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**The Impact of Television
and the Internet:**

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construction?*

article

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The Impact of Television and the Internet:

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In this article the intention is to examine the major forces that have brought two major institutions—*television* and the *internet*—into contemporary life and the roles they have or have not played in changing the way we interact with our world and function in everyday life. In other words, the issue of the problematic tenets of *technological determinism* are explored in relation to these important institutions which at the very least have changed our social environment in very important ways. I will demonstrate that these forms of mass communication have indeed had important impacts on everyday existence, but that we are not helpless victims of their influence. In other words, *technological determinism* is to a large degree debunked and alternative ways of looking at the influence of these important institutions on our lives are presented

I begin with a discussion of the influence of technology on contemporary thought, taking advantage of contemporary discourses in philosophy and to a lesser degree cultural semiotics. Both the internet and television are alternative end points for a contemporary positivist quest continuing ever onwards in a continuously more technologically developed forward direction, a relatively new epistemology which became a culturally accepted given in contemporary western society. After this, we define and discuss the issue of *technological determinism*, its epistemological sources and how it has been adopted in contemporary discourse on mass communication theory. As an answer to this description, I attempt to question the assumptions which are taken for granted within the discourses which include *technological determinism* as a given.

I begin, however, with Wajcman's theoretical document on this subject (see Wajcman, 1994). Afterwards I direct my attention towards individual forms of technology and historical information relating to their development. After discussing points of similarity and contrast separating the epistemological and practical impact of these two major forms of technology, I spend a short time discussing the history of each of these movements, which are in turn followed by more detailed discussions of their impact on society. I look at positive and negative aspects which have resulted in active change to our environment, and also forms of freedom offered to otherwise marginalised individuals who are empowered by contemporary forms of technology, particularly the internet. The intention is to grasp the degree to which these means of telecommunication have entered into our lives as active agents in themselves or as part of a general form of preordained social coding and signification which permits certain discourses and excludes others. I hope to demonstrate the enormous impact of technology on contemporary society, but at the same time to show the divergent ways newer means of communication are being made use of by certain social groups. The internet provides a dynamic interactive environment which allows and indeed requires a constant discourse of innovation being formed by interaction with the needs of its users. In this case, technological change depends on a continuous revitalisation of existing material, something the internet is able to encompass.

To begin, then, I would like to discuss some of the major impacts of technology on contemporary thought and how this relates to both the forms of mass communication we are discussing in this article and the epistemological origin of *technological determinism*. The influence of technology on contemporary thought, naturally, has been immense. Especially in the twentieth century changes have occurred so quickly that theory just manages to keep up with practice. With this in mind, the question arises: are we developing theory and instituting policy to adapt to the inevitable overthrow of technology as *technological determinism* would have it, or are we creating policy which current developments can neatly fit into as required? As I hope to demonstrate in this paper, making conclusions in this regard is not an easy task. Technology has been an issue deeply embedded in the contemporary *episteme*. Many of us make the natural assumption that the goal of producing continually new and improved technology is the ultimate goal of society. It is easy for the boundary between the complex set of rules inherent in the occidental scientific tradition and the technology we now live with to be blurred; the two are considered to be *ipso facto* part of the same gesture by those who aren't responsible for questioning such assertions (such as philosophers). This is why the natural assumption is that technological change is "inherently beneficial because it enhances human welfare and autonomy" and that we should "work together to conquer nature through technological progress" (Mitchem 1988, 1). This is a major issue in the ethics of technology. In other cultures, however, technological progress has led to less positive developments: many traditional cultural systems which provided means of income for whole communities have been brought into danger resulting in massive redundancy and cultural disintegration; this is one of the grave lessons of colonialism where, for example, land ownership prevents a given culture from a nomadic lifestyle just as the adoption of farming technology and the implantation of crops actively changes the landscape and the original inhabitants' relation to it. In any case, we are becoming more and more convinced that technology is the major mediating force behind our existence and that this sort of progress is the right way to go about things. Burrows and Featherstone who comment on this issue in contemporary popular culture have the following to say about this impact:

"Technology is beginning to mediate our social relationships, or self-identities and our wider sense of social life to an extent we are only just beginning to grasp. The portable telephone, the portable fax, the notepad computer and various other forms of electronic/human augmentation have become 'essential' for social life in the 'densely networked centres of the global cities' and, increasingly, beyond."
(Featherstone & Burrows, 13).

It is therefore logical that we think the way we do, and that many of us accept *technological determinism* as a certain and inevitable form of change. Capra, in his work questioning many of the paths taken by contemporary science, comments on this myth implicit in our beliefs: "individuals and institution are mesmerised by the wonders of modern technology ... we have come to believe that every problem has a technological solution" (Capra, 229). Capra comments further on the fact that *technological determinism* is part of a general contemporary belief in the ultimate success of our culture. The following excerpt demonstrates Capra's beliefs:

“Technological growth is not only regarded as the ultimate problem solver but is also seen as determining our life styles, our social organizations, and our value systems. Such ‘technological determinism’ seems to be a consequence of the high status of science in our public life – as compared to philosophy, art, or religion – and of the fact that scientists have generally failed to deal with human values in significant ways. This has led most people to believe that technology determines the nature of our value systems and our social relations, rather than recognising that it is the other way round; that our values and social relations determine the nature of our technology.”
(Capra, 230)

I will be discussing further on some of the problematic areas surrounding this issue. First, however, we should define the term itself. What is technology and what is determinism? Technology as a noun is probably the easiest to define in relation to our own personal views we assume in daily life. Kroes (1988) defines it as follows:

“The usual conception of technology is that it is the transformation or manipulation of nature (the existing physical (material) and biological environments) to satisfy human needs and goals. Technology is thus conceived to be a specific form of purposeful (teleological) action, that may result in a ‘technological artefact’: a human-made object or state of affairs that fulfils a utilitarian or practical function. The transformation of nature may or may not itself be mediated by artefacts, which are then called tools.”
(Kroes, 2)

Determinism, however, is a more complex issue. It is basically a philosophical standpoint based on the ‘predetermined’ nature of our lives; it suggests the way we go about things in daily life has a certain preordained order. It stands opposed to another issue, that of *indeterminism*. *Indeterminism* suggests in a nihilistic way that there is no logical order to the things we say and do. Below is brief description of some of the ways determinism and indeterminism as philosophical issues have found application in philosophy through the last centuries:

“Over the centuries, the doctrine of determinism has been understood, and assessed, in different ways. Since the seventeenth century, it has been commonly understood as the doctrine that every event has a cause; or as the predictability, in principle, of the entire future. To assess the truth of determinism, so understood, philosophers have often looked to physical science; they have assumed that their current best physical theory is their best guide to the truth of determinism. It seems that most have believed that classical physics, especially Newton’s physics, is deterministic. And in this century, most have believed that quantum theory is indeterministic. Since quantum theory has superseded classical physics, philosophers have typically come to the tentative conclusion that determinism is false.”
(Routledge, 1989: “Determinism and Indeterminism”)

Technological determinism, therefore, involves the assumption that our lives are determined by the technologies created as a result of the continuously forward progression of science in our culture. Literally translated and philosophically speaking, this issue seems somewhat dubious. I spoke informally, however, to a number of fellow academics on whether or not technology was the active agent bringing about cultural change, which was answered

continually with a unanimous ‘yes’. Ironically as it may seem, according to Mitcham & Nissenbaum (1981, 4), the whole issue of *technological determinism* was initially instituted by a social movement which actually questioned the ubiquitous value of technology in contemporary life in the 50s and the 60s. This represents, of course, the ‘fear of the machine’ either as something which steals jobs or actively imitates human intelligence, an issue in contemporary culture producing films like *Demon Seed* about a computer which imprisons a woman and artificially fertilises her with a child in its own image!¹ Arnold (1992) discusses the impact of technology on a society which is based in the increasing knowledge of redundancy, the knowledge that what workers are currently able to do will inevitably become redundant in the future:

“Most of today’s graduates know that they are likely to be thrown on the scrapheap of unemployment or retirement at early ages. Learning ends with formal education and training for those who lack or never find their purpose. Rapidly changing technologies quickly make obsolete whatever they have been trained to do in school or on the job.”

(Arnold, 220)

Mitcham & Nissenbaum (1981, 4) comment on the fact that theories of *technological determinism* “almost immediately galvanized moral protest against technology.” *Technological determinism* has remained an ethical issue in philosophy and a generally accepted truth in popular culture. Wajcman is a particular academic who stands opposed to the general acceptance of this issue. She describes *technological determinism* as follows:

According to this account [relating to technological determinism] technologies themselves are neutral and changes in technology are the most important cause of social change. In this view, technology impinges on society from the outside. Although the scientists and technicians who produce new technologies are members of society, their activities are seen to be independent of their social location. Completely dedicated to the pursuit of knowledge and its practical application, they are represented as above sectional interests and politics,”

(Wajcman, 3)

This form of determinism, therefore, has a particular social function: we shift the blame from the individuals who create the technology (be that for scientific progress or financial gain) to the technology itself, suggesting that there is more to this issue than simply its ethical position in relation to technology, i.e. it can be seen as a political tool for the advantage of certain parties. Putting it in another way, instituting this way of thinking is not necessarily a natural result of the impact of technology on society and the natural reaction against this, but instead a social institution which benefits certain individuals and disadvantages others. As a demonstration of the way the institution of determinism affects individuals, Wajcman notes further that we often feel powerless when forced to confront technology: “when technology does get into the news—as has happened with nuclear weapons, with the microchip, with test-tube babies—we often feel powerless to affect the course of events” (Wajcman, 3). At the same time, however, she observes that we actually do have power over many of the things we have in our homes, at least on a personal level. According to Wajcman, we take this for granted (i.e. a refrigerator is but an item which keeps things cool in the kitchen and is

¹ *Demon Seed*, 1971, (Director: D. Cammell).

therefore not a product of technology). In many ways, shifting the blame to the technology makes it easier for many of us to cope with technology in our lives. Many of us don't want to be confronted by the possible political issues standing behind the use and abuse of mass communication. In the article referred to in this document, Wajcman forces us to confront the political side to this form of determinism by demonstrating that despite the way society perpetuates our attitudes to technology and communication, technology isn't just the result of 'rational technical imperatives'. In suggesting that "rather than technology being neutral, it is the result of a series of specific decisions made by particular groups of people in particular places at particular times for their own purposes," (Wajcman, 3) she demonstrates the possible political element underlying the application of technology. We, as the members of society, are led to believe that "as long as enlightened people are in control of the technology, all will be well" (Wajcman, 4). Further on in this article, however, I hope to demonstrate some of the ways the individual is using technology—particularly the internet—for their own advantage, standing against the general acceptance of *technological determinism*.

The whole notion of *technological determinism* has pervaded contemporary culture and the academic world for a long time. Heralding in the 'machine-age' has had its proponents and opposing parties since the industrial revolution, but the pervading sense of change brought about by contemporary technology has brought about a contemporary illness Toffler entitles 'Future Shock' in his well-known work of the same name. Works like this have helped to promote *technological determinism* in both popular culture and to a lesser extent the academic world. Below I have included a short passage from his work which demonstrates his direct support of this type of *determinism*. We have to remember, of course, that this work was written in 1970, even before the internet age had begun. It almost seems prophetic of the way contemporary discourse would develop, even though many of his opinions reflect contemporary myths rather than contemporary reality:

"It is vital to understand, moreover, that technological innovation does not merely combine and re-combine machines and techniques. Important new machines do more than suggest or compel changes in other machines – they suggest novel solutions to social, philosophical, even personal problems. They alter man's total intellectual environment – the way he thinks and looks at the world."

(Toffler: 36)

and further:

"Behind such prodigious economic facts lies that great, growling engine of change – technology. This is not to say that technology is the only source of change in society ... Yet technology is indisputably a major force behind the accelerative thrust."

(Toffler: 32)

One could also wonder whether his language use and the structure of his discourse is perpetuating a particular 'male' gender relationship between reader and writer reflected in the structure of his writing and his thrusting/accelerative/forward moving vocabulary. Wajcman, as mentioned, takes a stand against *technological determinism*, demonstrating that "the compelling nature of much technological change is best explained by seeing technology not as outside society, as *technological*

determinism would have it, but as inextricably part of society” (Wajcman, 8). She comments directly on the fact that contemporary discourses on technology are directly related to gender issues: men are considered to be aligned towards further development and technology whereas women are considered ‘technologically ignorant and incompetent’ (ibid.). She notes that “femininity is incompatible with technological competence: to feel technical competence is to feel manly” (Wajcman, 11). The power behind technological development is largely a social institution led by men, thanks to perpetuation of a gender-based discourse which is everything but a ‘natural truth’ about the way men and women behave. Here we see that technology is most certainly determined by issues external to the technology itself. As far as it relates to newer forms of mass communication, the issues involved specifically with this paper, Wajcman also posits gender-based issues, commenting on the fact that ‘hacker’ culture is particularly related to masculine strength and endurance. Being a hacker on the internet is about “exerting power and domination within the ambiguous world of machines” (Wajcman, 12). I hope to question this assumption, however, noting the amount of women now using the internet for their own goals in Belgium.

One of the other factors implicit in our *episteme* is the fact that technology is something which spontaneously appears thanks to acts of genius and therefore that such inventions can and do and have brought about a similar whirlwind of change. Wajcman negates this issue by commenting on the fact that “new technology typically emerges not from flashes of disembodied inspiration but from existing technology, by a process of gradual change to, and new combinations of, that existing technology” (Wajcman, 4). Although many of us may admire ‘end-products’ like airplanes and computer chips as some kind of *magic* invented by one powerful individual, the actual facts supporting these forms of technology express a far different truth. *Folk-knowledge*, however, creates powerful social metaphors which change the way we think and relate to our surrounding world, and hence it is impossible to ignore its impact.

Realising, however, that such spontaneity is all but a pipe-dream, Wajcman notes that the invention of technological artifacts relates most clearly to financial goals. Wajcman uses the example of Edison’s light-bulb: the primary source of impetus behind this important invention (a technology we also accept without question) was such an enormous success because it created light via electricity *economically*, not just that it created light. Technological reasoning and economic reasoning are often inseparable, and Wajcman’s class and gender issues have to be considered as well. Wajcman explains why new forms of efficient machinery are introduced into factories: the actual application of that ‘generally accepted forward moving technology for the good of all’ often depends on whether women and/or children (who can perform work far cheaper than employing men or more specifically developing new technology to do it) can be brought in to do the work by hand (*see* Wajcman, 8). This suggests that the introduction of new technology depends not on the invention itself, but on the environment into which it would or could be introduced, being directly related to aspects of social class, gender and finance.

One of the major forms of mass communication of influence to societal development in the twentieth century is the television. Basically it is a means of communication involving the transmission of images and sounds to distant screens by electronic means over electrical or (increasingly more often) fibre-optic transmission lines or by electromagnetic radiation. It was initially intended to be a new form of telecommunication which would include a visual aspect. The Scottish engineer John Logie Baird is credited with its invention. Its greatest boom was in the 50s when many artists turned to this

new medium, disillusioned with cinema and radio. In its early days the television was praised for its merits as a tool of both artistic expression and the dissemination of information. Since the world of politics and marketing had been using it a means for manipulative ends, television has become for many an enemy of the imagination and (ironically) communication as it has the habit of keeping people in their homes as silent and passive audience members in a one-way communicative process. If it had been initially created to provide a reflection of the outside world, the threat to domestic existence really began when it became *more* true than reality, blurring the boundaries between fact and fiction.² The implication was that its audience could easily be manipulated by the medium, and therefore the history of television advertising became an important industry in itself. A further issue related to this is the very fact that in fields such as politics, looking good on television is becoming more than actually being good politically; whether or not their message can fit into a prime-time bulletin or a YouTube film is becoming more important than their content. It used to be said that the average Northern American adult spends more than 30 hours a week in front of the 'idiot box'. These days the time using the internet has to be considered too because there are those who have not transferred their attention from the television to the internet, but instead have added it. Although internet doesn't have quite the negative loading television used to have, a generation of parents is now worried about the amount of time that is spent interfacing with reality via a computer screen rather than in real-life encounters.

We are perhaps all too ready to accept that the television influences the way we structure our discourse towards one another and the way we relate to world affairs based on what we are allowed to see. Thanks to the television, globalisation/americanisation has become a recognised threat to cultural diversity. Words such as 'zombies' and 'couch potatoes' used to reflect the general physical breakdown of culture thanks to slavery to this form of technology have entered the general vocabulary of most English-speakers. *Technological determinism* in the strong sense is, however, impossible to apply to the technology itself. Television is obviously more than a sum of its parts (i.e. the item); it is an incredibly complex matrix of discourses which are constantly adapted by individuals for very specific cultural purposes. Culture has not become the victim of television. Rather we have very specifically created a means of communication which can perpetuate attitudes, behaviours, fashions, educational issues and political standpoints. It may be powerful, but it is only a tool of the very complex national or regional culture which creates it. The very intensity of discussion about TV and the amount of space given over to it in other communicative media such as newspapers indicates its central role in everyday social existence.

In a sense, the complex form of mass communication we refer to as the internet has taken many of the qualities of television and expanded upon them. The internet, for example, is also a major form of diversion to many people who access the system purely to pass time. Another obvious similarity connecting the societal influence of the television industry and the internet is the fact that through its use one can gain access to general public information such as the news and weather. The most important common point uniting many forms of mass communication (including television and the internet), however, involves what is referred to as the *information revolution*. Cable television, satellite technology and optical fibres are making more and more choices available, and this can become overwhelming to both the television viewer as well as the surfer on the web. Of course, this is a product of contemporary culture as described below:

² On the same token the origin of television drama brought with it a new form of social criticism based on the portrayal of working-class life in *sitcoms* and *soaps* which was not present in cinema and theatre of the time.

"Managers plagued by demands for rapid, incessant and complex decisions; pupils deluged with facts and hit with repeated tests; housewives confronted with squalling children, jangling telephones, broken washing machines, the wail of rock and roll from the teenager's living-room and the whine of the television set in the parlour – may well find their ability to think and act clearly impaired by the waves of information crashing into their senses."

(Toffler, 321)

Television and the internet have influenced cultural development in the latter part of the 20th century although the ways they have influenced it are highly contrasting, at least in terms of TV and internet technology currently available in Belgium. I hope to demonstrate that the internet is far more than just a mindless form of passive information transfer (something the television is often blamed). In contrast—more than television could ever realise in a comparable fashion, being based as it was based on an 'ideal' audience—the internet focuses directly on the needs of its public through interactive processes initiated by individuals to attain necessary information.

Further on we will discuss in more detail these important issues which demonstrate the uniquely interactive forms of communication available through the internet (and not as yet through television, in Belgium at least) and some of the epistemological issues connected to this new form of communication which encourages many to consider the internet to be a form of *technological determinism*. Below I have included a brief historical description of the internet and its major applications:

"The Internet technology was created by Vinton Cerf in early 1983 as part of a project headed by Robert Kahn and conducted by the Advanced Research Projects Agency, part of the United States Department of Defence... The Internet and its technology continue to have a profound effect in promoting the sharing of information, making possible rapid transactions among businesses and supporting global collaboration among individuals and organizations."

(*Encarta 2000*, "Internet", IV)

Traditional culture is naturally conservative, although as we have discussed technological advancement in western culture has become an important part of our *episteme*, leading to a dialectic dynamic contrasting technological progress with fear and conservatism held by members of a culture. In terms of the *technological deterministic* aspect of the internet, fears seem to be connected to other aspects. The emancipatory nature of the internet makes its 'redundancy' feature irrelevant; thanks to internet, more employment possibilities have been created rather than reduced. Home businesses are popping up all over the world and a whole new market is influencing world economics, at least in non-developing countries. This does not reduce the fact that the internet has created some contemporary fears which exacerbate the general belief in *technological determinism*. There is a fear, for example, that the internet allows criminal occurrences of an anonymous nature, violation of the home via the personal computer. Some of the fears held by individuals in relation to the dangerously anonymous oblivion of the lone hacker who can enter any home through their computer system and start causing havoc there. Epistemological aspects connected to the 'virtual nature' of internet communication have also created a fear which is being expressed in many forms of popular entertainment; a world is being created which is dominated by the control of computer technology not under the influence of human forces. The idea of existence in the parameters of a virtual world are scientifically impossible, at least

at the moment, but that doesn't stop contemporary writers of popular fiction and/or film from honing in on these fears. A whole new form of literature referred to as 'cyberpunk' involved with virtual reality and the human fight against it has developed in the last ten years. Another contemporary fear involves the increasing difficulty in separating machine intelligence from biological intelligence, just as it is becoming more difficult to separate man from machine. One of the primary influencing factors has been the internet, although the field of cybernetics and genetic manipulation, in addition to the increasing amount of 'prosthetic' bodily additions made possible by modern science, have also been influential in this regard. We also must not forget the impact of the human genome project which has been reducing the whole notion of humanity to strings of genetical information, on/off distinctions which seem frighteningly similar to digital information. Capra commented upon this fear in the following passage:

"With this understanding we can now approach the question of the nature of living organisms, and here it will be useful to examine the essential differences between a organism and a machine. Let us begin by specifying what kind of machine we are talking about. There are modern cybernetic machines that exhibit several properties characteristic of organisms, so that the distinction between machine and organism becomes quite subtle. [...] The first obvious difference between machines and organisms is the fact that machines are constructed, whereas organisms grow. This fundamental difference means that the understanding of organisms must be process-oriented."
(Capra, 288)

Toffler, in his supposedly prophetic document referred to earlier in this paper, feeds also on this fear of distinguishing man from computer.

"One might even conceive of biological components in machines – in computers, for example. 'It is quite obvious,' Tisellus continued, 'that computers so far are just bad imitations of our brains. Once we learn more about how the brain acts, I would be surprised if we could not construct a sort of biological computer ... such a computer might have electronic components modelled after biological components in the real brain. And at some distant point in the future it is conceivable that biological elements themselves might be parts of the machine.'
(Toffler, 182)

These fears, however, have not been strong enough to bring about a backlash movement against the internet. I hope in the following pages to discuss some more of the emancipatory advantages provided by the internet. For one, the *World Wide Web* (a major part of what we understand as the internet) involves an enormous amount of 'virtual' documents produced by users from the around the world and stored for access by anyone at anytime. Individuals like you or me can make use of a relatively simple form of language to create documents for the web. These documents make use of preparatory language for structuring text and multi-media. This 'language' is known as HTML, and is understood by all web 'browsers' (computer programmes which are able to act as intermediary between the user and the enormous amount of information available via the web). HTML is short for Hyper Text Markup Language. It has opened the doors to thousands of everyday users with a small flair for text processing to create their own 'web pages' thus creating a sense of mass publication which would never have been thought possible in the past. Another major issue has been the regaining of the sense of self in relation to the cold logic of the machine. The term 'web-surfing' seems to connote some sort of joy-ride or escapism. In actual fact, however, surfing is a creative process involving the individual

using ‘search engines’ which have access to the World Wide Web and its millions of ‘websites’. Being creative is, therefore, a vital new *episteme* standing against the passivity of television – although ironically societal change brought about by the internet have resulted in a more active relationship held towards the television. Examples of this include the growing popularity of reality television. The internet has something that ‘mind-numbing’ one-sided non-interactive communicative forms such as television does not have. This brings with it a series of other social issues. To start, for many the internet has become a form of emancipation. No one needs to know where you come from, your sex or the colour of your skin. In a cyberworld there need be no distinctions resulting in racist or sexual discrimination. Here we have again that unique option to remain anonymous in the face of others also involved in Web discussion groups and note-boards. Further more, its emancipation stretches beyond both financial and political goals. The ability of the web designer doesn’t play a strong role in determining who may visit web-sites and purchase products being offered via the net; the web surfer has to actively seek them out.³

Another major issue involves a destabilisation of social class. Individuals have been empowered to see themselves as who they are, not how they are programmed to be in a social environment (i.e. one creates one’s own self on the net). This emancipative level of the internet can be taken further when every social group, club, sexual fetish or any other type of symbolic or behavioural group can be represented via the web allowing people with the same beliefs to come together and share their thoughts. The result has been remarkable, allowing a new form of independence and globalisation never possible before the dawn of the internet age. Of course, there are worrying factors like groups coming together to create social havoc—thanks to neo-nazi or paedophile prostitution websites. We also cannot ignore the fear many cultures have of the ‘globalisation’ affect of the internet, watering down strong senses of cultural self as more and more people search beyond their national borders for people who think, feel and act in the same way, for the same purpose or for the realisation of whatever sociopolitical goal in question. On this level the internet age is said to be a major force behind *technological determinism*.

As observed, the internet has had an enormous impact on contemporary society, and it is easy to understand why individuals sometimes feel powerless in its wake. It has clearly fed a new set of discourses which help to fuel ‘conspiracy’ theory narratives. I hope, however, that I have been able to demonstrate that these influences have been able to become so potent because their use is encouraged and perpetuated by social institutions. Their perpetuation is the consequence of dynamic links between the needs of individuals, their fears and the way they are repressed, and particular political goals of given societies, and finally to the impact of the technology on the way a generation of people react and interrelate with others and the ‘other’, that otherness of technology implicit in this epistemology. Technology is used to manipulate, although the reason it was created was not intended for this function. Every time technology is reassessed its whole history and bias has to be rethought in the new context and it is impossible to blame its creators and most certainly the item itself. *Technological determinism* itself, certainly in relation to the institutions surrounding the contemporary forms of technology discussed in this document (television and the internet) is a societal creation to support and manipulate society into shifting the blame of rapid societal change from the social institutions which created the technology to the technology itself.

³ The increasingly large role played by advertising on the internet can no longer be ignored.

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