even casual relationships online is not fully acceptable yet.

In the end, *You've Got Mail* legitimized forming and maintaining relationships for many people in the US. If America's sweethearts Tom Hanks and Meg Ryan could fall in love via email, email could not inherently be evil, or so a general attitude seemed to develop within short months after the release of the movie. In the four years since the release, forming and maintaining relationships online has become perfectly acceptable and online dating companies such as match.com are flourishing. While other factors were certainly at play, *You've Got Mail* can be seen as a turning point as it reflected society's tentatively positive attitude towards computer and email, but extended this perception into online relationships. The movie, then, turned from a reflection into an influencing factor. Other movies can be hypothesized to have had the same impact, and future research should certainly look closely at the influence the realistic portrayal of technology in movies has had on society.

Concluding Remarks

THE movies and scenes discussed above are simply examples of a far-reaching issue. Other movies could have been selected, or other technologies could have been emphasized. However, the larger issue at hand is that Hollywood incorporates technology into its movies many times, and does so realistically. The characters' use of technology becomes, then, a reflection of the technology's status, adoption, and diffusion in and through society at a given time. In a way, the movies can be considered historical snapshots. Looking back from the present, the viewer notices differences between his or her current understanding of and attitude toward technology. These differences represent cultural change. Movies can be cultural artifacts, even if they are created after the fact, as with *Topsy Turvy*. While today's children may take cell phones and

email for granted, movies such as *Topsy Turvy* or *The Thomas Crown Affair* visualize for them times in which familiar technologies were new.

This paper has focused on movies that reflect technology in society. Future analyses should investigate whether these or other movies actually influenced society, as is suggested in the discussion of *You've Got Mail*. Other research should investigate the effects of unrealistic use of technologies in movies. For example, does the technological deterministic view of many science fiction movies lead to technology anxiety in the broad masses? Do James Bond movies motivate people to buy “cool gadgets” and experience new technologies more freely? These and similar questions remain to be investigated.

Movies teach us about who we are and what we value. The scenes described and analyzed in this paper show us that our society values technology, and over the decades we adopt them into our everyday lives increasingly. Today's movies will educate future generations about what it was like to live today, and how we felt about new technologies before they were old.

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Appendix

Things Computers Can Do In Movies

Author unknown. Accessed online on December 29, 2002 at http://www.huumor.com/joke_1334 and <http://example.cwru.edu:8000/fung/collections/computer/moviecomps.html>.

- Word processors never display a cursor.
- You never have to use the space-bar when typing long sentences.
- Movie characters never make typing mistakes.
- All monitors display inch-high letters.
- High-tech computers, such as those used by NASA, the CIA or some such governmental institution, will have easy to understand graphical interfaces.
- Those that don't have graphical interfaces will have incredibly powerful text-based command shells that can correctly understand and execute commands typed in plain English.
- Note: Command line interfaces will give you access to any information you want by simply typing, "ACCESS THE SECRET FILES" on any near-by keyboard.
- You can also infect a computer with a destructive virus by simply typing "UPLOAD VIRUS". (See "Fortress".)
- All computers are connected. You can access the information on the villain's desktop computer even if it's turned off.
- Powerful computers beep whenever you press a key or the screen changes. Some computers also slow down the output on the screen so that it doesn't go faster than you can read. (Really advanced computers will also emulate the sound of a dot-matrix printer.)
- All computer panels operate on thousands of volts and have explosive devices underneath their surface. Malfunctions are indicated by a bright flash of light, a puff of smoke, a shower of sparks and an explosion that causes you to jump backwards.
- People typing on a computer can safely turn it off without saving the data.
- A hacker is always able to break into the most sensitive computer in the world by guessing the secret password in two tries.
- You may bypass "PERMISSION DENIED" message by using the "OVERRIDE" function. (See "Demolition Man".)
- Computers only take 2 seconds to boot up instead of the average 2 minutes for desktop PCs and 30 minutes or more for larger systems that can run 24 hours, 365 days a year without a reset.
- Complex calculations and loading of huge amounts of data will be accomplished in under three seconds. Movie modems usually appear to transmit data at the speed of two gigabytes per second.
- When the power plant/missile site/main computer overheats, all control panels will explode shortly before the entire building will. If you display a file on the screen and someone deletes the file, it also disappears from the screen (See "Clear and Present Danger").
- If a disk contains encrypted files, you are automatically asked for a password when you insert it.
- Computers can interface with any other computer regardless of the manufacturer or galaxy where it originated. (See "Independence Day".)

- Computer disks will work on any computer that has a floppy drive and all software is usable on any platforms.
- The more high-tech the equipment, the more buttons it will have. (See “Aliens”.)
- Note: You must be highly trained to operate high-tech computers because the buttons have no labels except for the “SELF-DESTRUCT” button.
- Most computers, no matter how small, have reality-defying three-dimensional active animation, photo-realistic graphics capabilities.
- Laptops always have amazing real-time video phone capabilities and performance similar to a CRAY Supercomputer.
- Whenever a character looks at a monitor, the image is so bright that it projects itself onto their face. (See “Alien” or “2001”.)
- Searches on the internet [sic] will always return what you are looking for no matter how vague your keywords are. (See “Mission Impossible”[;] Tom Cruise searches with keywords like “file” and “computer” and 3 results are returned.)