

EUROG099 M.A Dissertation

*The Mythical Dynamics of Technological Progress*

Student Candidate Number: JBPM2

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## INTRODUCTION

The generation that makes no claim to be different to all previous ones will perhaps be the first truly different generation. To take up this position, perfectly balanced between optimistic and pessimistic views, is to render telos superfluous.<sup>1</sup> Such a generation would denounce both positive and negative movements in relation to its own destiny. It would be nihilistic from every perspective but its own. But rather than to force past and future history into subservience of its purpose and direction, this generation would allow history to exist independent of any position or momentum. The most important characteristic of such a generation, however, is its absurdity: the likelihood of its manifestation is nil; no one is born into a history-less world. Having to assume, then, one or the other of the alternative positions, in relation to a destination, proximity becomes a variable. *How near are we?* And although a notion of time is implicit in such an evaluation, it is better to think of such a variable as a ‘force’. A presentist generation will deem itself at, or near, the end of history; it declares itself the final, or the most important, generation. The strength of presentism in a generation varies with the sense of recent human achievements and failures and is, more importantly, appropriated by both optimistic and pessimistic points of view. A positive hand, armed with Darwinian firepower, can assert that through evolutionary forces man has never been more impressive than now. A negative hand, drawing from the entropic principle, can push for the consequence of ever-growing disorder to be that man has never been more loathsome. Although science cannot be blamed for these polarised extreme positions, such contemporary views must figure in the balance sheets when their respective accounts are published. Beyond speculating on the nearness of telos, the only teleological discourse available is on the rate of change in relation to it, which is also the next variable revealing the position taken up by a generation. *How long to go?* This is a function that produces perspectives according to those of time, and the general dispute that arises is between narratives of continuity and change. Are we experiencing a steady approach towards our destination or are we nearing it by discontinuous and irregular leaps?

Regardless of which version of history a generation affiliates itself with, the common denominator is an idea that has come to characterize the Western outlook for several centuries. It is a concept that accommodates both our place and momentum in history. It is a notion inextricably tied to the conviction carried by the individual. This is the idea of progress, and whether views have optimistic or pessimistic hues, it is

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<sup>1</sup> ‘Telos’ in *Oxford English Dictionary* <<http://dictionary.oed.com>> [accessed 1 September 2008]: ‘End, purpose, ultimate object or aim’.

equally their prerequisite. The current generation is not an exception. It professes a millenarian-like faith in today, suggesting that through unprecedented recent technological advances we have seen the genesis of a new era: the Information Age. Such radical-change theories pose the pre-dominant challenge to beliefs in conservative continuity. The merit of this challenger has proven to be significant, particularly in terms of its impact on the imagination of the individual whose confidence it naturally boosts through his/her historical elevation. Academic volumes have grown ever since this type of claim emerged a generation or two ago, indicating that the challenge is at the very least fully recognised.<sup>2</sup> This, in turn, has promoted 'technology' beyond all other domains of sociological investigation; the economy runs on it, politics are informed by it, and culture consumes it. At least so goes the argument, and with this promotion comes the association of technology with progress. But what exactly is technological progress and what is the story it tells us? Scrutinizing the various continuity/change theories will not illuminate a generation; it will only edify it further by the selection of narratives suitable to its existing beliefs. Understanding must therefore be sought outside of this discourse to have any hope of escaping its deterministic pivot. For technological determinism is the device that the continuity/change discourse revolves around; opponents arguing over the autonomy and agency awarded to technology as regards social change. Therefore, it is to avoid having to arbitrate between the two sides that the approach to elicit the meaning of technological progress should allow for determinism but for now at least, not come to any conclusions. Instead, what follows is a reverse engineering of 'technological progress' by disassociating the terms first, then, exploring the semantics of each in isolation, and next, re-associating the two terms in the hope that further characteristics will surface for an interpretation at the end.

At hand, then, is a suspicion that the discourse surrounding technological progress is not just divisive but possibly unreliable in eliciting social truths. It exhibits a behaviour that corresponds to Roland Barthes' myth in that it seems to perform two functions simultaneously: 'it makes us understand something and it imposes it on us'.<sup>3</sup> It suggests that an active process is at work, where the association of the thing (technology) with the concept (progress) provides social dynamics. Barthes' advice to the mythologist is to focus on what the discourse of technological progress conveys, as

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<sup>2</sup> A simple academic database search on "Information Society" or "Information Age" will return little or no work published before 1970.

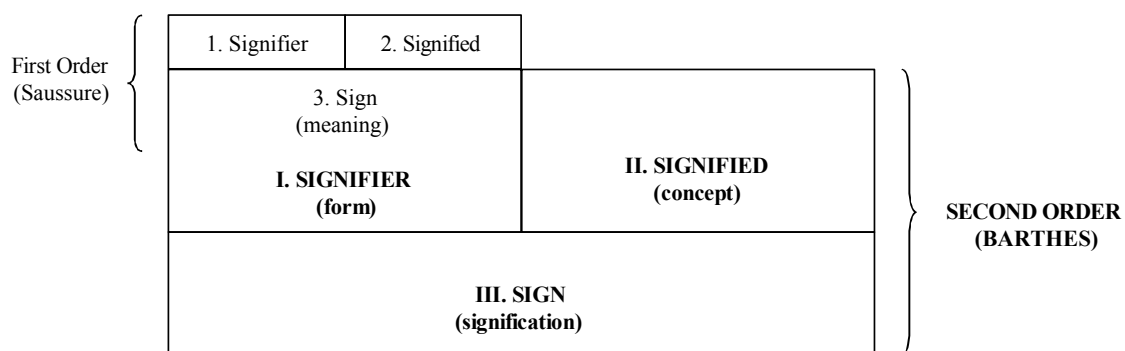
<sup>3</sup> Roland Barthes, *Mythologies*, (Vintage, 2000), p. 117.

‘it is the insistence of a kind of behaviour which reveals its intention’.<sup>4</sup> It is therefore to linguistics we turn first to outline the ‘special’ methodology of Barthes’ myth in the framework of the ‘general’ theory of Saussurean semiotics.

### METHOD; Degrees of Language

[S]ince myth is a type of speech, everything can be a myth provided it is conveyed by a discourse. Myth is not defined by the object of its message, but by the way in which it utters this message.<sup>5</sup>

To schematically codify Barthes’ *Mythologies* into a useful methodology is to extract the essence of its final essay ‘Myth Today’. In it he describes a second-order semiological system as *metalanguage*, as speech about an existing language. Drawing on the Saussurean linguistic system, which stipulates the sign as the associative total of a signifier and a signified, Barthes builds a further structure by making this final product of the first system the first part of the second. For all the limitations of a diagrammatic representation, it is worth reproducing something akin to Barthes’ own:



Second-order semiological system

The central weakness of this graphic is its explicit sequentiality: first signifier, second signified and third sign. No such order should be assumed; the sign is simply the association of a signifier and a signified, in no particular order.

*Saussure’s language system is history-void.* It relies on the signifier being arbitrary, or equivalently, the signified having no influence on it. As it is a theoretical construct a demonstration of the Saussurean system can only fall short:

$$\text{signifier} + \text{signified} = \text{sign}$$

<sup>4</sup> *Ibid.*, p. 120.

<sup>5</sup> *Ibid.*, p. 109. Although the structuralist Claude Lévi-Strauss is not cited in Barthes book, this particular quote is interchangeable with one of his: ‘myth is language: to be known, myth has to be told; it is a part of human speech.’ This appeared two years prior to the publication of *Mythologies* in ‘The Structural Study of Myth’, *The Journal of American Folklore*, 68 (1955), 428-444 (p. 430).

acoustic image + mental image = visible image (e.g. written word)

say/hear tree + think tree = word 'tree'

The purpose of this example is to show the arbitrary nature of the first-order semiological system; 'nothing compels the acoustic image *tree* "naturally" to mean the concept *tree*: the sign, here is unmotivated'.<sup>6</sup> Thus, this is where meaning begins and, consequently, history too.

*Barthes' metalanguage system is history-filled.* As it has as a signifier the sign from the first system, it can never regain the arbitrary innocence of its youth. Meaning has already been instilled in it, which a simple example shows:

tree of knowledge + morality = original sin

meaning & form + concept = signification

signifier + signified = sign

The premise hinges therefore on a re-use of meaning; semantic content which in the first system has an arbitrary origin is in the second system already 'known'. Injected with history and existing meaning, it is therefore the dynamics of Barthes' system that sets it apart from Saussure's. The processes in the two systems have different dependencies; whilst the first-order is void of time, the second-order system is bound by time. As such, we need to consider the moving parts in a second-order semiological system to understand how it works. It is therefore more important to look at what the metalanguage *does* than to dwell on what it *is*. But as our aim is to reverse-engineer the phrase 'technological progress' using the above framework, it should be useful to place the terms in Barthes' second-order semiological system, before taking a look at them individually. Thus our SIGNIFIER (meaning and form) is 'technology'; our SIGNIFIED (concept) is 'progress'; and our SIGN (signification) is 'technological progress'.

### **THE SIGNIFIER: 'TECHNOLOGY'; Between Meaning and Form**

The meaning is always there to *present* the form; the form is always there to *outdistance* the meaning. And there never is any contradiction, conflict, or split between the meaning and the form: they are never at the same place.<sup>7</sup>

Of the three terms in Barthes' metalanguage system, the signifier is the most elusive. Moreover, being the join that locks the two systems together, it is also the most important. The signifier's elusiveness is due to its duplicity, its doubleness, it being a first-order product and a second-order part. At the level of language, the base, it is *meaning*; at the level of metalanguage it is *form*. The signifier, therefore, embodies a

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<sup>6</sup> *Ibid.*, p. 126.

<sup>7</sup> *Ibid.*, p. 123.

transitive property between meaning and form that allows a mythical discourse to arise, and it is this property that is at the heart of Barthes' system. To demonstrate the behaviour of the signifier as both meaning and form, and the latter trying to outdistance the former, the telephone will serve as an example before turning to technology in general. Specifically, Barthes' signifier should come into view by considering the many shorthand names we have for the telephone: 'mobile' or 'cellular', and 'blackberry' being a very few. At the level of language, it is clear that all these words (written signs) have a *meaning* that precedes the invention of the telephone. Once invented, however, and associated with existing words, it is not hard to recognise that the object in all our hands, the phone, transcends the original 'known' meaning of the words. This is form 'outdistancing' meaning; speech concerning our communication device no longer refers to actual mobility, cells, or blackberries.

With a combining vowel *o*, between the first (noun) and the terminal element (-logos), 'technology' is immediately presumed to belong to the very numerous class of areas of study, along the likes of biology, geology, astrology and so on. It is, however, the etymology of 'technology' that offers us an indication of what our signifier has come to mean over time. Rooted in the Greek word for art and craft, *τεχνη*, its compound *τεχνολογια* is understood to be a 'systematic treatment (of grammar etc.)'.<sup>8</sup> The early meaning of 'technology', being a treatise of types of art and crafts, bears little resemblance to what is understood by the term today. An originating approximation of technology is therefore required, and the historical classification of different types of art provides us with one:

Ever since antiquity [...] the habit of separating the *practical* and the *fine* arts had served to ratify a set of overlapping and invidious distinctions: between things and ideas, the physical and the mental, the mundane and the ideal, female and male, making and thinking, the work of enslaved and of free men. This derogatory legacy was in some measure erased, or at least masked, by the more abstract, cerebral, neutral word "technology."<sup>9</sup> [My emphasis]

Suggesting that *practical arts* was the seed that grew into technology, we need to explain how this transformation came about. This category with a strong focus on things, relating certain artefacts with their knowledges and practices, remained throughout the Enlightenment period. It was not until the nineteenth century that events took place to render practical arts an insufficient category to describe this domain of society. The innovations that were introduced at this time presented the

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<sup>8</sup> 'Technology' in *Oxford English Dictionary* <<http://dictionary.oed.com>> [accessed 1 September 2008].

<sup>9</sup> Leo Marx, 'The Idea of "Technology" and Postmodern Pessimism' in *Does Technology Drive History?: the dilemma of technological determinism*, ed. by Merrit Roe and Leo Marx (MIT Press, 1996), pp. 237-258 (p. 242).

individual with new challenges of perception (and swept aside Francis Bacon's old dictum).<sup>10</sup> With the introduction of steam power and the eventual rapid development of railways, man's spatial and temporal boundaries of the senses were forced open. The vast geographical reach of railways combined with their permanent operation must have given an impression in the individual of near-total liberation from space as well as time. A network of this scale required a new type of organization for its successful management. This type of organization, in turn, became a model for commercial structures in the American economy and led to the rise and domination of corporations:

In the era when electrical and chemical power were being introduced, and when these huge systems were replacing discrete artefacts, simple tools, or devices as the characteristic material form of the ["practical arts"], the latter term also was being replaced by a new conception: "technology."<sup>11</sup>

It is evident from this brief history that the use of 'practical arts' as a descriptive category of the social domain was made redundant. 'Technology' replaced it and, by removing its original subservience to the arts in general, was awarded a capacity to have a far more extended meaning. The term is vague and therefore spacious. Its form was also transformed; sensory perceptions no longer needed merely to capture simple artefacts and their individual masters, but a whole new alliance between science, industry and politics – a techno-system – of which only fragments were available to be perceived.

At a 1963 conference on the challenges to democracy Lewis Mumford invoked the full spectrum of ideology to explicate technology:

[T]wo technologies have recurrently existed side by side: one authoritarian, the other democratic, the first system-centered, immensely powerful, but inherently unstable, the other man-centered, relatively weak, but resourceful and durable.<sup>12</sup>

Although he relates the emergence of authoritarian *technics* to the rise of civilizations, some 6,000 years ago, his warning that 'life cannot be delegated' was meant for modern ears. The immense destructive power of technology, demonstrated with particular ferocity in the world wars, had increased the ambiguity of views towards technology. The hopes held for a better world and the corresponding faith put into

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<sup>10</sup> Francis Bacon, *The Essays*, (Penguin, 1985), p. 132: 'It were good therefore that men in their innovations would follow the example of time itself, which indeed innovateth greatly, but quietly and by degrees scarce to be perceived.'

<sup>11</sup> Marx, p. 245.

<sup>12</sup> Lewis Mumford, 'Authoritarian and Democratic Technics', *Technology and Culture*, 5 (1964), 1-8. Transcript of lecture delivered by Mumford at the Fund for the Republic Tenth Anniversary Convocation on "Challenges to in the Next Decade," held in New York City, January 21, 1963.

technology to deliver it, diminished dramatically when it became evident for all to see that '[a]s science and technology [...] advanced, so [did] proficiency in killing.'<sup>13</sup> But the economic boom of the post-war period in America soon restored the meaning of technology to be prosperity, and its form was recognised in the industry that would bring it about. The emphasis placed on America when tracing the more recent meaning and form of technology is due to her historical context. Aside from having played a significant role in the cultural and economical spheres over the last century, it is the nation's reliance on technology for history that is of importance. The American *technological sublime* is a reference to the exceptional elevation of technology as a cultural determinant. It acts as a compensation for a creation myth, which 'new' Americans lacked; 'The Native-American self-conception was inseparable from the first creation of the world; Europeans had to imagine a second creation.' Arriving in the new Eden (as imagined by many white Americans) only a sublimation of technology can allow for the contradiction that charts 'the national story as continual technological improvement of that initial perfection'.<sup>14</sup>

The most recent turn in the meaning and form of technology has taken place in the lifetime of the living generation and is often called the *information technology paradigm*. Drawing from Manuel Castells' trilogy *Information Age*<sup>15</sup>, this is a reference to the interaction between 'the development of new information technologies and [...] society's attempt to retool itself'.<sup>16</sup> Accordingly, due to financial crises in the early 1970s (from oil price increases and vulnerable inflation), governments and business required the economy to be restructured, away from the Keynesian model of growth, which was proving too unstable. As is evident today, the technology that was seized on was Information Communication Technology (ICT). Through extensive funding during the Cold War and a period of innovative gestation, both information technology (e.g. the microprocessor) and telecommunications (e.g. the digital switche) experienced substantial advances. Castells argues that a new society has emerged from this restructuring, one that is *informational*, and one in which 'information generation, processing, and transmission become the fundamental sources of productivity and

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<sup>13</sup> John Gray, *Straw Dogs. Thoughts on humans and other animals*, (Granta Books, 2003), p. 96.

<sup>14</sup> David E. Nye, 'Technology, Nature, and American Origin Stories', *Environmental History*, 8 (2003), 8-24.

<sup>15</sup> The choice of Castells is not arbitrary. Among the many theories of information society his is the most holistic approach. The Information Age: Economy, Society and Culture Vols I-III consist of *The Rise of the Network Society* (Blackwell, 1996), *The Power of Identity* (Blackwell, 1997), *End of Millennium* (Blackwell, 1998).

<sup>16</sup> Manuel Castells, *The Rise of the Network Society*, (Blackwell Publishing, 2000), pp. 60-61.

power'.<sup>17</sup> Technology, according to Castells, is the particular form of the 'relationship between labor and matter in the process of work', and the central character of this relationship today is not the central position of knowledge and information, but rather the 'application of such knowledge and information to knowledge generation and information processing/communication devices, in a cumulative feedback loop between innovation and the uses of innovation'.<sup>18</sup> Castells also highlights the nearing extension of technology into the domain of biology; nature is no longer a rival to our culture. It is perhaps here that we catch a glimpse of what technology means today, and the forms that it will take in the near future. With the rise of his *network society* comes the end of our standoff with nature:

We are just entering a new stage in which culture refers to culture, having superseded nature to the point that nature is artificially revived ("preserved") as a cultural form: this is in fact the meaning of the environmental movement, to reconstruct nature as an ideal cultural form. [...] This is why information is the key ingredient of our social organization and why flows of messages and images between networks constitute the basic thread of our social structure.<sup>19</sup>

In terms of our signifier, then, with reference to Barthes' metalanguage, technology as meaning (first-order) and form (second-order) should present 'itself in an ambiguous way: it is at the same time meaning and form, full on one side and empty on the other'.<sup>20</sup> It is clear that the meaning of technology has changed since its early approximation to practical arts and our current understanding of the term. As an embodiment of values and history, however, it has always been complete. It arrives in the second-order semiological system as an unquestionable total with a certain known contextual reality; although our understanding of technology changes with time, *Technology as Meaning is full*. However, in order to perform its function as a signifier for something else, to create a metalanguage, technology needs to reduce the completeness of its linguistic meaning. Technology as form cannot simply represent everything it means if a discourse is to arise. If the contrary were true, form and meaning would be one and communication would be impossible. Technology as form can therefore not be a representation of something else, and in accordance with Barthes' signifier, *Technology as Form is not a symbol*. Nevertheless, technology as form still draws on the semantic content of its origin as a linguistic sign, although it does not fully encapsulate it. The term has become abstracted over time and as its

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<sup>17</sup> *Ibid.* , p. 21.

<sup>18</sup> *Ibid.* , p. 31.

<sup>19</sup> *Ibid.* , p. 509.

<sup>20</sup> Barthes, p. 117.

reach has increased. The original distinction between different categories of art bound the practical arts to easily recognisable forms relating to ‘artisanal skills, tools, work’, whilst the more neutral term ‘technology’ gained credence, partly through the ratification by universities of the ‘shift from the craft ethos of the [practical] arts to the meritocratic aspirations of the engineering and management’s professions’. Sensory associations were replaced in this embrace of technology by an ‘aura of impartial cerebration and rational detachment’, creating a signifier which corresponds well with our framework’s demand that *Technology as Form is abstract*.<sup>21</sup> In spite of such abstracting demands, the actual forms of technology remain; it is rather their mercurial relation to meaning that Barthes emphasises:

[T]he ubiquity of the signifier in myth exactly reproduces the physique of the *alibi* (which is, as one realizes, a spatial term): in the *alibi* too, there is a place which is full and one which is empty, linked by a relation of negative identity.<sup>22</sup>

Considering the cumulative character of technology together with Barthes’ use of *alibi* as analogy for the signifier’s idiosyncratic spatial duality, development of new forms will always be lacking in meaning, as experience to produce it has not yet occurred. As technology moves so it requires a new history; and the forms of our signifier will always be free to receive it since, at least when our line of sight is on the technological horizon, *Technology as Form is empty*.

The italicised corollaries above are Barthes’ own, only adapted to our signifier (i.e. technology). Hopefully, some of the elusiveness mentioned has been exchanged for a deeper understanding of the signifier’s importance when creating myths. Summarizing otherwise, it is in the object-world we find the signifier; technology should be thought of as a ‘thing’. We cannot but ‘know’ technology, but no form can be found to represent all we know. The forms of technology, therefore, must be abstracted to cohere with our existing and comprehensive knowledge of it; and finally, the emptiness of technology as form should be understood to be ephemeral, as new forms will immediately be seized by new experience. Leaving the thing, technology, our signifier, behind for now, it is towards the concept, the idea of progress, and our signified, that we turn.

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<sup>21</sup> Marx, p. 248.

<sup>22</sup> Barthes, p. 123.

## THE SIGNIFIED: ‘PROGRESS’; A Concept of Change

[The signified] is determined, it is at once historical and intentional; it is the motivation which causes the myth to be uttered. [...] Truth to tell, what is invested in the concept is less reality than a certain knowledge of reality.<sup>23</sup>

With reference to the diagram above, Barthes’ signified is a concept, and in our metalanguage example it is the idea of progress. This element of the myth is less troublesome than the signifier with its doubleness (i.e. meaning and form). It is, however, worth emphasizing the strict domain of the signified. Being a concept, or an idea, suggests that it is an entity that can only be realised in a mental capacity. A negative definition of the signified would state that it is ‘not a thing’, or that it is ‘not a tangible, or perceivable, object’. In other words, Barthes’ signified can be thought of as an internal impression rendered in the mind of the individual in a certain situation at a certain point in time. As the initial conditions (e.g. existing knowledge, situation, time) will always be different, at least to a small degree, this impression will always be a revision of itself. A simple example of such an ever-changing impression is the concept of adulthood. Borne by every living individual, the idea that is conceived in the child will have little in common with the view from, say, the late teens, let alone the actual experiences of adulthood some years later. Nevertheless, most of us will live to judge the quality of our conceptualization of adulthood; such a privilege, however, is not possible with the idea of progress as it is open-ended.

Progress is the belief that tomorrow is better. Embedded in the concept are *time* (tomorrow), *authority* (belief) and *value* (better). The configuration of this triplet fuels the command of the idea of progress in people, and consequently determines the tangible effects of the concept. When perceptions of *time* are made an inverse relation between man’s cosmic position and his/her potential; displacement in the former increases the latter. As such, the loss of meaning suffered when the Copernican system displaced man from the centre of the universe became simultaneously his/her liberation; earth was no longer in the centre, but man was of earth. Similarly, the Darwinian displacement levelled any difference between man and other animals but gave man infinite time to fulfil his/her potential. The *value* in progress is the name of our destination; it is the actual description of the place. Although a cyclical conception of time is a barrier to believing in progress, it is the lack of end-points on the circle that denies the belief. This is a spatial rather than a temporal problem. Early Christian theology broke the circle in a synthesis that ascribed values to the end-points. The

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<sup>23</sup> *Ibid.* , p. 118.

fusing of Hebrew Edenic mythology (where history of the world is unique and a linear march away from the Creation) with Greek and Roman thought (that aspired to complete the project of Empire) gave progress both an origin and a destination.<sup>24</sup> On *authority* in progress, regardless of the mode of persuasion, physical force or indoctrination, the belief in progress is subjected. The individual is exposed to various types of ‘truths’ that intersect in him/her and together produce a faith in different ideas, including that of progress. The subject of progress, therefore, is human, or equivalently, history is the story of human progress. Time is from our perspective; authority is what we are subject to; and the betterment would also be ours.

Histories of the emergence of the idea of progress are in remarkable agreement: changing conditions in the late Middle Ages allowed for the concept to be conceived, Enlightenment ideals shaped it into an agent for change, and industrial and political revolutions confirmed its formative powers on society. The constituent parts of progress, however, have been discussed from very early on in European thought and can even be evidenced in samples of pre-Socratic philosophers’ modes of thought.<sup>25</sup> Of the more recognized historical accounts of the concept of progress is J.B. Bury’s *The Idea of Progress*, which was published in 1920. His schema places progress behind three obstacles that had to be removed before the concept could be realised and its formative powers released on society. These barriers were the notions of *time*, *decay* and *Providence*. The essence in Bury’s excavation is that progress has no place in time unless people conceive of an immense future; that progress is not conceivable if every generation believes it is decaying from a more impressive past; and finally, that progress is superfluous in the supreme care of God and Nature. Although his account is illuminating as regards the growth of the idea of progress, its conclusions on the origins of the concept (inevitably) resemble truisms. Progress, it seems Bury is saying, became an idea because people started believing in it. Such a ‘history’ of the history of the idea of progress is a chronicle of the belief in the concept; it is an evaluation of the faith it has commanded in people over time. Thus, tracing the changing view of

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<sup>24</sup> J. B. Bury, *The Idea of Progress: an inquiry into its origin and growth*, (Dover Publications, 1962), p. 23: ‘In the later period of Greek history, which began with the conquests of Alexander the Great, there had emerged the conception of the whole inhabited world as a unity and totality, the idea of the whole human race as one. We may conveniently call it the ecumenical idea – the principle of the *ecumene* or inhabited world, as opposed to the principle of the *polis* or city.’

<sup>25</sup> Bertrand Russell, *History of Western Philosophy*, (Routledge, 2006), pp. 25-83: A paraphrased summary: Heraclitus believed that everything was in a state of flux (*Panta rhei*); Anaximander thought that time was the ordering of cosmological justice between the elements; Empedocles was suspicious of any explanation of natural events in terms of purpose and preferred them to be regulated by change and necessity; Anaxagoras, in turn, rejects purpose, or final cause, as belonging to the origin of something completely; finally, and most important to the idea of progress, Protagoras established the ownership of the concept with his doctrine that makes man the measure of all things.

progress as a concept should give us an idea of the trajectory of man; perhaps never fully knowing the destination, but at least momentarily, knowing in which direction it is.

The Peace of Westphalia in 1648 can be seen as a symbol of the significant reconfiguration of authority that had taken place in Europe since the late Middle Ages. A thirteenth-century shift in theological focus from St Augustine to St Aquinas modified the Catholic temperament from Platonic contemplation to Aristotelian empiricism. Knowledge became more closely tied to perception and the authority of scientific observation could emerge to replace dogmatic Scholasticism. Achievements of the Renaissance combined to challenge the invincibility of past civilizations and new models of history surfaced. The philosophers Jean Bodin and Francis Bacon both subscribed to models which placed emphasis on the characteristic ‘psychology’ of peoples to describe their dominating places in history. Although their views were presentist (seeing contemporary times as the end of history), making people agents of change removed the onus on nature and allowed for it to be constant, and therefore capable of repeating the glories of the past. The authority of decay dwindled and Descartes manufactured its end. Cartesian doubt continued the discourse on mind and matter and placed the subject at the centre of knowledge in a universe of invariable natural laws. Science was given a stable foundation and knowledge could begin to be accumulated. The authority of Providence fast evaporated as science became a fashion.<sup>26</sup> Alongside this event the ecclesiastical authority was reformed and fragmented into national alliances between churches and monarchies that opposed the central power of the Catholic Church. The idea of progress had through the emancipation of knowledge become ‘possible’.

The French Second Republic of 1848 with its ambitious motto *Liberté, égalité, fraternité* can be considered the coronation of the idea of progress. Armand Marrast, one of the principle authors of the Constitution, held the concept responsible for revolutions, which according to him, only occur when progress is repressed. The legacy of Bacon’s postulate that the end of knowledge is utility and that happiness is its measurement, was secured by Fontenelle and Abbé de Saint-Pierre, who conceived of ‘secular man’ and an infinite horizon of potential improvement.<sup>27</sup> Now, for the first time in history, man was awarded both the powers of choosing his/her destiny and of making it happen. Bury’s authorities of time, decay and Providence had all been

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<sup>26</sup> Bury, p. 96: ‘The establishment of the Royal Society in 1660 and the Academy of Sciences in 1666 made physical science fashionable in London and Paris.’

<sup>27</sup> Bury, p. 107, on Fontenelle: ‘An educated mind is, as it were, composed of all the minds of preceding ages; we might say that a single mind was being educated throughout all history.’

defeated. By the middle of the eighteenth century, however, the inequalities produced by immense advances in industrial production had segmented over generations into obvious strata of privilege from which a new discourse arose: the social. The distinction between natural and man-made inequities that was drawn in Rousseau's writing was echoed by Thomas Jefferson and became democratically axiomatic in America's Declaration of Independence of 1776, which has as one of its 'self-evident' truths that 'all men are created equal'.<sup>28</sup> With the emancipation of the subject, as the idea of progress became utilitarian, the art of government morphed into bureaucratic manifestations. Economy, which for centuries had been associated with the government of the family, or of the community, acquired its modern meaning: 'the very essence of [the art of] government [...] is to have as its main objective that which we are today accustomed to call "the economy"'.<sup>29</sup> This transition was perhaps partly due to the cold reception the idea of (endless) progress received when it travelled from 'the atmosphere of combat, in which it was developed by French men of letters, into the calm climate of England'.<sup>30</sup> There, treatises by Adam Smith (on economy) and in particular Thomas Malthus (on population) gave a more sober assessment of progress, whilst providing the state with both a method of government and a lifeline in failure. The authorities that commanded belief in the idea of progress had yet again been reconfigured. A firm trust in science from recent high-yields extended the principle of progress in knowledge to equate to social progress. Protagoras' old maxim that man is the measure of all things enveloped the idea of progress in its new utilitarian outfit, but so would the modern state and its government of 'economy'.

The atomic bombing of Hiroshima and Nagasaki in 1945 is chosen to mark the moment the idea of progress was forced into retreat and its long-standing association with civilization was severed. The ensuing pessimism of the Cold War continued a mood that began with the Great Depression. The view from the precipice of the late 1920s, however, was also the apotheosis of the idea of progress. Even though Darwin's evolutionary theory had displaced man again by depriving him 'of his glory as a rational being specially created to be the lord of the earth',<sup>31</sup> the 'dynamism of converting mere classification of beings into a *process*'<sup>32</sup> had only increased the belief

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<sup>28</sup> *The National Archives* < [http://www.archives.gov/exhibits/charters/declaration\\_transcript.html](http://www.archives.gov/exhibits/charters/declaration_transcript.html) > [accessed on 1 September 2008].

<sup>29</sup> Michel Foucault, *Power: essential works of Foucault 1954-1984*, (Penguin, 2002), p. 208.

<sup>30</sup> Bury, p. 218.

<sup>31</sup> Bury, p. 335.

<sup>32</sup> Ali A. Mazrui, "'Progress': Illegitimate Child of Judeo-Christian Universalism and Western Ethnocentrism – A Third World Critique' in *Progress: fact or illusion?*, ed. by Leo Marx and Bruce Mazlish, (University of Michigan Press, 1996), pp. 153-174, (p. 154).

in the idea of progress. Further, in the latter half of the nineteenth century, Comte's ambition of making social studies a positive science was carried to near-fruitful through the works of Karl Marx, Max Weber, Émile Durkheim and others; progress was now not only 'real' but could be described by general laws. Its civilizing force was also made evident in the imperial domain. Indeed it looked like the British would accomplish the Roman aspiration of *ecumene*: an inhabited and civilized world; 'Never before has Europe played such a domineering role in relation to the rest of the world as during the thirteen decades separating the two greatest revolutionary upheavals in its history.'<sup>33</sup> The idea of progress continued to flourish in the decade after the First World War. According to G. H. von Wright, the 'spirit of classical modernity was rejuvenated in the "modernistic" movements which swept the world in the aftermath of the [war]'.<sup>34</sup> Vienna, Wright explains, was host to both a resurgence of positivism that centred on the members of the Vienna Circle (*der Wiener Kreis*), and to psychoanalysis, that gained significant strength in post-war Europe where 'its fertilizing influence reached far beyond the confines of therapeutic medicine and psychological theorizing into art and literature'.<sup>35</sup> It is therefore not before the early 1930s that progress became an idea suffering alongside its adherents' experience of hunger and poverty. And in the very minute that the power of modernity was demonstrated by its nuclear capability, the underlying science of Heisenberg's Uncertainty Principle was extended to mankind; a significant doubt was registered as regards the idea of progress, that perhaps we could not be sure of knowing both how fast we were nearing our destination and where we were in relation to it.<sup>36</sup> The authorities of science (as technology), the modern state (as security) and secular man (as morality) were all somewhat discredited at this juncture, and a great suspicion towards the idea of progress was affirmed. The rejection of this concept and other grand narratives like it became the central characteristic of discourses that are generally catalogued under the term 'post-modernism'.

Pessimism is often little more than optimism with the opposite sign. This is certainly the case when the object of scrutiny is society, where a break with the past inevitably hails the arrival of something new. In Kuhnian terms, post-modernity could be classified as pre-paradigmatic; a scramble to best describe the new society and thereby bring it about. This is the period where old theories crumble and new ones are

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<sup>33</sup> G. H. von Wright, *The Tree of Knowledge and Other Essays*, (Brill, 1993), p. 206.

<sup>34</sup> *Ibid.*, p. 207.

<sup>35</sup> *Ibid.*

<sup>36</sup> The Uncertainty Principle expresses the impossibility of measuring accurately both the position of a particle in space and its momentum.

abound. The challenge is not to invalidate the past but to incorporate it into a stronger definition of now. The winner is all but declared; it is the Information Society. Regardless of which domain is chosen for enquiry, information is found to be the foremost formative force. Economic growth, technological advance, occupational patterns, cultural activities and political governance, all evidence that information is a crucial factor for change. That we have more information in today's society is patently true; that we are better informed, however, is questionable. This is where the voices of continuity dissent. The sceptics of change will only go as far as calling themselves 'late modern'. In their view society is older but not new. They too recognise that the modern idea of progress is in crisis, but see this as a reification of value, rather than a loss of faith. Progress is strictly a value notion and its worth is observed only by the subject in his/her situation. The crisis of the idea of progress is therefore the distancing of the subject from the real value of the concept. What Wright calls the 'quantification of progress' is the measuring of the accumulation of knowledge in strict economic terms; what he refers to as the 'formalization of progress' is the evaluation of man as a moral subject by the size of the bureaucracy that surrounds him/her.<sup>37</sup> The idea of progress is thus maintained but has become subordinate to our dominant systems of economy and governance. Consequently, says Wright, '[w]hat happens now is that the two systems are recoiling destructively on their own origin.'<sup>38</sup> The autonomy of knowledge is diminished by profit motives, and the autonomy of the subject is lost in the corridors of his/her democratic institutions. Recent events are at hand to demonstrate the success of this 'reified' idea of progress. The compensation for wartime sacrifices that were manifested in rights such as healthcare, education and employment have suffered increasing encroachment by growing privatization, deregulation of markets and restrictions on labour unions. A reconfiguration of authority has taken place in governance and economy to render the state and its subjects global. Further, an intense focus on global security has reattached progress, to a degree, to civilization. Western powers have attempted to seize a moral high ground by aligning the idea of progress with democracy to an extent hardly seen since the expansion of universal suffrage immediately after the Second World War.<sup>39</sup> With Capitalism already reigning supreme after the fall of the Iron Curtain around 1989, it

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<sup>37</sup> Wright, pp. 221-222.

<sup>38</sup> *Ibid.*, pp. 223-224. This corresponds well with Jürgen Habermas' theory that the Lifeworld (sphere of communicative action) is being colonized by its progeny, the System (sphere of instrumental action).

<sup>39</sup> Universal suffrage was introduced in France in 1944, Italy and Japan in 1945, Belgium in 1948, and Greece in 1952.

seems that, at least, the reified idea of progress will be brought to fruition. The question is, of course, will it be worthwhile?

Having chronicled the belief in our concept, then, with an inexcusable poverty of detail, in order to demonstrate how the idea of progress has changed over time, we need to return to the method adopted from Barthes' myth. The second term of his metalanguage-object is the signified; it is the concept of the myth; it is, in our example, the idea of progress. The three constituents that were associated with progress were time, authority and value, with a particular emphasis on the changing configuration of authority to explain how the belief in the idea has changed. What is pertinent in the choice of the three is that they all require the reader to perform an abstraction of the concept to re-gain an understanding of the whole. Progress as a concept, however, is real in both its constitution and its consequences; *Progress is not abstract*. Further, the idea of progress belongs principally to Europe. Although its genealogy reveals elements of oriental ritual beliefs adopted from Alexander's empire, institutional structures from the Middle East, and the Persian dualism between good and evil, progress is a Euro-centric belief.<sup>40</sup> Since the concept emerged with social formative powers it has been a discourse bandied about, in particular, between France, Germany and England. Here, national identities can, to some degree, be discerned from the philosophical reception of the idea of progress itself:

Hegel's 'phenomenology' of the development of the spirit (*Geist*) is a speculative and rather 'Teutonic' tale of man's ascent on the ladder of freedom. Comte's three stages: from religious through the metaphysical to the positive may be said to reflect the 'Gallic' spirit of order and reason. Spencer is less speculative than Hegel and less rationalist than Comte. He rather represents the common sense of British empiricism.<sup>41</sup>

Progress is thus determined by place and surroundings; the conflation of which means that *Progress is situation*. Finally, what is evidenced by the near-arbitrary, yet conventional, approach of focusing on 'idealised' historical events (as above: peace, revolution, war) is that the concept requires a history for existence. Progress, in Barthes' schema, 'reconstitutes a chain of causes and effects, motives and intentions' to remain an idea.<sup>42</sup> Moreover, the idea of progress is endowed with a 'reality' that is chosen, historically and intentionally, to edify its subjects. The concept is continually

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<sup>40</sup> Russell, pp. 439-440: 'The dying and resurrected god, the sacramental eating of what purported to be the flesh of the god, the second birth into a new life through some ceremony analogous to baptism, came to be part of the theology of large sections of the pagan Roman world. With these was associated an ethic of liberation from bondage to the flesh, which was, at least theoretically, ascetic.'

<sup>41</sup> Wright, pp. 215-216.

<sup>42</sup> Barthes, p. 119.

appropriated by authorities and reconstituted for their preservation; in the hands of any authority, history and progress become one: *Progress is determined*.

Having drawn further from the methodology adopted from Barthes' myth, and applied it to (a history of) the idea of progress, the concluding italicised statements above have hopefully rendered an internal impression in the reader's mind, which is nearer to the signified in Barthes' own. After looking at what the first two elements in Barthes' second-order semiological system *are*, it is now time to turn our attention to what they *do*. The dynamics of metalanguage comes into effect when the association of technology and progress is made.

### **THE ASSOCIATION; For Richer Or Poorer**

Making the assumption that every generation is different is far easier than to evaluate the actual difference. We need to answer both 'how *different* it is' and 'how it is different'. What appears as little more than a syntactical glitch opens up two paths that are not just irreconcilable but will prove difficult to differentiate. The former question requests a 'number' for an answer, whilst the latter appeals for a 'letter' to describe it. This is the dichotomy of quantity and quality. In order to fully appreciate the dynamics between technology and progress, when the two terms are re-assembled into an association, their respective quantitative and qualitative properties must first be explored.

- The *quality of progress* is a real value-notion; it is what is ascribed to a concept by a subject, and conversely, what is instilled in the subject by the command of the concept. Value is subjective: progress is measured by sensation, or experience, only. The individual's belief in the idea of progress is a relation of what is asked from it, and what is promised by it. The general quality of the concept is perhaps its flexible nature; 'It can be, at one and the same time, a philosophy of history, an ideology serving the interests of different social groups, and a millennial-like faith'.<sup>43</sup>
- The *quantity of progress* is one. The idea of progress has changed over time but it has not multiplied. It remains a concept of amelioration and although belief in it has fluctuated, it has always been quantitatively impoverished. As is evident by its numerous adjectival modifiers – 'economical', 'social', 'cultural' – progress 'often does nothing but re-present itself'.<sup>44</sup> Moreover, these

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<sup>43</sup> Leo Marx and Bruce Mazlish, 'Introduction' in *Progress: fact or illusion?* (as Mazrui, above), pp. 1-8, (p. 6).

<sup>44</sup> Barthes, p. 120.

modifiers enter into a situation of trade with progress, where they benefit from the quality of progress and progress is given a semblance of abundance in return.

- The *quantity of technology* is vast. The endless diffusion of modern technology through increasing affordability and mobility dominates sensory perceptions. The limitless numbers of applications (e.g. software) that are associated with Information Communication Technology translates into a belief in infinite versatility. Bound by proven revenues, however, innovation is slowing down and consumer-technologies can rarely be considered ‘new’. Nevertheless, the growing number and diversification of technology acts as a substitute for its wonting quality.
- The *quality of technology* is rationalization; the real effects of introducing new and innovative forms of technology into society. Pessimistically, it is technology’s ability to make the subject redundant, to ‘value human labour only in so far as it cannot be replaced’.<sup>45</sup> Optimistically, it is the capacity of technology to satisfy increasing wants. And generally, the quality of technology today is to obfuscate an incomprehensible system of forms, practices and organization into one autonomous, history-making, agent for change of near-magical proportions.<sup>46</sup>

In summary, then, and with reference to the our second-order semiological system, technology (the signifier) is meaning and form, the first full and the other empty; progress (the signified) is our concept; and their respective qualitative and quantitative characteristics are succinctly expressed by Barthes himself:

Poverty and richness are in reverse proportion in the form and the concept: to the *qualitative* poverty of the form, which is the repository of a rarefied meaning, there corresponds the richness of the concept which is open to the whole of History; and to the *quantitative* abundance of the forms there corresponds a small number of concepts. [My emphasis]<sup>47</sup>

Parasitical tendencies are observed in each term, where both the signifier and the signified seek compensation in each other for their individual shortcomings in quality or quantity. This continues until the two, in a sense, reach equilibrium, where the association appears to be a perfect symbiosis.

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<sup>45</sup> Gray, p. 160.

<sup>46</sup> The oft-quoted third law of Arthur C. Clarke describes this well: ‘Any sufficiently advanced technology is indistinguishable from magic.’ Quote from Arthur C. Clarke, *Profiles of the Future: An Inquiry Into the Limits of the Possible* (Harper & Row, 1973), p. 21.

<sup>47</sup> Barthes, p. 120

The associative dynamics of technology joined with progress are surfacing and particular characteristics can be defined. Firstly, it was demonstrated by the numerous adjectives that can modify the word ‘progress’, that a ‘signified can have several signifiers’.<sup>48</sup> But this is also true when considering only one, which is ‘technological’ in our case. It has been shown that the abstractedness of technology contributes to its wealth of forms (quantity), and it is in representation by these that progress seeks to compensate its shortfall in numbers: *Progress and technology exhibit a strict one-to-many relationship*. Secondly, a similar exchange takes place between the two to restore technology’s lack of place and purpose (quality). ‘[I]n passing from the meaning to the form [technology] loses some knowledge: the better to receive the knowledge in the concept.’<sup>49</sup> The sign (e.g. word) in the language system is saturated with meaning, but in order to fulfil the second-order function of being form, and of signifying a new concept, it is forced to shed its semantic past. The concept, as we have seen, reconstitutes the history ‘which drains out of the form’ into self-edifying chains of events.<sup>50</sup> The qualitative wealth of the idea of progress is then re-appropriated by technology to secure its own position: *Progress and technology recycle meaning*. Thirdly, these exchanges transform the meaning of the association in general, and their respective modes of presence, in particular. Technology with its endless forms requires place; ‘the mode of presence of the form is spatial’.<sup>51</sup> Progress with its inexhaustible re-presentations of itself as an idea requires time; its ‘mode of presence is memorial’:<sup>52</sup> *Progress gives technology omnipotence; Technology gives progress omnipresence*. Indeed, it seems a ‘conservation of energy’ has taken place in our second-order semiological system to render it perfectly stable. Simple exchanges to compensate for deficiencies in one term’s quality and the other’s quantity have seemingly produced a ‘truth equilibrium’ as regards technological progress. The natural character of this relationship is what remains to be discussed. This is the myth.

### **THE MYTH; From History to Nature**

Myth does not deny things, on the contrary, its function is to talk about them; simply it purifies them, it makes them innocent, it gives them a natural and eternal justification, it gives them a clarity which is not that of an explanation but that of a statement of fact.<sup>53</sup>

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<sup>48</sup> *Ibid.*, p. 120.

<sup>49</sup> *Ibid.*, p. 119.

<sup>50</sup> *Ibid.*, p. 118.

<sup>51</sup> *Ibid.*, p. 122.

<sup>52</sup> *Ibid.*

<sup>53</sup> *Ibid.*, p.143.

In our metalanguage system, the signifier's meaning is the use and understanding of technology, the form of the signifier is technology's multitudinous physical presence, the concept that is signified is the inescapable march of progress, and the signification is the discourse that supports their union. This final term of Barthes' second-order semiological system is the myth itself: 'It is the only one which is allowed to be seen in a full and satisfactory way, the only one which is consumed in actual fact'.<sup>54</sup> Myth should not be considered, as in general usage, to be something that is false or of the past; it refers here strictly to a type of presentation, to a mode of communication, to a certain way of speaking. As was made evident in the previous section, technology and progress forge a bond that appears to neutralize their individual weaknesses and to amplify their combined strength. This apparition occurs in the mind of the speaking individual; there, one and one is made greater than two, which is the working of the signification. The function of the myth 'is to distort, not to make disappear'.<sup>55</sup> We catch a glimpse here of the motivating force that is at work on the individual: the myth offers him/her 'something for nothing'. This irresistible proposition of 'more for less' is at the heart of the myth of technological progress. What begins as perceptions of rationalization (habits of 'economical' behaviour), are in the modern mind interpreted as an inevitable process of efficiency, and is projected onto the world with a deterministic force. *The association of technology (signifier) and progress (signified) produces technological determinism (signification).*

Technological determinism is the belief that history is largely written by technology. It is a spectrum of faith that spans from the capable rational being's 'liberation from spiritual and natural necessity,' by the slaying of both 'God the Father' and 'Mother Nature', to the full removal of the individual's ability to affect any social change.<sup>56</sup> Technological determinism is also a device for discrediting any theory that attempts to explain society by an emphasis on technology. The charge levelled at such theories asks emotively: where is the human in change? Bruce Bimber's three 'faces' of technological determinism hazards a guess. According to him, only *Nomological* accounts remove the subject completely; *Normative* accounts of technological determinism rely on 'human social practice and beliefs' to affect change; and accounts of *Unintended Consequences* see uncertainty and unpredictability as 'basic facets of social action, rather than the special products of

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<sup>54</sup> *Ibid.*, p.118.

<sup>55</sup> *Ibid.*, p.121.

<sup>56</sup> Rosalind Williams, 'The Political and Feminist Dimensions of Technological Determinism', in *Does Technology Drive History?: the dilemma of technological determinism*, ed. by Merrit Roe and Leo Marx (MIT Press, 1996), pp. 217-236 (p. 222).

technology'.<sup>57</sup> In terms of our myth, therefore, its signification must be purely nomological, where 'technological developments occur according to some naturally given logic, which is not culturally or socially determined, and [...] these developments force social adaptation and changes.'<sup>58</sup> In other words, technological determinism does more than confirm technological progress; it instils an article of faith in us, a belief in the autonomy of technology to ensure human progress; a product of myth through the process of signification. When technology and progress meet in speech, then, it is value that is discussed. Regardless of which entity autonomy is relinquished to, the old Providence or new Technology, self-determination is traded for external assurance. The individual will choose according to his/her needs; the forging of 'truth' from necessity. Consequently, communication is always motivated and requires a myth to be effective. A naturalized system of speech is invoked to achieve this, one that both draws from and perpetuates myth. 'Listen!' says the car manufacturer Audi AG to the consumer, 'Vorsprung durch Technik'. Intent on increasing revenues, its motivation is instantly neutralised by pointing to the self-evident 'truth' of our myth of technological determinism. Such use of the myth is not a sinister ploy by the Audi marketing effort; it is more likely their wholesale conviction of it. With the evidence of generations of improved Audi models ready at hand it is no wonder they put their faith in technological progress. The myth consumer is unaware of the potency of its function. Aided by an inductive mind, he/she falls foul of the causal structure historically and intentionally erected by the concept (progress), and supported by the many forms (technology), to infer that the signification, technological determinism, is a general statement of fact. The characteristic equivalence of the cumulative history of technology and the impression of never-ending progress is transformed in the myth into a natural relationship of causality. *Technological determinism turns history into nature.*

*A cultural hegemony* is, according to Antonio Gramsci, 'a set of meanings and values which as they are experienced as practices appear reciprocally confirming. It thus constitutes a sense of reality for most people in the society.'<sup>59</sup> As such, the sense of reality of today's generation would also be deduced from its experiences and could perhaps describe the current cultural hegemony. Central constituents in the individual's experience are perceptions of time and place. As regards our myth, knowledge is bound by the spatial presence of technology and the temporal sensation

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<sup>57</sup> Bruce Bimber, 'Three Faces of Technological Determinism' in *Does Technology Drive History?* (as Williams, above), pp. 79-100 (pp. 88-89).

<sup>58</sup> *Ibid.*, pp. 83-85.

<sup>59</sup> Williams, p. 220.

of progress; improvement in our lives is the recognition of substitution of practices intersecting with the feelings remembered. Expressing the individual's perspective on time as a ratio between the frequency and importance of an event-impression, a changing sense of reality can be discerned in a simplistic yet useful extrapolation. Whilst seasonal imperatives of agriculture were infrequent but of self-sustaining importance, the everyday necessity of wage-labour since early industrial times has, with the rise of ICTs, carved the day into small pieces of sociable chatter of increasing frequency and diminishing isolated importance. With such fragmentation of the day by social obligations, great swathes of time are divided into minute, constant reminders to not forget anyone and to remember little else. The conceptualization of time receives an electronic jolt every few minutes or hours, and our age-old linear temporal orientation is vaporised into a cloud of distraction. Liberation by frequency and instantaneity of communication, increases the size of our social networks but due to the natural constraint of hours in the day, reduces the size of the messages, and thereby the potential value/meaning they carry. Traffic is revenue, and the value, or meaning, of a message converges on the purely economical. Considering space next, Castells, as mentioned, believes that nature has been defeated and that the contest that remains is an isolated battle of culture against culture. The ancient fear of nature has been superseded by an intrinsic terror of not belonging to the period of fastest technological change, or of most significant progress. Our shameful material deviation over the last few generations is seeking redemption through a new pastoral identity as an earthly shepherd. Being lined up as the ultimate test of our ability, and gaining credence as an acceptable target for our technological capacity, is the salvation of the global environment. Thus the sense of reality the individual gains through experience today is the product of an endless fragmentation of time and a vastly expansive understanding of space: time is always now and space is only everywhere. This is a loss of scale and an uprooting of man's function. Abdicating agency, as such, is to replace God with Technology in the belief that it can deliver salvation: to believe that the 'promises that the most ancient human fantasies will at last be realised' by technology.<sup>60</sup> *Technological determinism is the cultural hegemony of abdicating responsibility to technology.*

What hope is there then to escape the myth? The linearity of Moore's law is confirmed every other year by the doubling of our computing power; it appears our signifier, technology, is more like 'an event that has befallen the world' and has since

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<sup>60</sup> Gray, p. 123.

been independent of our control.<sup>61</sup> This ‘natural’ behaviour is complimented by our signified, the idea of progress, a concept as tenacious as its unabated power to edify us. Moreover, why should we escape the myth? After all, standards of living have continued to improve with every increase in productivity; infant mortality is dropping and life-expectancy keeps growing. The answers are most easily found in the infinite projection of the myth of technological determinism. For is it not ultimately the avoidance of death that is sought in an abdicated reliance on technology? Or is it not at least the painless survival that technology stands the best chance of delivering? It seems we comply voluntarily with a manmade anesthetisation of our minds; that on human command we take flight from corporeality to worship the sanitised world of Hygieia. Paraphrasing Foucault’s *Rule of Immanence*, then, in an attempt to elaborate: is there a technological exteriority between political imperatives and economical incentives?<sup>62</sup> For the immediate sensation is that the closer politics is to commerce, the further away from utility is progress, and the nearer it is to what perpetuates existing unjust advantages: technology. Every notion of a ‘new’ society must therefore be scrutinized to its very economic and political origin, and there is little evidence today to suggest that the recently ushered-in information age has been released from a dependence on exploitation of natural resources. This is not to say that technology will not offer solutions to secure our future, but to recognise that technological decisions are manmade and that they often have adverse effects when decoupled from utility. The immense increases in productivity that we have experienced with the rise of industrialism appear on larger timescales as anomalous; against the deeper historical backdrop of several millennia, the advent of modern technology does indeed look like a departure, a blip in time. Hence, when the newness of society is proclaimed, we have to ask *whose* society it is. Although natural thresholds have always placed limits on technology, technology is not nature. The changes wrought on technologically marginalised communities cannot be explained away with naturalistic or materialistic imperatives; the threat of extinction felt by various peoples around the world is manmade and it is modern man who distorts the historical developments to justify it. For too long have we asked our technological ability to provide the answers to all our questions of *how* to meet our needs. The perpetual cycle of seeking ever-increasing efficiency is showing few signs of slowing down but later generations of consumer technology are signalling a shift in the modern focus on wants. Aesthetics are

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<sup>61</sup> Gray, p. 14.

<sup>62</sup> Michel Foucault, *The History of Sexuality: 1, The Will to Knowledge*, (Penguin, 1998), p. 97: ‘Between techniques of knowledge and strategies of power, there is no exteriority’.

beginning to emerge as a result of our needs being exhausted and technological innovation slowing down. Or it is, possibly, a consequence of the increasing attention we offer technology; the quality of our connection with technology requires it to be more beautiful, perhaps more spiritual even. For all the innocence of our myth, technological determinism offers a naturalized mode of speaking to gain advantage, and through communication the myth remains. But myths are not eternal; they depend on the speaking subject for their existence, and fluctuate with his/her changing conviction. Barthes will have it that 'the worn out state of a myth can be recognized by the arbitrariness of its signification.'<sup>63</sup> This is perhaps where his method converges on classical mythology, at least with Northrop Frye's archetypes. Accordingly, we would be in the myth's final phase of dissolution, the winter of technological progress, where the power of the myth is finally trumped. This also corresponds with Spengler's vision of Western civilization's final stage where science is more fruitful than ever but undoes itself to allow the East to move in to replace the West. To avoid this fate, however, we should have to increase our questioning of technology and progress and invoke more frequently than we do today the interrogative adverb *why*.

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<sup>63</sup> Barthes, p. 127.

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