Friendship in the Age of Technics

by

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To my brother, Heinrich

For though the wish for friendship arises quickly, friendship does not.

- Aristotle

Abstract

The study presents a thesis on the constitutive role of *technics* in the formation of social bonds between human beings, with special consideration given to the question of friendship. The concept of *technics* is analysed through the work of the French philosopher, Bernard Stiegler (b. 1952 -), who shows that *technics* has been systematically excluded from the Western philosophical discourse since its Platonic inception and as such has been insufficiently thought in the Western philosophical tradition. Stiegler extends his theory of *technics* to formulate what he calls a "general organology" that analyses technical organs in a pharmacological relation to social and bodily organs. This pharmacological analysis of *technics* allows for a revaluation and critique of the dominant political and economic modes of organisation grounded in the Western philosophical discourse to reconsider the problematics underlying the social and psychic health of citizens in the contemporary world.

Through the development of his concept of "epiphylogenesis", Stiegler demonstrates that humanity and *technics* are mutually constitutive of each other through the intergenerational transfer of memory and can therefore not be thought separately. It is shown that *technics* consists of practices that relate to the technical object which mediates the storage and transfer of memory and in this sense affects the social and cultural practices that constitute the formation of social bonds. From this perspective the social bond, denoted by the concept of *philia* espoused in the Western philosophical tradition, is reconsidered in relation to *technics* and is juxtaposed to friendship as the particular instance of a relation with others through which the social bond (*philia*) can be altered.

The analysis of *technics* is explored further through a genealogy that traces the epochal shifts of the technical object as medium of transmission and storage (orality, literacy, electricity and digitalisation), as well as the transformation that takes place through the industrialisation of the technical object. The result is that *philia* can be reconceptualised in relation to technical

transformations and its identifiable tendencies which affect the social bond in order to develop a preliminary outline for an approach towards the constitution of social and cultural practices capable of responding to technological change. It is in the midst of the epochal shift towards digitalisation that the relation between *philia* and *technics* must be thought historically, as that which has manifested in the political economy of the global mnemotechnical system, and in the real-time of the global inter-connectivity of the Internet. From this perspective it is then considered that the question of friendship in the digital epoch does not appeal to an individual desire but instead calls for the adoption of a relation towards collectively defined objects of desire.

Key words: Friendship, *philia*, Stiegler, technics, digital

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Introduction: Disrupted Conversations

Who can remember a time before a cellphone came to end a pleasant conversation? It is no longer clear since when the vast majority of people have become so transfixed by the brightly lit devices in the palms of their hands so that they no longer look up to see what, or who, is before them, except if it is to take a picture. Where does the consciousness of someone go, sitting, standing, walking down the street talking to, or shouting at, someone who is not there in the street with them? What kind of acceleration has taken place since this particular mobilisation of communicability? Has it been an acceleration of consciousness, speeding through the world so that time elapses like a landscape that blurs past the inside of a car?

Who has not experienced the shock of the cellphone's siren song that has disrupted friends from conversations? Simultaneous to the historic disruption of friends from conversations came a request, a pending decision to accept whether someone is a friend or not. How strange, can one *request* to be friends with someone? Since when had friends have to accept a request to be friends with another? Those who are friends, have they ever felt the need to ask one another whether they are friends? Friendship? A naïve question, yes. Perhaps it is first asked on the edge of a playground amidst the chaos of opposing thumbs generating a whirlwind of emotions that tear open a great caveat between the sublime experience of shared laughter and the mundane experience of receiving an emoticon -  . Is it all the same, the experience of friendship in the face of another and the experience of friendship through an interface?

What started out as naïve reflections on friendship affected by mobile digital technologies developed into a theoretical consideration of the philosophical consequences of friendship and how it is affected by different modalities of technology. It is through Bernard Stiegler's theory of

technics that these questions have been addressed and through which theoretical insight has been gained into the fundamental relations between the human being and technology.

Stiegler (1952 –) is a leading French philosopher who provides a thorough investigation of the role and history of technics in the becoming of humanity. He develops his theory of technics in relation to the Occidental philosophical discourse, which according to him, has left out the question of technology for the most part of its philosophical reflection. Stiegler shows that there exists an originary relationship between humanity and technology that is dynamically constitutive of each other. In doing so Stiegler shows how technics both makes possible the organisation of a diversity of human societies, but also destroys the organisation of societies. Stiegler thus reflects on technology as something which can be a poison and a remedy, a *pharmakon.* Stiegler's analysis makes it possible to view technics in relation to historical shifts that take place in the organisation of societies after new technological inventions.

From the understanding that technics comprises a set of relational rules and social practices affected by technology, friendship will be considered in relation to the social bond that is mediated by technology. As such it will be shown how different technological epochs engender new ways of organising society through new modes of technics that affect the relational rules of social life. It is argued in the thesis that friendship is a particular competency that has to be acquired in distinction to the relational rules that are constituted through technics. It will thus be considered that it is through friendship that the necessary capacity is adopted to elevate the experience of the social bond which can become poisoned through technology.

§ 1.1. Literature on the theme of technology

Throughout the history of Western philosophy, technology has progressively been suppressed in its essential relation to human becoming. According to Martin Heidegger (1977:312) the

question regarding technology is traditionally split into two distinct conceptions by which it is defined. Firstly, it can be defined as an instrument that acts as a means to an end, or secondly, according to the anthropological definition of technology, it can be regarded as a human activity. These conceptions of technology, according to Heidegger, do not suffice to provide an answer as to what the essence of technology is. Furthermore, as soon as technology is regarded as something neutral it leads to even further obfuscation of the essence of technology. For Heidegger (1977:318-319), the essence of technology comes to presence in the mode of its revealing and unconcealment. The revealing can be expressed in two ways: in the mode of *tekhnē*, as craft, art or skill, the revealing takes place through a bringing-forth, or *poiēsis*. Whereas in the mode of modern technology, technology's essence no longer resides in the artisan's bringing-forth but in the challenge which is set upon man to order the extraction, storage and supply of the energy and natural resources on which modern technology is dependent. Heidegger (1977:325) refers to the revealing as the harnessing of energy in modern technology as Gestell, or enframing.

Bernard Stiegler's work extends Heidegger's existential analytic so that it can be regarded as a continuation of Heidegger's work with the addition of an ontology of technology, or an extension of the existential analytic that includes an ontological analysis of technical objects. Stiegler achieves this by drawing on the work of many thinkers that have come after Heidegger to develop the central claim of his thesis, namely, that technics conditions time and that these two phenomena are mutually inclusive in human becoming (Stiegler 1998, 2009a, 2010a). The most notable thinkers who have also worked within the Heideggerian tradition of the existential analytic who Stiegler draws upon are the French philosophers, Gilbert Simondon (1924 – 1989) and Jacques Derrida (1930 – 2004), the latter of whom Stiegler was a student. Stiegler is also indebted to the French paleo-anthropologist, André Leroi-Gourhan, who develops a theory of technical evolution in his seminal work *Gesture and Speech* (Leroi-Gourhan 1993).

Stiegler takes up Leroi-Gourhan's (1993) theory on the process of the exteriorisation of memory to develop a theory of the technical object. In conjunction with Gilbert Simondon's theory of

individuation, which rethinks ontology in terms of ontogenesis (§ 3.2), Stiegler (1998) shows how the technical object conditions human becoming. For Stiegler the matter of invention thus has to be understood in a bi-directional relationship between human and technical object, meaning that it is not only human beings that invent technologies, but that technologies at the same time invent the human. The interlocking relationship between invention and humanity allows Stiegler to show how technics plays a fundamental role in the formation of cultures which function on the intergenerational transfer of knowledge through the technical object (tools, speaking system, alphabet etc.). For Stiegler the technical object houses exteriorised memory and constitutes a dynamic process that he refers to as *epiphylogenesis*, a process whereby cultures collectively individuate with memory inscribed in the technical object.

Stiegler shows that cultural practices are constituted by the technical object and thus plays a dynamic role in the existential conditions of life, but that these existential conditions change as the mode of the technical object changes. Stiegler thus extends on Heidegger's concept of *Gestell* in order to define modern technology in terms of an industrialised technical object, or simply the industrial technical object. The difference between the technical object and the industrial technical object is that the human plays the part of the inventive role with the technical object, whereas with the industrial technical object, the human becomes the operator of the technical object (Stiegler 1998:75). This marks a fundamental shift in the dynamic relationship between the human and the technical object since it leads to technical automation whereby the human becomes dispensable in relation to the reproductive capacity of the machine.

For an analysis of industrialisation, Stiegler (2010c) directs his attention towards a critique of political economy. Stiegler's (2010c) first contribution towards a critique of political economy is to show that what Marx and Engels defined as proletarianisation should be understood as a loss of knowledge (savoir-faire) engendered by the exteriorisation of the technical skill of the worker into the machine. But Stiegler continues by showing how capitalism in the twentieth century sought to overcome the tendential fall in the rate of profit that was projected by Marx by stimulating consumption. The stimulation of consumption was made possible by yet another

transformation of the technical object, namely the industrial temporal object, exemplified by the Television that synchronises the conscious flux of an industrial audience, which constitutes for him a political economy of consciousness (Stiegler 2010a:39).

The political economy of consciousness operates on an economy of attention that seeks to exploit the libidinal energies of its target audience (Stiegler 2010c). For Stiegler (2010a) the formation of attention is dependent on a set of retentions and protentions that are woven together to form the flux of consciousness. Stiegler engages with Edmund Husserl's theory of consciousness to show that it is necessary to include a third form of retention, tertiary retention, in order to account for the existence of the technical object. As a result of the process of exteriorisation, tertiary retention constitutes an intergenerational memory support that precedes primary and secondary retentions and conditions consciousness as such. Although tertiary retentions are exteriorised secondary retentions that are in turn produced by primary retentions, for Stiegler (2010c:8) the mnemotechnical layer of tertiary retentions constitute the spatialised time of consciousness beyond the consciousness of an individual, therefore he posits that tertiary retentions constitute an unconscious. This allows Stiegler to develop a critique of political economy, which he refers to as a "new critique" (Stiegler 2010a), based on a psychoanalytic reading of the organisation of consumption which, to him, has run the libidinal energy of consumers aground resulting in an economy based on *drives*.

Tertiary retentions, constituted in the technical object as exteriorised memory, are subjected to the dynamics of the technical object itself. For every technical invention, tertiary retention undergoes a transformation. The transformation of tertiary retentions thus lead to social transformations. In order to analyse these transformations in detail, Stiegler develops the concept of grammatisation in relation to technical inventions. Grammatisation is the discretisation of flows, such as the flows of speech or the gestures and actions of the worker who performs a task. These flows can be broken down into smaller components to be reconfigured artificiallyby the technical object thereby also reproducing the flow analytically. For Stiegler (2010c:10) the invention of the alphabet is the discretisation of the flow of language which can then be

considered analytically through the alphabetisation of the spoken word, constituting the analytic reproduction of the *logos* as such. With the industrial technical object, however, it is the bodily gesture of the worker that is discretised and analytically reproduced in the technical automation of the machine. In the nineteenth century the invention of audio and visual technologies constitute the industrial temporal object whereby the sensory organs are discretised, leading to the analytic reproduction of audiovisual perception (Stiegler 2010c:10). Finally, in the twenty-first century digitalised social networks lead to the grammatisation of social bonds (Stiegler 2013b). This is a development which is central to the question of friendship for the thesis in which it needs to be asked whether the grammatisation of social bonds also leads to a proletarianisation of social relations?

To think through proletarianisation Stiegler returns to Plato's analysis of exteriorised memory (*hypomnesic* memory) in the *Phaedrus* where Plato opposes *hypomnesic* memory to *anamnesic* memory, or the interior, living, memory of the soul. For Stiegler (2010c:35) this is the earliest analysis of proletarianisation as a result of the process whereby exteriorised memory leads to a loss of memory and knowledge, and as such a loss of agency. Stiegler takes up Jacques Derrida's (1968) reading of the *Phaedrus* in "*Plato's Pharmacy*" to show that it is impossible to oppose the interior, *anamnesic* memory, to exterior, *hypomnesic* memory. Instead, *hypomnesic* memory opens the question of pharmacology, meaning that *hypomnesic* memory should always be considered as being both a poison and a remedy. In the context of grammatisation it means that technical inventions constitute a new stage in the process of individuation when an *adoption* of a new technology is integrated into the social milieu. If a new technology forces the need to *adapt* to it, a proletarianisation (*disindividuation*) occurs, as is the case with the labourer whose skill has been inscribed in the machine to be automatically reproduced (Stiegler 2010c:37). As such digitalisation needs to be approached pharmacologically in order to establish whether or in what way the grammatisation of social bonds constitute a new phase of individuation, or whether it leads to a proletarianisation of the social milieu itself.

The theory of grammatisation illustrates that it is no longer possible to think of technology in terms of an ends-means relationship, as Heidegger (1977) already noted. But Stiegler shows that to overcome the ends-means relationship it is necessary that technology be understood in its dynamic relationship with the human being. The theory of grammatisation extends our thinking of technology by showing how the human being is vitally imbricated with the dynamism of the technical object as a system of mnemotechnical retentions that not only has an impact on social organisation, but also a direct impact on the body. For Stiegler (2010c:34) this means that technology needs to be thought, through grammatisation, in terms of a *general organology* which manifests pharmacologically in an interlocking relationship between bodily organs, artificial organs and social organs. As such individuation needs to be understood as process whereby the three organological levels are interlocked in a *transductive* relation, meaning that each organ plays a part in the process of individuation in terms of either technical, collective or psychic individuation (Stiegler 2010c:105).

Digitalisation needs to be addressed in terms of the *general organology*. In doing so it will become possible to situate the question of friendship in the broader context of a hyper-industrial economy that inscribes bodies in a digitalised network of social relations. This, however, requires that further analysis of the historical phases of grammatisation need to be made in order to establish how different phases have affected each of the organological levels. A delineation of the phases of grammatisation can be made through the work of three theorists of technical media, namely Marshall McLuhan, Walter J. Ong and Friedrich A. Kittler. The work of these three theorists deal with three major communicative epochs (orality, literacy, electricity) and can be read in addition to Stiegler's theory of technology. Although these three theorists provide useful insights to the cultural impact of technology, Stiegler's thesis provides a broader philosophical spectrum with which to address contemporary social and political issues. For this reason the aforementioned thinkers are utilised to strengthen the understanding of the interrelation between technology and humanity in order to make a better case for addressing the digital epoch in terms of the general organology.

McLuhan (1962) analyses how the transition from manuscript culture to print culture within the epoch of literacy led to new forms of social organisation. McLuhan shows that these new forms of social organisation can be linked to new cognitive processes attributed to the changes in visual perception as an effect of the spatialisation of the printed word. The observations made by McLuhan reinforce Stiegler's analysis of tertiary retentions that condition secondary retentions, although it is not observed by McLuhan as such. By extension of these observations, clear connections to the *general organology* developed by Stiegler can therefore be made, giving further insight to the necessity of understanding the implications of technology beyond its function as a 'means to an end'.

Walter J. Ong (1982) also develops an account of the transition from orality to literacy as a departure from cultures dominated by auditory perception towards a culture dominated by visual perception. Ong analyses the characteristics and cultural expressions of each mode of communication, as well as its effects on cognition, but suggests that a “secondary orality” different to but resembling the “primary orality” of oral cultures should be considered in relation to the instantaneity of electronic communication (Ong 1982:133). Electricity lays the foundation of communication in the digital epoch, but allows for oral, literate and audio-visual communication to take place instantaneously over the entire world. The medium of communication (electricity) thus extends the reach of the message and expands the feeling of community beyond the immediate environment of an oral culture thereby engendering another kind of *pathos* that remains distinct from an oral or a literate culture, despite its resemblances to both.

The work of McLuhan and Ong is extended upon significantly by Friedrich Kittler. Working within the Heideggerian tradition similar to Stiegler, Kittler (1999;1996) develops a theory of technical media by addressing the historical developments surrounding communication media, often stemming from war, but importantly analyses the development of the computer. Although Kittler (1999) also analyses audio-visual technologies (gramophone and film), his findings are similar to Stiegler's (2010a) in terms of the exteriorisation and storage of auditory and visual

flows that have an impact on the symbolic dimension (Kittler 1999:4). Here Stiegler's comprehensive theory of audio-visual technologies is given preference to Kittler's theory since Stiegler develops it further in relation to his "new critique" that accounts for the application of psychoanalytic theories in the televisual industry to stimulate consumption.

Other thinkers that were consulted in order to expand on themes connected to technology include Nicholas Carr and Michel Serres. Carr (2010) draws on contemporary neuroscience to investigate how the physiology of the brain is affected by the Internet, showing that a restructuring of the brain takes place through the formation of new synaptic circuits leading to changes in thought processes, and thus places us within an unprecedented era departing from thought processes engendered in a print culture – although similar observations are also made by Stiegler (2010b) with regard to the formation of synapses. Serres (1982a; 1982b; 1995) provides useful insights into the nature of communication as well as the scientific underpinnings of Freud's understanding of topography and thermodynamics and its influence on his theory of the mind. Although a comparative reading between Stiegler and Serres could be of great value to extend insight into a theory of technological mediation, such a comparative analysis would extend beyond the scope of the present thesis.

From the above it can be gathered that the process of digitalisation draws consequences for the brain which is itself a relational organ (Stiegler 2013:68) and therefore it has to be thought how the social milieu is affected by the changes that are occurring in the brain. The consequences of the process whereby the brain is being restructured cannot yet be understood precisely, but it can be observed that social changes occurred – undoubtedly from changes that also occurred in the brain – in the transitions from orality to literacy, and within literacy from manuscript to print culture. These transitions engendered new institutions which presupposes the need to establish a normativity within the social milieu. The ability to form new institutions requires a social bond (*philia*), but it is precisely the social bond that was established in preceding technical epochs that is experiencing an upheaval. Therefore, the question of *philia* in the digital epoch engenders different epistemic considerations. In following Stiegler's analysis of the forgetting of technics in

the history of Western thought it is proposed here that in order to think through the possible and necessary formation of new institutions in the digital epoch it is firstly necessary to think the technical supports that condition the social bond itself. Therefore the question of friendship needs to be thought anew in relation to Stiegler's thesis of the *forgetting of technics*.

§ 1.2 Literature on the theme of friendship

Friendship has played a significant role throughout the *philosophical* and *political* history of the Western intellectual tradition, although it is not limited to the discourse of this tradition but is rather a fundamental social relation which pervades all societies, regardless of class or creed. The question of friendship will be placed in relation to Stiegler's theory of technics by considering how *philia*, the social bond, is affected by changes in the technical object. The concept of *philia* plays a fundamental role in Stiegler's theory of technics, since the concept of *philia* ties together the theory of psychic, collective and technical individuation. Stiegler (2013b:17) follows Jean Lauxerois who digresses from the traditional translation of *philia* as friendship, stating that the Greek word for friendship is *philothés*, and that the word *philia* could rather be understood as a social bond. This distinction between *philia* and *philothés* is maintained throughout the thesis.

Friendship was of central importance to philosophers of classical antiquity who devoted themselves to the cultivation of friendship (Epicurus) and wrote theoretical works (Plato, Aristotle) as well as epistles to friends on friendship (Seneca), but friendship as a philosophical topic seems to have waned with the rise of Christianity (Pangle 2002:2). According to Pangle (2002:2) the apparent decline in the discourse on friendship may have resulted from the Christian ethic of regarding all men as brothers as well as a complete devotion of one's love of God, adding that the passionate manner of the ancients on the topic of friendship would have been treated with suspicion in the Christian world-view. Despite the influence of Christianity on the decline of friendship as a philosophical topic, and despite Michel de Montaigne and Francis Bacon's published essays on the topic of friendship, it was the philosophy of Thomas Hobbes,

according to Pangle (2002:3), that finally led to the exclusion of friendship from modern moral philosophy.

Although Kant proposed a model of friendship based on universal respect (Derrida 1993), it was Nietzsche who turned the dominant discourse stemming from Aristotle on its head (Derrida 1997). Pangle (2002) seems to be dismissive or unaware of Nietzsche's contribution to the discourse on friendship, therefore Derrida's (1994) *The Politics of Friendship* will serve as the source from which the traditional discourse on friendship is analysed. Although the entire volume published by Derrida (1997) will not be analysed in full, a text (Derrida 1993) published before the book (Derrida 1997) will be utilised conjunctively to sum up Derrida's thesis. It is not intended to provide an extensive analysis on the discourse on friendship in this study, and therefore to engage in full with Derrida and his interlocutors (Plato, Aristotle, Cicero, Montaigne, Nietzsche, Kant), but to rather gather from Derrida what could inform the thesis on how to proceed with the question on friendship in the digital age, given its canonical history.

The question of friendship in the digital age will be placed within the context of the theory of technics developed by Stiegler. Since both Stiegler and Derrida write within the Heideggerian tradition of the existential analytic, the manner in which friendship will be approached in the thesis is by considering an ontological analysis of the friend. Derrida (1994) already provides such an analysis in his critique of Aristotle's theory of friendship that does not make the distinction between the questions "*what is?*" the friend and "*who?*" is the friend (Derrida 1997:6). This is typical of the Aristotelean tradition which is an ontotheological, or metaphysical tradition. For Heidegger (1972:432) metaphysics is a representational mode of thinking that attempts to ground what is represented within a transcendental origin. As such presence is represented within its presence in order for it to be grounded.

"*What is?*" is an ontological question. According to Derrida (1994:6) the *who* is implicitly subjected to the *what* in Aristotle's account of friendship. Derrida thus proceeds to deconstruct

the collapse of the *who* and the *what* within the Aristotelean discourse on friendship, which is represented by an androcentrism. Derrida then extends this to a critique of Carl Schmitt's (1927) theory of the political as defined by the distinction that can be made between friend and enemy, a theory which seeks to define which acts of killing are politically just and cannot be regarded as crime or murder (Derrida 1997:ix). Derrida instead proposes that Schmitt's theory should be read as a crime against politics and its possibility (Derrida 1997:ix). The implication is thus that the possibility of politics, according to Derrida (1997), rests in the time given over to friendship.

Stiegler's contribution to the Heideggerian tradition is that the *forgetting of Being* firstly has to be addressed as a forgetting of *technics*. According to Stiegler, technics conditions time, and in this way the dissertation phrases the ontological question, "*what is the friend?*"within the forgetting of technics. In doing so the traditional discourse on friendship can be deconstructed in relation to the forgetting of technics. It would then follow that the traditional figure of the friend can be understood as a figure that is anticipated by the *what*, as the prosthesis that conditions the social bond. Taken within this perspective a reading of the friend through the forgetting of technics opens the question on how technical media affect the *who*. Through Stiegler's theory of technics it can thus be shown how the ontology of the friend is conditioned by technics, which makes it possible to regard friendship genealogically in relation to the technical epochs constituting new processes of grammatisation that engender new modalities for the cultivation of friendship.

Since friendship is also a question of desire, it will be considered how the various technical epochs code the flows of desire. In this respect, Deleuze and Guattari's (1984) work on the coding of the *socius* will be considered in relation to the epochs of orality, literacy and industrialisation. The nature of desire in friendship will be considered by looking at Freud's (1964) understanding of "aim-inhibited" love, as sublimated love, which is also present in Plato's discussion on Beauty in the *Symposium*. Further understanding is derived from Deleuze and Guattari's (1994:3) notion of friendship as a "competent intimacy" that is fundamental to philosophy as the activity of creating concepts, the validity of which must also be tested between

friends who lay claim and rival each other's concepts. The understanding is then that friendship is the particular relationship which can elevate the social bond higher by contesting objects of desire through the *agon.*

The distinction between *philia* and *philothés* can be made within the understanding that friendship (*philothés*) is the relation that can elevate the social bond (*philia*) higher. The notion of *philia* is however considered in a further understanding of Stiegler's theory of technics which progresses from an ontology to a genealogy. The move towards a genealogy is made possible by Stiegler's (2009a) development of what he refers to as the *doubly epokhal redoubling*, an elaboration on the pharmacology of technical inventions. It is not intended as a negation of ontology for Stiegler (2013:33) but is rather in conjunction with the development of his *new critique* that is capable of dealing with the pharmacology of technical inventions which may prevent the projection of ideas, or the creation of concepts if care is not taken to elevate the social bond in relation to objects of desire.

For Stiegler (2013:35) the consequences of an invention occurs in two phases. In the first phase, or *redoubling*, the invention suspends existing social programmes and as such opens an epoch that causes an infidelity within the order of the existent mode of organisation. After the first suspension an epoch can only be constituted as such if a second suspension arises out of the necessity to overcome the infidelity caused by the first suspension. The second suspension appears as the *adoption* of new practices that aim to establish a new form of affection and normativity through the institution of another "technics of self and others" (Stiegler 2013:35).

The *epokhal redoubling* is understood by Stiegler within the context of his reading of Simondon's theory of individuation. A technical invention facilitates an individuation only once it can be adopted within the social milieu. Alternatively an adaptation to an invention would lead to a dis-individuation, and thus an invention has to be understood pharmacologically in relation to the individuation or dis-individuation that it engenders. For Stiegler (2013:35), through the

second suspension, a new *pathos* and another kind of *philia* is invented, resulting in an individuation that takes place as a pharmacological pathogenesis between what he formulates as *existences*, *subsistences* and *consistences*.

The three modalities of *subsistence*, *existence* and *consistence* is derived from Aristotle's categorisation of the soul into the vegetative, sensitive and noetic soul, but is placed within the context of Simondon's theory of individuation (Stiegler 2011c:223). For Aristotle only the human can attain to the noetic soul as that which can be characterised in terms of the intellectual and spiritual life. But this can only be achieved intermittently, meaning that the noetic life can be actualised but mostly exists only in *potentiality* (Stiegler 2011c:223). In terms of the theory of individuation, human becoming takes place in the projection from the plane of existence (sensitive soul) towards the plane of consistence (noetic soul), but in general the plane of existence is weighed down by the plane of subsistence (vegetative soul) (Stiegler 2011c:222). Noetic potential can be actualised in the *secondary suspension* which aims at actualisation through the process of instituting new individual and collective practices. For the Greeks, these practices were collectively known as *gymnasia* and were made up of disciplines, *melete* and *epimeleia*, both individual and collective practices that aim to take care of the self and others (Stiegler 2011c:224). It can then be argued that friendship is a particular relationship through which noetic potential can be actualised.

It will be argued that friendship takes place within the interplay between the *who* and the *what* and that this interplay must also be grounded, which constitutes a relation with a *where*. Given the global nature of the digital epoch within which the question of friendship needs to be asked, the *where* is increasingly problematized by the spread of digital technologies which infiltrate and standardise traditional spaces of interaction. Here the concept of non-places, as developed by the cultural anthropologist, Marc Augé (1995), will briefly be considered in relation to how the Internet leads to a standardisation of place, as the *where*.

Friendship will thus also be placed in relation to the question of space, if it is considered that *place* has been problematised by the Internet. In this regard the notion of play becomes of interest since it is an activity which the British psychoanalyst, Donald Winnicott (1952), has analysed as being fundamental to opening a transitional space which makes psycho-social development possible. Stiegler (2013) draws on Winnicott's development of transitional space and the transitional object which mediates the transitional space, to regard the transitional object as fundamental to the social bond. Stiegler regards the transitional object as the first *pharmakon* which constitutes the possibility to establish *philia*, but he considers whether the organisation of consumption does not in fact destroy the transitional object to cause an infidelity or disindividuation of the milieu. With regard to friendship it can then be considered in what way consumerism detracts from the transitional object and thus reduce the potential of friendship.

Friendship in the digital epoch needs to be placed within an industrialised context in order to understand how it is affected by the dominant modes of socio-political and economic schemes of organisation. It has to be noted, however, that the contemporary role of friendship in terms of its influence in political organisation is considerably different from the role that it played with the Greeks, from which the traditional discourse on friendship stems. Waterfield (2009:22-23) notes that friendship played a decisive role in political matters since there were no political parties in the ancient city-states as is the case with modern democracies that have relatively permanent governmental structures in place which have to be managed by elected parties. The way in which political interests were advanced was by gaining the affections of influential friends and thereby effect changes to political organisation. But it also had the consequence that political programmes disappeared as individuals died, or were replaced (Waterfield 2009:22-23). Perhaps it is as such that Cicero excluded what he referred to as common folk from true and perfect friendship, since for him such friendship only belonged to those who made a name for themselves (Derrida 1997:4).

The political status of friendship seems to have receded from its public stature as new modes of socio-political organisation arose. This is likely the consequence of new modes of organisation

that arose with the printing press (a phase of grammatisation) and the concurrent emergence of the private sphere as distinguished from the public sphere. With these developments friendship seems to have become more significant in its relation to private matters and could thus also be the grounds for why friendship no longer played a role in modern moral philosophy (as noted by Pangle above), presumably, since modern democratic organisation no longer *publicly* recognises friendship in the implementation of programmes for political organisation.

But digital technology brings new possibilities which seem to renew the political status of friendship through socio-digital networks on a global scale. As such, the defence strategists John Arquilla and David Ronfeldt (1999) outlined a new approach towards diplomacy called Noopolitik specifically for the rise of the Internet and what they refer to as the rise of a network centric society. Noopolitik is a strategy for soft power that attempts to balance the effect of intensified networks of non-state actors whose values may not necessarily coincide with the values, or ideologies, of states. This strategy will be considered in relation to the emerging notion of algorithmic governance (McQuillan 2015; Stiegler 2015), which is not only considered as a mode of political governance but also extends to the governance of consumers through the automation of online behaviour that has led to what Kaplan (2014) refers to as an "economy of expression". The analysis of friendship in the digital epoch therefore has to account for algorithmic mediation which seems to open a grey area between the private and public spheres that exposes *philia* in the digital epoch to the clandestine governing regimes of automated mechanisms.

§ 1.3 Conclusion

Although the interconnection between technology and friendship does not always appear to be apparent, it will be shown throughout the thesis how technics conditions *philia*, but also how friendship (*philothés*) is the particular relationship that can resist the conditioning of the social bond. It will be considered how different technical epochs have historically engendered new

conditions for the social bond, but also how digital technology may be affecting the social bond presently. This can be regarded in terms of the change of tertiary retentions, which are no longer only oral or literate, but are also algorithmically constituted. The analysis will also be placed within Stiegler's conception of the general organology so that it could be considered how digital technology affects the social organ and that this should be considered simultaneously on a scale between the global and local conditions in which friendships can form.

The following chapter will expand on the understanding of the technical object in order to consider a genealogy of friendship as it developed throughout the various technical epochs.

2

Genealogy of Friendship

This chapter will serve as an explication of the interconnection between the concept of technics, as developed by Stiegler, and the foundational role that it plays in establishing the social bond (*philia*) between human beings. It will be shown in the first section that Stiegler's understanding of technics is indebted to Heidegger's existential analytic, but with an extended analysis that includes an ontology of the technical object. Stiegler's understanding is that technics conditions facticity, which he refers to as the *what*, and that it is the *what* that conditions the social bond between socio-cultural groups, the *philia* that constitutes the collective as a *who*. It will also be shown how the technical object serves as a memory-object that acts as a support for the transmission of cultural memory.

After the analysis of technics, section two will consider the *conceptual* origins of friendship in Ancient Greece, which is analysed to have originated with the advent of alphabetic writing and the creation of *isonomia*. It will then be considered how the discourse on friendship developed with philosophy in the Ancient Greek *polis*. The concept of friendship will briefly be looked at from both Plato's and Aristotle's perspectives, which seems to differ in their respective developments of *eros* and *philia*. It will then be considered how the Aristotelean discourse on *philia* is transmitted through the technical object, and how this affects coding of desires in the organisation of the *socius*. Throughout the section the distinction between *philia* and *philothés*, between the social bond (philia) and friendship (*philothés*) will be considered as a relation between facticity and agency.

§ 2.1. Technics

2.1.1 The Technical Object: Artifice and the accidental becoming of the human

Stiegler's philosophy revolves around the question of technics which he develops specifically in a series entitled *Technics and Time* (1998, 2009a, 2010a). Following Heidegger's existential analytic, Stiegler develops an ontological critique of the history of Western philosophy which, according to Stiegler, has suppressed the question of technics since its Platonic inception. Stiegler's (1998:21) central aim is to "conjugate the question of technics with the question of time". The conjugation of technics with time means for Stiegler that technics has to be understood in terms of a spatialisation that takes place through the exteriorisation of memory in the technical object. Within the spatialisation of the technical object, the human being forms and becomes in a dynamic relationship between the interiorisation and exteriorisation of memory as it is mediated by the technical object. The technical object, in other words, is the material object that couples with the biological organism which opens the space for human becoming. But in this coupling, systems of practices and techniques develop in relation to the technical object, which become cultural practices that orient societies collectively. Technics, as the meshwork between the technical organ, the social organ and the biological organism of the human being, is the catalyst in the process of hominisation (Stiegler 2013c:65). Technics thus comprises a systemic understanding of the human being and its coupling with matter through the artefacts that form part of the cultural, socio-political and economic practices of societies.

Stiegler (1998) draws on the Ancient Greek myth of Prometheus and Epimetheus to develop what he refers to as the originary default of the human, a necessary default which constitutes the artifice of being human. In the myth, Zeus orders Prometheus to give all mortal beings on earth the necessary qualities to live and to survive. Prometheus consequently charges his brother, Epimetheus, to distribute these qualities among the mortal beings of the earth, but in the process he accidentally forgets to bestow a quality to the humans. This leads Prometheus to steal fire

(seen here as prosthesis) from the gods to give to the humans in order to make up for the lack of having any qualities to survive on earth. For Stiegler this is symbolic of the human being which has at its origin a faculty of forgetting, the default of origin, that can only be overcome through the prostheses that constitute the artificial becoming of the human being:

"The accidental forgetting, generator of prostheses and artifices making up for a lack of origin, is equally the origin of *hypomnesis*, to which Plato will later oppose the *anamnesis* of the origin. In opposition to the metaphysics arising in the *Phaedrus*, the myth of the fault of Epimetheus says that at the origin there is only an originary default of origin, and man, without qualities, only exists by default: he becomes" (Stiegler 2009b:16).

Stiegler analyses the technical object from the standpoint that it is a dynamic memory support that mediates the artificial condition of the human being, who only comes into existence because the human as a collective is capable of overcoming its immediate biological faults through the support of the technical object which mediates the exteriorisation and interiorisation of collective memory. Stiegler's critique of Western metaphysics is that technics is devalued in its constitutive relation to human becoming since Plato's opposition between *hypomnesis* (artificial memory) and *anamnesis* (the true memory of the soul). Stiegler (2010c:29) criticizes Plato who opposes the interior memory of the soul, as knowledge which is acquired through *anamnesis*, with knowledge that is acquired artificially through *hypomnesis*, which is regarded as the acquisition of dead memory (see also § 4.1). This leads to a metaphysical opposition whereby Plato suppresses technical supports in the acquisition of true knowledge. But for Stiegler (2010c:29), following Derrida, it is impossible to oppose interior and exterior memory as living and dead memory, since it is dead memory "which *constitutes* living memory as learned".

The devaluation of technics in Western metaphysics has its philosophical origins in Plato's battle against Sophism, when *ēpistēmē* is philosophically opposed against the sophistic attribute of *tekhnē* (Stiegler 1998:1). The outcome of this opposition is that technics has traditionally been

analysed as something which does not have a dynamic of its own, and is instead analysed traditionally as being only a means to an end. For Stiegler (1998:17), technics is not reducible to a mechanics, biology or to an anthropology, but is rather a dynamic system formed by the inseparability of the simultaneous evolution of technics and the evolution of humanity. "Life", according to Stiegler (1998:17), "is the conquest of mobility. As a 'process of exteriorisation', technics is the pursuit of life by means other than life". In other words, for Stiegler (1998:137) the history of humanity is also the history of technics, which means that the human does not only invent technics, but that technics invents the human.

In support of his understanding of technics, Stiegler follows the work of the French paleo-anthropologist, André Leroi-Gourhan, to develop a concept which he terms "epiphylogenesis". Leroi-Gourhan (1993) shows in his study of the evolution of skeletal mechanics how the event of bipedality sparked the technical evolution of humankind (see § 4.1). With the upright gait of the humanoid, technical evolution becomes possible since "the freeing of the hand during locomotion is also that of the face of the grasping functions. The hand will necessarily call for tools, movable organs; the tools of the hand will necessarily call for the language of the face" (Stiegler 1998:145). In this process memory becomes exteriorised in the technical object, which stores and transmits an epigenetic memory that has organised a phylogenetic object into a tool. All technical objects constitute, for Stiegler, "inorganic organised beings" which store and transmit intergenerational memories in the process of epiphylogenesis. The process of epiphylogenesis constitutes a third form of memory that goes beyond epigenetic and phylogenetic memory:

"This third memory is what I've called epiphylogenesis, in which memory is housed outside the body through the organisation of the inorganic: a tool, a writing (or speaking) system, a technical trace..." (Stiegler 2010a:206).

This third form of memory therefore supposes that individual memory can be stored in the technical object and thereby also transmit memory beyond the individual's life. As such the technical object, the tool, accumulates and collectivises individual experiences to form intergenerational memory in a system of techniques and practices that correspond to the signs and symbols of the technical object. In the adoption of a tool it means that one can inherit intergenerational memory that projects knowledge of how to live, which is also to say that

"it is to adopt an experience, to make it part of one's own past even if one did not live it oneself, through retroactive delegation. The tool is already a projection screen, since the adoption of such a past is – immediately – adopting the capacity to project a future" (Stiegler 2010a:206).

With the concept of epiphylogenesis it becomes possible to theorise the role of technics in the formation of cultures as a relation between the technical object and the organised practices that guide a society and the individuals within it. These practices are transmitted from generation to generation via epiphylogenetic memory which bears the collective memory of the society. Individuals can thus inherit memory in the form of practices in relation to their ancestors, but through invention become capable of changing and restructuring individual and social practices within a symbolic system.

2.1.2 The constitution of the *who* through the *what*: an ontology of technics

In the Heideggerian tradition of the existential analytic, an ontology of technology can be understood as the forgetting of technics according to Stiegler. This view is supported by the German media theorist, Friedrich Kittler (2009:23) who writes that "[m]ore than any other theorists, philosophers forgot to ask which media support their very practice. Therefore it is only with Heidegger's help that we can hope to develop something like an ontology of technical media".

Taking a short passage from Aristotle's *Physics*, Stiegler (1998:1) shows that an ontology of technical beings has ever since Aristotle been analysed in terms of an ends-means relationship (up until Heidegger's intervention pointing this out) and thus never as something with a dynamism of its own. Aristotle is quoted from Stiegler (1998:1) as follows:

"Every natural being [...] has within itself a beginning of movement and rest, whether the 'movement' is a locomotion, growth or decline, or a qualitative change [whereas] not one product of art has the source of its own production within itself"

A similar observation is made by Kittler who attributes the systemic exclusion of technology from ontology more precisely to Aristotle's opposition between form and matter, an opposition that stems from technology as manipulated matter which does not originate within itself, as do natural or living forms, according to Aristotle:

"Being [*Dasein*], whether natural or technical, has been thought of for 2500 years (to agree with Heidegger) in the metaphysical terms of hereness and presence, *entelécheia* and *ousía*, not in their many opposites such as past and future, storage and transmission" (Kittler 2009:24).

As such the technical object is forgotten, or rather, remains unthought in the history of Western philosophy and therefore requires that the technical object would have to be rethought in terms of ontology. For Heidegger (1977:312) the technical object has traditionally been thought in terms of anthropology when it is regarded as a human activity and as a means to an end when it is regarded as an instrument. But in terms of the existential analytic it is no longer enough to simply ask what the technical object is, but what its essence is. For Heidegger the technical object can be thought in terms of the ontological difference between the *who* and the *what*. The difference here being made in terms of existence and facticity. For Heidegger this is not to say

that the *who* and the *what* are exclusive from one another but that the *what* constitutes the temporality, or the already-there, of the *who* (Stiegler 1998:242-3).

The *what* of the technical object according to Heidegger (1977:317) is that which "brings [forth] out of concealment into unconcealment" through *poiēsis.* It is not the dynamism of the technical object as the *what*, but rather the singular relation of the *who* in its difference to the *what* that unconceals. Heidegger thus places the *who* and the *what* in a fundamental relation to one another, but only in such a way that the *what* grounds the possibility of the unconcealment of being through the *tekhnē*, or the *poiēsis*, of the *who*. Heidegger's thesis does not allow for the *what* to enact the poetic upon the *who*. In the difference between the *what* and the *who*, the *what* remains only the past of the *who* (*Dasein*) and thus only gives the *who* access to its past as an instrument. It is up to the *who* to reveal or to bring forth, through *tekhnē*, what has been concealed. For Heidegger (1977:319) then:

"what is decisive in *tekhnē* does not at all lie in making and manipulating, nor in the using of means, but rather in the revealing […]. It is as revealing, and not as manufacturing that, *tekhnē is a bringing-forth"*.

Stiegler (1998:244) departs from Heidegger's analysis to question whether Heidegger himself does not forget that the already-there, or the *what*, is the prostheticity which gives *Dasein* access to the world. In this sense Heidegger's existential analytic does well to question the forgetting of being insofar as it is an analysis of the *who*, but it forgets about the dynamic being that is the *what*. Stiegler extends Heidegger's existential analytic by subjecting it to the traditionally accepted inorganic world of technical objects. As such, the existential analytic in conjunction with the technical object is rethought by Stiegler (1998:241) as

"the organised inorganic, designated precisely as 'readiness-to-hand', and which is 'animated' by a dynamic unto itself. Heidegger's reflection upon equipment will bring nothing new in this regard, avoiding completely proper consideration of the dynamic of *organisation* – and therefore, the already-there as such".

Stiegler's account of the technical object based on these grounds then gives it a temporal dimension. But crucially for Stiegler this temporal dimension can not only be thought in terms of a prosthesis or an instrument. For an instrument or prosthesis to come into existence it means that there must already be a fault to which it responds, in the attempt to overcome the fault. There is thus an *originary de-fault*, according to Stiegler, as that deficiency which must have been overcome by a prosthesis. It is in this process of overcoming deficiencies through prostheses that the *what* is structured, but whereby the overcoming of the fault through instrumentality also generates a forgetting.

"Transmission is forgetting. This is the Epimethean structure: the experience of accumulated faults that are forgotten as such" (Stiegler 1998:241).

By attributing this second dimension to the technical object in the form of the forgetting of an 'accumulation of faults', the spatio-temporal understanding of the technical object is radically altered. If it is understood, as with Heidegger, that the already-there of the *what* constitutes *Dasein*'s temporality, then it is because the prosthesis recedes into the background in order to open up, or to unconceal *being* from whatever obstacle is encountered in space. For example, in its proximity to the *who*, the spectacles on a man's nose serve the prosthetic function of overcoming the severance from the world through blurred vision so that the man can see farther or nearer. But at the same time that it performs this function, the prosthesis recedes and is forgotten as it becomes essentially integrated with the *who* – and thus serves the function of the de-severance from the world (Stiegler 1998:251).

What is forgotten with the prosthesis in its closeness is the initial lack of vision as deficiency or severance from the world. In its closeness to the *who*, the *what* engenders forgetfulness and thereby becomes negligent of the care that the *what* necessitates within the *who*. It is out of *caring* for this fault that the prosthetic becomes the *concern* with and through which the human initially anticipates its biological faults. But as this anticipation is assimilated in being 'ready-to-hand', concern, for Heidegger, leads "to our absorption with entities in the world, and such absorption distracts us from the roots of our own existence" (Harman 2007:174). The "roots of our own existence" is what Heidegger identifies as the forgetting of being, but it is what Stiegler identifies as the *de-fault of origin* in which an initial care is engendered by an originary fault itself. Yet care of that fault is forgotten in our prosthetic anticipation as concern. Concern is a form of projection or foresight, whereas care is that which arises out of a fault or a mistake and it can thus only be in hindsight that a fault can be de-faulted. Care, in other words is that which addresses and remains open to the prevailing fault(s) of *Being*, which, despite all prostheses, remains incurable.

Stiegler contributes to an ontology of technology by showing that the technical object is constitutive of the human being's memory and that it thereby also constitutes human space-time. It is not only an artefact that serves the function of disinterested analysis, but is also an active or dynamic part of the existential conditions of life. Stiegler's neologism "epiphylogenesis", derived from Leroi-Gourhan's work, is created to show that the technical object understood in the anthropological sense is also a memory object. As such the question of technics and memory cannot be separated, since "what constitutes the phenomenon of hominisation is the exteriorisation of memory [seeing as] every technical object is a memory-object" (Stiegler 2013b:164). From here Stiegler engages with Heidegger on the 'existential analytic' in order to attribute a dynamism to the technical object *qua* memory-object in its relation to the *who*. His critique of Heidegger thus being:

"In Heidegger the *what* has no other dynamic than that of an inversion of the 'authentic' dynamic of the *who*. But does not the dynamic of the *who*, on the contrary, vouch for a maieutic of the *what*?" (Stiegler 1998:244).

For Stiegler such a maieutics would mean that the *what* also unconceals being within the *who*. Whereas in Heidegger it is the *who* that unconceals what is concealed in the *what*, according to Stiegler the *what* is not entirely dependent on the *who* for unconcealment. Instead, the *what* also has the capability of enacting a *poiēsis* on the *who*. This, however, is not possible without the epiphylogenetic structure of the *what* which attributes a dynamism to the anticipation of the *who*. This means that the *what* accumulates memories and faults that are bound up in the prostheses that anticipate and become programmatic of the *who*. In this regard the *what* becomes constituted in a genealogical relation to the technical object. Such a genealogy would reveal different epochs in which the *who* is affected differently by the *what* in its relation to the modality of the technical object. This will form the basis for understanding how the social bond (*philia*) is affected and reconstituted by the *what*, and how this generates new modes of establishing fidelity in the *who*.

2.1.3 Socio-technical diversification: the genesis of difference

The process of exteriorisation inaugurated the simultaneous development of language and technicity through which socio-cultural groups become concretised. The cultural environment, or *interior milieu*, consists of a technical tendency originating within the social group to assimilate the *exterior milieu* (natural environment) through the use of technical objects which also forms a *technical milieu* (or technical system) [see § 3.1]. The technical tendency, projected in the technical object, is a universal phenomenon amongst humans, albeit that it is concretised differently in each group, and thereby constitutes the difference of ethnic groups (Stiegler 2010c:109-113;141). Differentiation thus occurs in the process of exteriorisation (epiphylogenesis), constituting a difference in the *what* with which each particular ethnic group individuates.

Tools and social groups simultaneously become territorially diversified and more specialised as social and technical evolution continues after the corticalisation process comes to an end in the biological evolution of the human being. As a result, however, differentiation is displaced from the species toward the differentiation of the individual from the group (Stiegler 2009a:66). Through socio-technical specialisation, behaviour in different groups begin to correspond to a particular programme which is no longer determined by the organism itself, but rather responds to the exteriorised programme of the group to which individuals belong (Stiegler 2009a:70). Ethnic groups thus install their own systems of care which programme the behaviour of individuals in relation to the group. An iterability is therefore concretised in ethnic groups through customs and habits, giving each group their own aesthetic. However,

"no physiological (corporeal) tendency, no figurative (symbolic) aesthetic exists that is not ipso facto connected to a functional aesthetic in which the generation of forms occurs in their various modes according to the general principles governing the relation of the human to matter itself" (Stiegler 2009a:69).

In other words, in the dynamism of the human coupling with matter, the genesis of collective memory acquires an aesthetic relation to the *exterior milieu* conditioned by the modality of the technical object which mediates data to (as perception) and from (as imagination) the *interior milieu*. The technical object, as medium, thus generates an aesthetic which conditions the exteriorisation and interiorisation of memory. For example, in the mode of orality an aesthetic is generated which remains particular to *muthos*, whereas literacy generates an aesthetic particular to *logos* [see Chapter 4]. For each major technical invention a spatio-temporal re-orientation takes place according to which a group begins to develop new practices to organise itself.

Through repetition socio-cultural programmes develop a rhythm in relation to the technical object, producing a collective orientation of the group towards the world. Thus, "through the

concept of the programme, rhythm and memory are articulated in a group synthesis forming a fundamental relation to space and time" (Stiegler 2009a:69). Naturally occurring rhythms, such as the movements of celestial bodies, seasonal changes and daily routines are integrated into these programmes to form the calendar that constitutes the collective rhythm of a group (Stiegler 2009a:73). Ethnically constituted programmes appear in relation to a territory, a *where*, which is accordingly cultivated, defended and inscribed with "traces of cthonian or celestial powers, ancestors or spirits which populate and animate its private geography (Augé 1995:35). A tripartite relation between the *who*, *what* and *where* is thus established which inscribes ancestral relations with a cosmic order in the programme of an ethnic group which at the same time differentiates one group from another in the order of this tripartite relation.

Initially differentiation at the group level takes place in relation to a localised programme by which it is overdetermined. However, through advances in technics, in conjunction with the history of conquest and colonisation which has led to the installation of the "world system" (Sloterdijk 2005) of global commerce, the tripartite relation between the *who*, *what* and *where* is effectively liquidated. As a consequence of globalisation[1], a divorce between the *what* and the *where* (deterritorialisation) has generated a crisis for the idiomaticity of the *who* in its traditional ethnic constitution since it has been usurped by a globalised technics that is programmatic of behaviour regardless of *where* the *who* is located. This is because idiomaticity is constituted by the *what*, which can take on different modalities, as is the case with alphabetic writing which constitutes a modality of the *what* that produces citizenship as an idiomaticity of the State (Stiegler 2009a:67).

In following that it is the *what* that anticipates and conditions the *who*, the hereditary memory of ethnicity is "the base for an idiomatics of the principle of differentiation" (Stiegler 2009a:66). Ethnic memory, which is already taken for granted within the individual, is the memory that is

1 Here I am following Peter Sloterdijk's (2005) notion of 'terrestrial globalisation' which formed the current world system that was "realised practically through Christian-capitalist seafaring and politically implanted through the colonialism of Old European nation-states", spanning a period of roughly 500 years from 1492 – 1945, but which continues today as electronic globalisation (Sloterdijk 2005:9).

acquired from birth as the child with a "virtually empty brain" is being socialised [§ 4.1]. As a process of exteriorisation, it is the ethnic group's iterability which constitutes the inscription of the *who* within the individual. The *who* is thus not simply an individual *I* but a *we* that is always inscribed on the *I*. But this *who* (a *we*) can only be such through the integration of the *what* into the *who*, which takes place through the transmission of systems of care that install the programmatic idiomaticity of the ethnic group (Stiegler 2009a:67).

However, there remains the instance of the individual's being-toward-death, as the indeterminacy of the death of the *I*, that is not the being-toward-death of the *we*. For Heidegger this raises the question of authenticity in *Dasein*: the realisation of the *who*'s authentic being-toward-death. But for Heidegger the *who* is the *I* and the *what* is the *we*. Through the work of Leroi-Gourhan, Stiegler shows that the *who* is constituted as a *we* by the *what* and that *Dasein* must therefore be understood as a *we*, which "inscribes indeterminacy firmly within idiomaticity" (Stiegler 2009a:67). Authenticity, in other words, is not in the *I*'s individual relation towards death, but in relation towards the *we* which constitutes its idiomaticity. Authentic *Dasein* is when the individual alters the memory of the *we* through which it is itself (idiomatically) transformed and adapted, simultaneously also transforming the *we*. Such a transformation would constitute a new iterability within the *who*, and can also be understood as an *individuation* [see § 3.2].

Authenticity thus arises out of the suspension of a socio-cultural programme during which the *who* (*we*) alters the *what*, to also in turn be altered by the *what*: by not simply being overdetermined in belonging to a *we* but by *responding* to the shortcomings of the constituted *we*, to adapt and to take care of *it*. A suspension of the *what*, of the already-there, can alter the *who* in which the future of the *we* individuates with an idealisation that can be iterated: "iterability is essential to an ideality that must be capable of being repeated" (Stiegler 2009a:68). This presupposes that an other time beyond the time which is already anticipated must be projected, placing the authenticity of the *who* in relation to a pure possibility which itself becomes the idealised object of repetition – but which remains indeterminate.

Temporality is already constituted by the *what* that opens out onto the *who*, setting the conditions for spatio-temporal orientation. Suspending a programme with the aim of adopting a new iterability is always confined to the dynamic of the *what*. Following this, one needs to analyse the development of the *what* as it takes form in various epochs. In such an analysis the primary concern is to establish how the variations or modalities of the *what* has generated variations in the aesthesis of the *who* (Stiegler 2009a:64). 'Epoch' is considered here in historical time periods, but in conjunction with the transformations that have necessitated the re-orientation of social organisation following a technical invention, of which digitalisation is the most recent.

A clear example of significant transformations that accompany an invention can be seen with the invention of alphabetic writing which led to a rupture in socio-cultural organisation. Alphabetic writing is orthothetic, meaning that it records speech with exactitude in order to reproduce what was said, but in doing so also gives birth to theoretical knowledge (*ēpistēmē*) and the concept of history (Stiegler 2009a:29-30). Alphabetic writing led to a linearisation of thought which began to address the world in terms of causal relations, as opposed to mythical stories, and therefore also led to the development of critical thought (Flusser 1988). It enabled social organisation to become centred on written laws that could be preserved for interpretation and criticism as time progressed and as changes required laws to be adapted accordingly. This also meant that the dynamic of organisation acquired a theoretical component (*ēpistēmē*) which would in turn affect the social bond (*philia*) accordingly (see below).

The organisation of people according to specifically written rules and laws that citizens could interpret and change was known in Ancient Greece as *isonomia*, and it gave birth to the *polis*. The origin of political organisation had as a prerequisite the "instrumental practice [of writing as] the condition of *isonomia* – political as much as scientific, philosophical, literary, artistic, and so forth – which is at the same time the opening of *autonomia*: of citizenship itself" (Stiegler 2009a:40). The political organisation of social life also establishes the concept of the friend as a figure particular to citizenship.

Isonomia can be roughly translated as the law of equality. If *isonomia* presupposes the gathering of citizens as autonomous individuals, then the figure of the friend is a natural outcome of this mode of organisation, since friendship itself is a relationship of equality (see below) that respects the autonomy of the other. As such it must keep the autonomous other at a distance and at the same time would require the other to act and behave autonomously since these were the requirements for citizens belonging to a political society. Political societies are thus founded on a

"formally constituted friendship bond, which itself was formally declared and based on public law which was simply the entry condition into a social group called *polis*, and then *civitas*, and finally nation" (Stiegler 2013b:23).

Friendship intertwines love, knowledge and politics. In the following section, an exposition of friendship in consideration thereof as a form of love that is different to erotic, or sexual, love will be provided. It will be considered what the relationship between friendship and knowledge is, how friendship is tied to the politics that informs the historical discourse on friendship as it has been taken up in the Western canon. It will also be considered what the difference is between the *philia* and between friendship by bringing into consideration how the *what* conditions the potentiality of friendship itself.

§ 2.2. Friendship

The analysis of friendship will be placed within a *maieutics* of the *what*, which has in part already been undertaken in the above. In the following it will be a matter of determining how the *who* of friendship is anticipated by the *what* and how variations in the modality of the *what* possibly *affects* the formation of friendships. This relation between the *what* and the *who* opens the question to friendship in the following way:

"we must ask ourselves what it is *exactly* that constitutes the *philia* of *those who can become friends*. By friends we mean those who can be *affected by love, desire, and absence* – of which the desired object (conceptualised by Lacan as 'le manque', the lack) is always an experience. And from there, to *individuate themselves in this affection*, by which they become *psychically* individuated, and in that, *singularly affected*" (Stiegler 2013b:18).

In the above it was shown that the *what* precedes the *who*, that the *what* acts as the tertiary memory that conditions and affects the *who*. The *what* in this sense constitutes a *philia* (a we) which precedes the possibility of a friendship between two or more people. Although tertiary retention constitutes the *philia* in a social group, or amongst social groups, the memory of one's personal friends – of those whom one instantly recognise as 'friend' – is a memory that is constituted epigenetically. There is thus a somatic response at the instance in which one recognises a friend. This somatic response (or the lack thereof in a friend's absence) evokes the psychic experience through which one is affected by the friend.

Friendship, as a relation with another, may be at odds with what is communally constituted as desirable in the figure of the friend, and this difference can be regarded in terms of the distinction between friendship (*philothés*) and the social bond (*philia*). It means that although a tertiary retention may condition and in many respects determine who one may/can become friends with, friendship itself can resist or transcend the banality of acceptability. Such is the phenomenon of the particularity of a personal friendship in distinction to the inherited generalities of the impersonal friendship that makes up the lowest common denominator of belonging to a community.

As a concept, the friend which constitutes a *we* relation, can be differentiated from an ethnic *we* in the sense that the *we* formation of the conceptual friend takes place in a gathering (*polis*) before the law, as formally constituted through alphabetic writing, allowing an association with

the friend as free from particular familial and social bonds[2]. This association, however, inscribes an *injunction* on the *we* of the friend, attributing to it a political reflexivity. Since this reflexivity is conditioned by the orthography of alphabetic writing, it also places the concept of friendship within historical and critical thought.

Below it will be considered how friendship and the possibility thereof has been affected by the historical discourse on friendship. The aim of this will be to finally consider how friendships, placed within a *maieutics* of the *what*, are or could be affected in the digital age which above all culminates in an industrialisation of the tertiary retentions that anticipate and condition the *we* (*philia*) of friendship. The analysis of friendship will begin by considering it as a modality of love before it will be considered historico-politically. It will be shown that in friendship there is an intersection between love and politics. Arguably one could say that friendship is a politicised form of love, if one bears in mind that it is a mode of loving that occurs in the public association with others. But it is firstly necessary to draw on an anthropological perspective of love before it can be considered how love manifests in the political organisation of society. For this I will draw on Sigmund Freud's anthropological speculations about *eros* in order to analyse the role of the sublimation of desire in the formation of friendship.

2.2.1 Desire, Friendship and Philosophy

In the essay, "*Civilisation and its Discontents*", Freud (1964) speculates about the bipedalic moment in the evolution of the human being as that which led to the erotic development of the sexes. Freud (1964:99) writes in an extensive footnote about a natural, or "organic repression", that occurred with a diminished sense of smell that was replaced with the dominance of the visual sense at the acquisition of the upright gait. At the same time that the sexual organs became exposed in the anterior field, sexual excitation evolved from olfactory stimuli which related to

2 According to Douglas Harper the etymology of *friend* is composed of the adjective *free*, which apart from meaning "to love", also suggests freedom from bondage and the love relation between the free members of a society. See: http://www.etymonline.com/index.php?term=free&allowed_in_frame=0 Accessed 21 February 2015.

the menstrual cycles of the female, to visual stimuli in the exposure of the genitals in the human being. The exposure of the genitals, which remained concealed in the quadruped, also meant that it was in need of protection, and according to Freud, due to the coupling of the visual stimuli and the need for protection it led to inspire feelings of shame in man. Sexual excitation thus became fundamental to the satisfaction and happiness of the human, meaning that the sexual-object became a love-object, the lack of which would cause suffering or unhappiness.

For Freud (1964:99), the motives that began civilisation after the period of sexualisation thus lie in the capacity of human beings to love. Love, however, was accompanied by the need to work as it was engendered by external necessities. Borne from this necessity was also the realisation that collective work is more efficient. Freud (1964:100-101) thus speculates that communal living arose out of the family when it was discovered that the authoritative figure (the father) who wielded an unrestricted power was cumbersome to collective or communal organisation, and that the combined power of the brothers could overthrow the father[3]. But this meant that the efficiency of collective action and work required a restriction of one another to maintain cohesion. These restrictions were maintained by instituting taboos and by symbolically exteriorising authority onto a totem, all of which led to the first forms of the 'rule of law'[4]. For Freud (1964:101) communal life thus has a twofold foundation: the compulsion to work, generated by external necessities; and love, generated by the genitals as internal necessity.

But as communal life becomes dominated by the brotherhoods that seek to share the compulsion of work, a love that Freud (1964:102) refers to as “aim-inhibited love” develops. Aim-inhibited love marks a shift in the genital need to be loved towards loving itself. The object of love is

3 Here Deleuze & Guattari's (1984) critique of Freud and psychoanalytic theory in general to universalise the Oedipus Complex (at play here) must be kept in mind. This critique will not be dealt with in particular although it does seem to have transpired that the nuclear family is imposed, exploited and at the same time liquidated in the modern organisation of global capitalism via the universal application of the Oedipus complex, which Deleuze & Guattari seem to have warned against [see Chapter 3].

4 For Stiegler (2013c:178-179), Freud, who also speculates that a new weapon could possibly have given the sons courage to overthrow the father, does not begin to think that it may be *technics* itself, the weapon in general, which permits the formation of communal organisation.

displaced in favour of loving: as a way of protecting themselves from the potential loss of their love-object, men instead transform their

"instinct into an impulse with an *inhibited aim*. What they bring about in themselves in this way is a state of evenly suspended, steadfast, affectionate feeling, which has little external resemblance any more to the stormy agitations of genital love, from which it is nevertheless derived" (Freud 1964:102).

The love-object is therefore displaced and exteriorised (even if only projected theoretically, as *theos*) to become idealised through which desire is sublimated. It is through this "sublimation whereby desire becomes desire of truth, of *aletheia*, in other words, of sign-making, of significance, of meaning" (Stiegler 2011b:224)

The invention of alphabetic writing and the consequent foundation of city-states instituted this 'aim-inhibited' love according to a shared knowledge that corresponds to *truth*; with the aim of social organisation to correspond to truth as justice. But the functional aesthetic of orthography is to duplicate the voice. The voice is the originary seat of truth, but orthography duplicates the truth of what was spoken. The truth therefore becomes *literally* reproducible after being severed from the voice, engendering a distinction between truth and its *hypomnesic* reproduction. Reason (critical thought) then becomes the measure through which it is sought to establish truthfulness. Here one can also observe the Platonic inception of philosophy with Socrates who insistently applies the dialectical method to attain towards the truth through reason, alongside which it marks the appearance of the friend in *philo*sophy who "no longer stands for an extrinsic persona […] but rather for a presence that is intrinsic to thought" (Deleuze & Guattari 1994:3).

Through the event of orthography, in the transition from *mythos* to *logos*, aim-inhibited love is projected as the desire for truth, as its idealised object through which sublimation can take place.

As such the possibility for truth is opened to critical thought in relation to the tertiary retentions produced by alphabetic writing. But this necessitates a disposition that could attain towards the truth, which is the disposition of the friend, who, with an aim-inhibited desire is capable of displacing his/her desire in relation to an idealised object of desire (truth). As such friendship forms in relation to an idealised object of desire that mediates the relation with another human being, so that desire becomes channelled away from genital love towards the object of desire to form an aim-inhibited love. Thus, whereas friendship requires truth in order for it to be a relationship of equality, it is not truth which manifests in the friend, but rather in friendship, as a relation to the truth.

"With the creation of philosophy, the Greeks violently force the friend into a relationship that is no longer a relationship with an other but one with an Entity, an Objectality, an Essence – Plato's friend, but even more the friend of wisdom, of truth or the concept […]" (Deleuze & Guattari 1994:3).

The relay between aim-inhibited love and truth engenders a need for the free exchange of thought and knowledge. During such an exchange it becomes important that the purported knowledge attains towards a justified truth, allowing thought to develop an epistemic sensibility that is opposed to the purports of opinion (*doxa*). In the same stroke, however, *ēpistēmē* and *tekhnē* become philosophically opposed through the Platonic contestation that, in the hands of the rhetoricians, *ēpistēmē* becomes a tool for making money and manipulating opinion in the guise of the truth. In this regard the friend, or rather friendship, becomes important as the particular disposition that does not seek reward nor does it seek to win favour with the facelessness of opinion. Instead, as a disposition, friendship becomes a *tekhnē*, or art of love, which cultivates an orientation towards the object of desire so that it may be elevated into an idealised object of desire which must be taken care of.

This cultivated disposition towards the object of desire is considered by Plato in the dialogues *Lysis, Phaedrus* and *Symposium*, where universals such as the Good, Truth and Beauty play an important role in relation to the gratification of *êros* through sublimation. In these dialogues it can be observed how erotic desire for a subject is constantly displaced towards the exteriorised object (the universals), transforming desire into the sublimation thereof. One could argue that Socrates teaches his interlocutors in these dialogues the art (*tekhnē*) of loving, in which he teaches them to direct their desire towards the object instead of the subject. This can be seen in the *Symposium* when Socrates recounts Diotima's lesson to him regarding love and beauty. Diotima teaches Socrates that loving beauty for its own sake would transform it so that it could be recognised in all bodies and souls, such that the mind (*nous*) would eventually come to learn that the contemplation of Beauty is what makes life worth living (Plato 1956:115). But one arrives at this state only through the cultivation of the proper disposition which amounts to the displacement of desire from the subject to the object.

This displacement of the libido towards the object transforms desire into a creative potential in friendship that may be transposed into the creation of concepts. According to Deleuze and Guattari (1994:5), the creation of concepts (such as Plato's concept of the Idea) is the hallmark of philosophy, but requires the friend who can challenge and rival the concepts of others to establish which concepts are worthy of care. Although one can address friendship in relation to its inherent creative potential, it does not necessarily account for the experience of friendship, why friendship itself is desirable or why one desires to be friends with a particular person. In the least it can be argued that friendship is a relationship that is maintained free from the "stormy agitations of genital love" and is instead a bond that results from the sublimation of desire.

Friendship thus consists of a libidinal economy in the sense that friendships arise out of the necessity to be free from the emotions generated by sexual intercourse. Yet friends must derive pleasure from their relationship, otherwise the friendship would dissolve, and therefore the aim-inhibited love of friendship constitutes a libidinal investment. For Aristotle, this libidinal

investment would manifest on three levels, namely utility, pleasure and the good. Below follows a short exposition on Aristotle's theory of friendship.

2.2.2. *Philia*: the Aristotelean conception of friendship

Aristotle takes up the question of friendship in the *Nicomachean Ethics* as well as the *Eudemian Ethics*. For Aristotle (1155a) friendship "is a virtue or involves virtue, and is an absolute necessity in life". Friendship[5] is considered as something noble but it also exists in the *philia* amongst parents and their children, between animals and between cities (Aristotle 1155a). For Aristotle (1155a) there is no need for justice when there is friendship, even though there is need for friendship when people are just, and as such friendship appears to Aristotle as the highest form of justice.

Aristotle extends on Plato's account of friendship in the *Lysis* by expanding on the object of love (desire). For Aristotle (1155b) the useful, pleasurable and the good are the three objects that are worthy of love. The object of love, however, has to be reciprocated for the kind of friendship to be constituted accordingly. In other words, if the object is utility, the friends have to be engaged in mutual affection towards the object of utility, and this cannot go unrecognised by either party since it will then not constitute reciprocity. The same goes for friendships of pleasure and the good. As soon as these objects of love are no longer reciprocated, the friendship comes to an end. But friendships of utility and pleasure are incidental and last only for as long as the parties to the friendship gain from or find pleasure in the friendship. Whereas friendship of the good encompasses both utility and pleasure (besides the good), it most importantly consists of the good and pleasure without qualification, since it is not for utility or pleasure that these friendships arise but for the sake of the good and that in itself is pleasant (Aristotle 1156b). These

5 The use of the words "friendship, friendships and friends" in the following section is deliberately conflated with the concept of *philia* in order to retain the sense with which the Aristotelean tradition seems to collapse the *who* and the *what.* Friendship (*philothés*) always implies *philia* (a social bond), but *philia* does not always imply *philothés*.

friendships can only occur between virtuous people, and as such tend to last longer, since, as Aristotle (1156b) notes, virtue is something that tends to endure.

Friendship of the good is invariably translated and referred to as complete, primary, true or perfect friendship. These friendships are rare and take time, since, for Aristotle (1156b), such friendships are only revealed in the *confidence* between the friends who know that they are of virtuous character. In other words, in true friendship there is *trust* and *equality* that is based on virtue and not pleasure nor utility (Aristotle 1156b-1158a). But for Aristotle (1157b) these friendships arise out of a *rational choice* that comes from a *state* and not a feeling of affection, such that people wish good things upon their friends whom they love for their sake. For Aristotle it is therefore more rational to love than to be loved, and in true friendship one loves the other for their sake.

This affectionless state of true friendship perhaps indicates the sublimation of desire, which directs the libido to the object of desire, towards the good and virtuous as desirable qualities that constitute true friendship. Yet, one should question whether true friendships are dependent on a rational choice. Friendship is entwined with knowledge, and "one must start with the friend-who-loves, not the friend-who-is-loved, if one is to think friendship" (Derrida 1997:9). This is because the act of loving in friendship cannot be a secret to oneself and thus knowledge is inscribed with friendship[6]. If this knowledge is to be clarified rationally, it can only pertain to a *ratio* that is no longer secret to oneself, but publicly expressed and observable as a *ratio* between those who display excellence in relation to virtue and are worthy of one's attention and friendship. Therefore true friendship, according to Aristotle, should rather be regarded as rational in a political sense, as proper to *philia* and not *philothés*. In this way Aristotle collapses the *who* and the *what* of friendship, as will be discussed below.

6 This form of knowledge would rather be a *gnosis* and not an *ēpistēmē,* which becomes an important distinction to consider in terms of care. One must come to know oneself by taking care of oneself (*gnothi seauton*; *epimeleia heautou*), according to the Delphic principle which Foucault (2005) reinterprets.

With this collapse Aristotle's theory of friendship remains overdetermined by the particular dynamic of social organisation (constituted by technics) which renders his theory of love, equality and reciprocity in friendship as exclusive to the ruling classes of his time. For Aristotle (1158b) there can be friendships between superiors and inferiors, which he lists as: "father to son, and of older to younger in general, of man to woman, and of any ruler to his subject". In these relations between superior and inferior, there can be equality only if the inferior loves the superior more. Respective of the above mentioned subject positions, the better must be loved more by the inferior than he (the superior) loves his inferior, since this would be in accordance with merit and would therefore bring about a "kind of equality […] thought to be the mark of friendship" (Aristotle 1158b). Aristotle refers to this as "equality of merit" which is in accordance with equality as just action – according to the laws of the city – rather than with friendship as equality[7] (Aristotle 1158b). It means that the reciprocation of virtue in true friendship is not a possibility for those designated as inferior by gender, birth or class, who cannot become equal in virtue to the superior due to the denigration of the *who* in relation to the "inferior" *what*.

Aristotle's theory of friendship, according to Derrida (1997:6), collapses *what* and *who* the friend is onto each other, without regarding a distinction in the ontological difference between the *what is?* and the *who is?* of the friend. But by analysing Aristotle's conception of the friend within an ontological framework, it becomes possible to deconstruct the ontotheology of the Western discourse on friendship instigated and dominated by Aristotle (Derrida 1997). Together with the biblical tradition of filiation and brotherhood which advocates that "all men are brothers" (*agapé*), the Aristotelean theory of friendship informs the Western political and philosophical discourse on friendship which amounts to a historical discourse on fraternity (Derrida 1997:164). This discourse culminates in the political theology of Carl Schmitt, who defines the political as dependent on the friend/enemy distinction and bases the principles of statecraft on this distinction. Furthermore, this traditional discourse on friendship negates the possibility for those who have been excluded from the fraternity to contribute to the discourse, precisely because of the collapse of the *who* and the *what* – which prevents those regarded as "inferiors" from

7 Here one can make the distinction between *philia* and *philothés*, as discussed above.

possessing a *what*, as a facticity of their own which is not overdetermined by the hegemony of the exclusionary discourse on friendship. In other words, the exclusion operates in such a manner that the inferior is not regarded by the superior to possess its own poetic capacity through which the *who* alters the *what.*

If it is considered that the Western philosophical canon has not thought through its technical supports as Stiegler points out, then it must also be considered how this has affected the discourse on friendship, especially if friendship itself sits at the centre of philosophical thought. And if the canonical discourse on friendship has concerned itself with an explicit link to "virtue and justice, to moral reason and to political reason, the crucial question […] would bear precisely on the hegemony of the philosophical canon in this domain: how has it imposed itself?" (Derrida 1993:382). It thus becomes necessary to consider what the technical supports of the theoretical (epistemological) discourse on friendship has been and how it has conditioned social and political organisation as it has passed through various technical epochs up to the present digital epoch. Such an analysis cannot revert to a discourse on virtue and equality before having considered the pharmacology of technical supports which produces both fidelity and infidelity in the dynamic of organisation.

2.2.3 The Artifice of Infidelity

Language is the first source of fidelity since language bears the capacity for reason and therefore promotes the possibility of establishing fidelity. Language organises the body of a community (*socius*) through its oral system, through various rhythms and techniques of the body and shapes the tongue to enable speech and the phonological reproduction of the language. It is through these reproductive techniques that a community can establish a common ground for meaning, but also for misunderstanding if the technique fails to communicate its intended meaning (i.e. because of an accent, by stammering, or mispronunciation), thus also constituting a pathology of communication in the *we* (Serres 1982a:66). For Stiegler the technics that unifies a language

would constitute a pharmacology in the *socius*, which may retain and affirm fidelity through reason, but which may also experience infidelity through the pathology generated by communication. This brings to the fore the traditional opposition between reason and *pathos* and could be reconsidered in terms of a pharmacological critique of the unconscious, that is, "to identify the role of *pharmaka* in the formation of desire in general, and in the formation of reason in particular – in the formation of consciousness as attention, in the sense both of psychic attention and social attention, that is, moral consciousness" (Stiegler 2013a:23).

Plato's aporetic dialogue on friendship, *Lysis*, is revealing in this regard. Shortly before the end of the dialogue, Socrates, having arrived at an impasse, summarises what has been said about friendship:

"If neither the beloved, nor the lover, nor the like, nor the unlike, nor the good, nor the congenial, nor any other of whom we spoke – for there were such a number of them that I cannot remember all – if none of these are friends, I know not what remains to be said" (Plato 1952:25).

But as Socrates was considering to call on an older person to continue with the question on friendship, the tutors of the young boys, Lysis and Menexenus, interrupted Socrates, "shouting in their barbarous dialect", forcing the dialogue to end in an *aporia* (Plato 1952:25). It is not that the question of friendship ends in *aporia* after Socrates has made his final summary, since he still considers the possibility that an older person may be able to answer this question. Rather, it is the interruption of the barbarian-tutors that exposes what can be regarded as a *shibboleth* that distinguishes them, as a *they*, from the friends who are having their discussion about friendship.

The *shibboleth* lays out a territory and differentiates the members of an in-group who associate with one another in relation to this territory and opposes themselves from those with whom they

dissociate[8]. It functions on the arbitrary reproduction of the phonemes of a language, but eventually also extends to ideology, and is often used as an instrument to discover whether someone who can speak the same language of the associative group is not an outsider or enemy. Pharmacologically, the individuation of a group becomes possible through language, but it is also through the instrumentalisation of language that it becomes a weapon that oppresses and disindividuates with another group. When it becomes an instrument, language becomes arbitrary and loses its inventive and poetic capacity, falling into polemic or war that always fails to invent a new *philia*. Since both reason and *pathos* are "confounded with affect and desire" (Stiegler 2013a:23) it is necessary to consider the pharmacological consequences for the formation of desire when language becomes instrumentalised. This is clear in the aforementioned example when Socrates, who sought to question *everyone*, seems to be overcome by a barbaric deafness and could not consider to question the tutors, with their barbaric tongue, about friendship: there existed no desire to be friends, as equals.

The instrumentalisation of language through alphabetic writing subjects *philia* to the procedures of law that arbitrarily renders the tutors inferior before the law of equality, thereby structuring the desire to not regard them equally, as potential friends. Structurally, written cultures are distinguished from oral cultures in its subordination of the writing system to the voice. It is not that oral cultures do not have graphic systems, as Leroi-Gourhan (1993) shows, but that the voice exists independently from the graphic system in oral cultures (Deleuze & Guattari 1984:220). On the contrary, the graphic system loses its independence with the alphabetic writing system which is subordinated to the voice, in turn creating barbarian civilisation (Deleuze & Guattari 1984:220). The functional aesthetic of alphabetic writing is to ignore the noises that its symbols do not capture since these noises do not purport the truth of the alphabetic language, consequently engendering a forgetting of the barbaric languages. But simultaneously it can be seen how technics structures desire as anticipation, and curbs the expression of desire.

8 In the Book of Judges it is told how the Gileadites asked the Ephraimites, who were fleeing to cross the Jordan after an unsuccessful invasion of Gileadite territory, to pronounce the word *shibboleth*, but the Ephraimites could not pronounce the *sh-* phoneme and were thus identified and killed. See also the Wikipedia entry: https://en.wikipedia.org/wiki/Shibboleth . Accessed 6 July 2015.

For Deleuze and Guattari (1984) desire is productive, but is organised and coded by the *socius*. The *socius*, however, passes through three phases, namely the primitive, imperial/despotic and capitalist phases (Deleuze & Guattari 1984). With each of these phases the avenues for the production of desire change, thereby changing social reproduction. Although the *socius* is divided into these respective phases as manifesting on the earth as entire body (primitive), the body of the despot (imperial) and the body of capital or money (capitalism), these phases also correlate with phases in technics, namely: orality, literacy and industrialisation (which is the functional support of digital media). This highlights the technical supports, or *pharmaka*, which transmit the coding of desire in each phase of the *socius*. If *philia* is then regarded in terms of the social production of the *socius*, then the manifestation thereof can also be considered within the parameters of its technical supports, its prosthesis, which may also become a weapon that oppresses – whether it be through the voice or the written law.

With any *philia*, as a system of care, an intentionality is embedded which cultivates a disposition towards an other who is anticipated through the protentions generated by a set of retentions (see § 3.3). Through the system of retentions and protentions it is *philia* which at first anticipates friendship (*philothés*), and as such conditions the affects of its interpersonal possibilities. It is the system of retentions and protentions that structure how and to whom one pays attention, and to what or whom one remains inattentive. But it is in particular tertiary retentions that support the intergenerational transmission of filiations, which consist of the power to programme attention and inattention towards an other. As such *philia* also consists of historical alliances and dissociations which affect the desire to become friends with an other. Yet, friendship cannot be reduced to *philia*, which would amount to the collapse of the *who* on the *what*, as a negation of the potential of friendship by reducing the friend or enemy to a predetermined condition.

The criteria according to which attention is formed in relation to the other is dependent on an interplay that exists between the *socius* and its tertiary retentions as it passes through different phases. For example, written cultures are typically imperial and despotic, and characteristically operate through a “deterritorialisation” of the primitive *socius* (Deleuze & Guattari 1984:220).

The primitive *socius* is territorially bound and indivisibly inscribed with the earth as an entire body, whereas the imperial *socius* deterritorialises the primitive *socius* from the earth, to replace the earth with the State through which the despot administratively reassigns territory (Deleuze & Guattari 1984:212). The *socius* retains protentions that are inherited and conditioned by particular tertiary retentions. For the primitive *socius* protentions are conditioned by the earth, which acts as its tertiary retention, and which is mediated by the voice that is bound to the earth of its territory. For the imperial *socius* the protentions are conditioned by the State, but are mediated by the tertiary retentions of alphabetic writing and the institutions that come with it.

These protentions derive legitimacy from the axes of filiation and alliance. The vertical axis of "filiation is administrative and hierarchical", whereas the horizontal axis of "alliance is political and economic" (Deleuze & Guattari 1984:161). But with writing the *socius* becomes mobile and colonises by imposing despotic rule that maintains a direct filiation to a deity or god for legitimating its order, and allies the old alliances of the primitive *socius* with new ones (Deleuze and Guattari 1984:210-214). Implicit to the imperial *socius* is a political theology which is instituted via the State, and in particular transmits the discourse on friendship which can be traced to the biblical notion that all men are brothers by decree in the Kingdom of God (filiation) and that the politics operative in the establishment of new alliances originates in the Hellenic world[9]. Consequently the institutions of the State initially propagate a political reason through which it arbitrarily administers a *philia* that is presumed to consist of a natural order of superiors and inferiors (*à la* Aristotle).

With the advent of the modern sciences, an epistemic shift occurred that reconfigured political reason towards the modern organisation society, which organises and views populations in relation to biology[10]. This led to a biological subdivision of populations and the discretisation of the races into a hierarchy of superior and inferior (Mills 2005; Kant 1997 . The subdivision and

9 This double genealogy pertains to the concept of the friend, as well as the enemy, which informs Carl Schmitt's political theology (Derrida 1997:164).

10 See Michel Foucault (2013) – "Society must be Defended".

organisation of populations via the State codes desire in the *socius* which forms the psychic and social attention of populations as a whole, and through tertiary retentions, which tend to endure over longer periods through institutions, constitutes an unconscious that pervades the moral consciousness of the tenets of modern democracy. Here it may also be considered that tertiary retentions are not only constituted in written laws, but also extends to the relative permanence of the terraformation of the earth to build designated living areas for entire populations. A clear example here would be the construction of townships in South Africa, which despite having adopted a modern democratic constitution, is still pervaded by a segregated built environment.

In this way *philia* can be understood as a topography embedded with hierarchical designations that are often mediated unconsciously through tertiary retentions. As such it has engendered different pathologies within and amongst the *philia* between the sexes and the races. But the topography of *philia* stretches further to the macro-political scale, which, as a consequence of imperialism and colonisation, structures the global political economy in such a way that it repeats this hierarchisation between states, which are designated as developed and developing, or first world and third world. This presupposes the industrialised capitalist *socius*, through which capital becomes filiative and alliance becomes financial and commercial (Deleuze & Guattari 1984:247-248). But it is also significant in terms of the formation of a generalised psychic and social attention (and inattention) which is not only conditioned by the State but by industry in general that constitutes a global topography of *philia*.

With the advent of digitalisation this global *philia* is confronted by the "extraordinary *mnesic power* of digital networks [that] makes us aware of the immensity of human memory, which appears to have become infinitely recoverable and accessible" (Stiegler 2010c:30). This confrontation does not take place at the slow pace of institutions that are generally dependant on mediation through the written word, but instead takes place through industrialised communication that is mediated electronically, and transmits in image, text, video and audio. Simultaneous to the instantaneity of digital communication is the real-time capturing thereof which generates new tertiary retentions in the form of "big data". But these tertiary retentions are

arranged by algorithms that are programmed to automate alliances according to the requirements of the capitalist *socius*. It nevertheless reinforces networks of friends, but subjects the formation of their social and psychic attention to the control of corporations, which may equally become the henchmen of the State and its agendas.

Digital communication is cost-effective, giving more people access to platforms over which they can broadcast their thoughts and from which they can gather information, all of which has short-circuited the exclusivities of institutionalised power. But digital technology, which is reticular and corresponds to the nervous system, unnerves all established networks and thus provokes the spread of a generalised infidelity throughout the world. The instantaneous nature of digital communication breeds reaction in its users, and as such communication over digital networks generally reveal a *pathos*. And since the digital medium incessantly accumulates and stores data, it marks a transition from the epoch of literature in that it captures the noises that alphabetic writing cannot capture, but presents it as information. Thus Michel Serres (1995:7) writes the following:

“Noise is the basic element of the software of all our logic, or it is to the logos what matter used to be to form. Noise is the background of information, the material of that form”.

It is the noise of the “immensity of human memory” that makes up the *pathos* of the digital epoch. It seems then that the question of *philothés*, of friendship as distinguished from *philia*, has to be asked in what Stiegler refers to as the secondary suspension of a technical epoch (§ 3.5). This means that the question of true friendship has to be considered in relation to the *philia* constituted by the digital epoch. That is, if it is understood in Aristotle's sense that in true friendship there is no need for justice since it is already implied with friendship. But in considering the *noise* ripping through the digital epoch, how can there be a relationship without need for justice? Perhaps it is rather a decision amongst friends to suspend concerns with justice

for the moment, to idealise it instead, by caring for it as an object of desire and thereby establish a new *philia* to sublimate the *need* for justice.

§ 2.3. Conclusion: Ontology of the Friend

What is the friend? This is an ontological question. But is it possible that one can say "this *is* a friend", as if there is an exemplar of the friend, as Cicero thought (Derrida 1997)? From the above it can be gathered that the friend can be traced conceptually to the advent of alphabetic writing, whereby the friend becomes a figure particular to the political organisation of society. As such the friend garnered particular attributes, which also excluded others from being regarded as a friend, and essentially the friend became an ideological construction of political history.

As a noun, friend refers to the free members of a society, to the members who are not in bondage. But with the advent of social media in the twenty-first century, with Facebook in particular, an etymological shift occurs in which "friend" becomes a verb, as in "to friend someone" (Harper 2015). Ironically, to 'add a friend' over social media is not to free them from bondage, but to place them under the bondage of a corporation, making them traceable and accessible for control and consumption. Despite the irony, if the cognate of friend is "free", which itself means "to love", then *to friend* (verb) would be to love. But as it was shown earlier, love in friendship is mediated by an idealised object of desire and is therefore not an erotic desire of the other. Instead, love in friendship is a sublimated love in relation to an idealised object of desire, of which the friendship between friends can itself also be the object of desire.

Although one may love one's friends for who they are, as persons, it cannot be such that they are placed under the bondage of one's love for them. It is for this reason that Aristotle said that it is better to love than to be loved. But to speak of a friend means that one refers to a *we*, since "friend" designates a relation between one and another, that is, as a collection of *I*'s that form a

we. It seems then that friendship, and "the friend" for that matter cannot be thought other than being a relationship, meaning that the friend cannot be thought ontologically unless it is considered as a concept only. But even so, as it has been shown, the concept of the friend can be subjected to an ontology of the technical object, which itself inscribes and designates the friend as a particular relationship within the social bond. As such, friendship must be considered as a relationship between two or more people that is mediated by an object of desire that does not *exist* within either party to the friendship, but through which the friendship *consists*.

3

The Axiomatics of Stiegler's "General Organology"

In the previous chapter it was shown how the epiphylogenetic process of exteriorisation and interiorisation is constitutive of hominisation. Epiphylogenesis is the inscription of epigenetic memory that exists within a biological being (human) onto a phylogenetic, or material, surface. In this process a third form of memory is constructed, which is what Stiegler refers to as epiphylogenetic memory. From the neolithic period onwards technical evolution surpasses the biological evolution of the human species as memory is projected into the technical object that houses epiphylogenetic memory, as the artificial memory constitutive of the evolution of the human being. Epiphylogenetic memory thus appears in the form of an artificial organ that is fundamental to the human being as such. This artificial organ is the technical object (a memory-object) which acts as the life-support that simultaneously inscribes the social memory around which cultural practices and traditions can be structured and transmitted to sustain life over generations. It is in this sense that Stiegler refers to the *who* as the cultural milieu that is anticipated by the prosthetic, or the *what*: it is the *what* that conditions the *who*.

Historically, the technical object (prosthesis) passes through different stages of grammatisation, exerting a dynamic influence in the modalities of social organisation, as well as having an effect on bodily organs and their use. Through an analysis of technics Stiegler develops a theoretical approach for what he refers to as a general organology. The general organology is a combined theory of artificial, social and bodily organs. For Stiegler all three organs are interrelated and exist in a relation of *transduction* (see below) with one another. Through artificial organs (tools and instruments) the bodily and social organs become grammatised through a process of discretisation which rearranges the flows of bodily and social functions through the technical reproduction thereof. In particular, the Industrial Revolution leads to the grammatisation of gesture, leading to the impoverishment, or proletarianisation, of the worker's skill when the

machine takes over the functions that were previously dependent on the gestures of the worker (Stiegler 2010c:33-34).

For Stiegler it is imperative to develop an industrial philosophy of political economy that can make technics central to its concern so that a "threefold question of an organology, pharmacology and a therapeutic" can address and critique the dynamic effects of grammatisation (Stiegler 2010c:36). It is therefore necessary to understand how technics affect the well being of social organs and bodily organs. That is, through a pharmacological analysis to understand to what extent an artificial organ engenders a poison or remedy in the mnemonic processes of exteriorisation and interiorisation. And from there to consider what the socio-political necessities are to constitute and develop a therapeutic capable of dealing with pharmacological shock. With regard to the twenty-first century, it is social organs that become industrialised through digital media. This has a direct impact on the formation of social bonds, and it is therefore necessary to understand what the criteria need to be to establish a therapeutic for the pharmacological shock of digitalisation. Below follows an overview of the theoretical framework that supports Stiegler's general organology.

§ 3.1 Technical tendency and disadjustment

In the previous chapter it was discussed how technical tendencies are particular relations that ethnic groups have with technical objects (§ 2.1.3). These tendencies emerge from the interior milieu of the ethnic group and are projected onto the technical object to form a membrane through which the ethnic group then assimilates the exterior milieu. These technical tendencies are constituted in the technical object by the ethnic group, forming a technical milieu that exceeds the interior milieu of the ethnic group itself. As a membrane that forms a necessary limit exceeding the interior milieu it is prone to become poisonous to the interior milieu. But in this relation counter-tendencies form to produce an immune system that protects the interior milieu from toxicities produced by the technical tendency. The tendencies of the technical milieu are

thus doubled by counter-tendencies that act as a remedy if the tendencies that exceed the interior milieu become a threat to the interior milieu. The technical milieu, in other words, exists as a *pharmacological* milieu that protects, but can also poison, the interior milieu (Stiegler 2010c:109-110).

The technical milieu thus serves as a mediator between the interior and exterior milieus. But it also means that it is ahead of the interior milieu and if the interior milieu becomes incapable of assimilating the exterior milieu, it becomes poisonous. At the point, however, where the technical milieu is so far ahead of the interior milieu that it becomes detached from the interior milieu, a *disadjustment* occurs. Stiegler borrows the term disadjustment from Bertrand Gille who characterises disadjustment as the de-correlation of the technical system and the social group, or social system. This occurs when the social group has become significantly larger than ethnic groups, such as with empires, nations and so on. These social groups form relations with other social groups (*philia*), constituting a new type of interior milieu in which different social groups have merged (Stiegler 2010c:113-114). This means, however, that the technical tendencies have been exteriorised and that the disadjustment comes about when the technical system no longer signifies the technical tendencies of an ethnic group in particular, but rather becomes a conglomeration of technical tendencies in which the social system can no longer assimilate the technical system, consequently leading to a technicisation of the social system itself (Stiegler 2010c:116).

Since the industrial revolution disadjustment has become chronic, and in the twentieth century, industry begins to counter-act the tendential fall in the rate of profit by systemically organising "a form of permanent innovation which presupposes the development of a consumerist society [...] which depends upon the systematic and continual transformation of ways of life" (Stiegler 2010c:115). This has the inevitable effect of the destruction of the interior milieu. It means that there is no longer the membrane that guards and keeps the interior milieu from being poisoned since there is no longer a regulated mediation between the interior and the exterior milieu. Instead, the membrane that once existed to constitute a pharmacological milieu has disappeared

and has left the interior milieu, leaving the becoming of the human being over to the entropic effects of industrialisation. It is against these developments that Stiegler develops his ontology of technology, so that it may become possible to develop a theory in which to address the problems of political economy.

§ 3.2 The theory of individuation

Stiegler develops his theory of technics in conjunction with the theory of individuation as developed by the French philosopher Gilbert Simondon (1924-1989). This allows Stiegler to connect the palaeoanthropological work of Leroi-Gourhan with Simondon's extended ontology that rethinks individuation in terms of an *ontogenesis.* Simondon's theory of individuation is a theory of being that includes the "physical, biological, psychosocial, and technological domains" (Combes 2013:1). For Simondon there is a traditional confusion in the treatment of being as something which is already individuated. Consequently it is generally the case that ontologies are constructed on a conception of the individual as its basis, and thus constructs a principle of individuation that corresponds to this individual as something which precedes individuation without regarding it as a process, or an ontogenesis.

Since Simondon removes the idea of the individual as the basis of individuation, there originates an opening to which an individuated being must nonetheless respond. This opening would be constitutive of "being as such" but not being as already given. Because this opening does not constitute an individual, but "being as such" from which the process of individuation takes place, Simondon derives from it the idea of the preindividual which can not be a "one" since being precedes the individual and is "more-than-one". The progression from preindividual to the individuated being is thus a process, or an *operation* that constitutes the individual as its result, and this is what has been neglected in traditional theories that rely on a principle of individuation. Simondon, in other words, "substitutes individuation for the individual, and operation for principle" (Combes 2013:1-2).

Simondon conceptualises his theory of individuation in conjunction with thermodynamics. Because the preindividual is "more-than-one", for individuation to take place it requires that this excess, as the excess of being, must be transformed into a structure that one may then refer to as an individuated being. Here Simondon borrows the term "metastability" from thermodynamics as an analogy to what he refers to as the potential energy of being that exists before individuation takes place."A physical system is said to be in metastable equilibrium (or false equilibrium) when the least modification of system parameters (pressure, temperature, etc.) suffices to break its equilibrium [...]" (Combes 2013:3). Being is therefore understood as a system that contains potential energy, but it has to be transformed in order for the potential energy to actualise according to a structure, before individuation can take place (Combes 2013:3).

Changes in the state of a system is referred to in thermodynamics as "dephasing", and as such Simondon adapts this term to signify becoming in his theory of individuation (Combes 2013:4). The preindividual milieu is therefore in a metastable state and dephases when individuation takes place. But according to thermodynamic theory this change of state is the result of two subsystems, or phases, that merge to form a new state. An example of this is in the individuation of a plant that gathers energy from two opposing orders, namely the cosmic order of sunlight and the inframolecular order of minerals, to form and individuate as a plant. For Simondon, individuation is thus the

"emergence of an individual within preindividual being [and] should be conceived in terms of the resolution of a tension between potentials belonging to previously separated orders of magnitude […] In dephasing, being always simultaneously gives birth to an individual mediating two orders of magnitude *and* to a milieu at the same level of being" (Combes 2013:4).

Here one can begin to see how Stiegler develops his theory of technics. By comparing the work of Leroi-Gourhan and Simondon, one sees how the "process of exteriorisation" and the

"technical tendency" that constitutes a membrane around which cultures are formed can be compared to Simondon's theory of individuation. If the technical object is regarded as an order of magnitude that exists in a state of tension with another order of magnitude in the form of a biological organism when dephasing occurs, then the individual that mediates these two orders would become the human being. This is why Stiegler speaks of the human being as something which has been invented, and is invented upon (see Chapter 2). But at the same time that these two orders of magnitude are merged, a milieu comes into existence. This milieu is what could be called culture.

Since the technical object is a memory-object in itself, Stiegler adds the concept of epiphylogenesis to the theory of individuation. The preindividual milieu that Simondon defines as that from which being individuates is adjusted by Stiegler to include the concept of epiphylogenesis, which means that individuation has a history and as with every epoch in history "the epiphylogenetic milieu has been transformed, and the conditions of individuation are transformed by the evolution of technics" (Stiegler 2009b:78).

Technics acts as life-support in a double sense, it is life-support in the sense that it can be fire or a tool, such as a knife, with which meat can be prepared to be eaten and thus sustain the biological organism. Or it can be life-support in the sense that it consists of cultural memory which in itself is made up of a system of care that sustains the social organism. Technics thus manifests in the interdependence between tools and instruments as the artificial organs that are in relation to the social organ(s) of culture and the biological organs of the human body. These three organs that make up Stiegler's general organology are in a transductive relation (see below) that constitutes the dephasing in the process of individuation. In addition to Simondon's theory of individuation, the 'state of tension' thus includes a heritage inherited through the technical object as memory-object. By taking technical evolution into consideration, it then becomes clear that the human is more than a biological being, but in terms of individuation, it will be shown below that the human is also more than a technical being.

Although it is never not a biological being, the human being has come into *existence* by becoming more than a *subsistent* biological being through technical evolution. It has dephased from the preindividual milieu of the strictly biological (animal) being and has individualised as an individual which has produced a technical milieu that exceeds the initial preindividual milieu of the biological organism. But since individuation is a continual process, the human proceeds to individuate within the technical milieu that becomes its preindividual milieu. As Stiegler shows, this particular preindividual milieu has a heritage that is transmitted through epiphylogenesis. In the relation between the human and its technical milieu, the human proceeds to individuate socially and as such produces another milieu which does not exist but *consists*.

For Stiegler (2013a:33) consistence essentially makes life worth living. Although consistences compose with subsistence and existence in the process of individuation, consistences are produced through psychic and collective individuation in which symbols, concepts or ideas, as objects of desire, are projected. These objects of desire do not exist, but consist in a cultural relation to the object of desire. One could thus also say (as Stiegler regularly does) that justice does not exist, but consists in the process of psychic and collective individuation, that is, as a constant individuation with the idea of justice. In terms of the theory of individuation, these consistences, as well as subsistences and existences, come about through *transduction*. According to Simondon,

"By transduction, we mean a physical, biological, mental, or social operation, through which an activity propagates from point to point within a domain, while grounding this propagation in the structuration of the domain, which is operated from place to place: each region of the constituted structure serves as a principle of constitution for the next region" (Combes 2013:6).

The transductive relation forms the basis of the general organology. Or, it is what connects the different organs to one another and makes it plausible to develop a theory in which each organ individuates separately from the other, but nonetheless remains connected in a transductive

relation to the others. "In a transductive relation, the terms of the relation are constituted through the relation, and do not precede the relation" (Stiegler 2010c:140). An organ, as a constituted structure, is thus established by the individuation between, for example, man and the object – which can also become known as the technical object, or the technical organ. Thus it is not regarded in a linear relationship, but rather an inseparable transductive relationship in which each organ individuates with the other after having dephased from the preindividual milieu in which two subsystems have merged to form a new organ, i.e. technical, social or psychic, thereby constituting a new region within which individuation takes place. For Stiegler (2010c:104):

"Human becoming is the result of a threefold process of individuation for which the technical system, social systems and psychic apparatuses are the metastable configurations engendering processes of technical, collective and psychic individuation".

The process of collective individuation includes the technical individuation of the living with the dead. This is possible when living memory individuates with the epiphylogenetic, or dead, memory that is caught up in the technical object, or the memory-object. This is the meaning of individuating with heritage[11]. As such it is the grounds upon which cultures are founded, since all cultures have references to ancestors, or the like, with whom the living continually individuate. At the same time that this individuation with the dead takes place, individuation also takes place between a living *I* and a *we,* or as it is also referred to: psychic and collective individuation. This form of individuation is what Simondon sometimes refers to as psychosocial individuation. For him this is not the separate individuation of the psyche on the one hand and the individuation of the collective on the other. Psychic and collective individuation is regarded as a singular individuation in which psychic and collective individuation are reciprocated. The singularity of this reciprocal individuation produces what Simondon calls the "transindividual". The concept of the transindividual, which has to be regarded in a reciprocal individuation of the psyche and the collective, enables Simondon to negate the traditional definitions of the psyche as substantial. Instead, he postulates a theory of the subject whereby the interior and the exterior are not

11 This becomes vastly complicated with orthographic technologies such as the alphabet, as well as the 'heritage' of the various forms of permanent destruction, the most recent example of which is the 'environment'.

opposed, in the sense that a constituted interior encounters the constituted exterior, but that the interior would not be possible without the exterior (Combes 2013:25-31).

The transindividual thus exists in multiple layers which includes both the living and the dead. But, since the transindividual is subjected to epiphylogenetic memory, the process of grammatisation has a direct influence on psychic and collective individuation. Grammatisation encompasses the history of exteriorised memory, transposing all forms of memory from "nervous and cerebral memory, corporeal and muscular memory [to] biogenetic memory" and

"when technologically exteriorised, memory can become the object of sociopolitical and biopolitical controls through the economic investments of social organisations, which thereby *rearrange psychic organisations* through the intermediary of mnemotechnical organs [...]" (Stiegler 2010c:33).

But in order to develop a critical understanding of how grammatisation affects the transindividual and the possibility for the rearrangement of psychic organisation, Stiegler further develops a theory of consciousness that corresponds to his analysis of technics. It leads to what he refers to as a "new critique", that is, as a critique of the unconscious which plays a fundamental role in the stimulation of consumption in the twentieth century. For Stiegler exteriorised memory is a spatialisation of the time of consciousness beyond consciousness itself, and therefore constitutes an unconscious within epiphylogenetic memory, or tertiary retentions (Stiegler 2010c:8). As will be shown below, it is particularly the grammatisation of audiovisual perception in cinematic technologies that prompt Stiegler to develop his 'new critique'.

§ 3.3 Attention: An Apparatus of Retentions and Protentions

In an attempt to prove the temporal structure of consciousness itself, Stiegler engages with Edmund Husserl on the matter of retention and adopts the analysis of the temporal object from Husserl's who investigates the melody to establish his theory of consciousness. Husserl studies the phenomenon of the melody since, as an object, it is itself constituted or formed temporally. In other words, the structure of the melody is itself temporal. Although one might say that a physical object exists in time and is regarded as an artefact, the playing melody exists only in the time through which it passes (Stiegler 2010a:13-14). But this immediately subjects consciousness to the temporality of the melody while it is being listened to. Consciousness and the melody are thus in flux, but they are distinguished between the conscious flow of the observer and the flow of the melody, both being in temporal unison, although constituted as different forms of retention.

For Husserl, retention is distinguished between primary and secondary retention. Primary retention is as an awareness of the flux or the interplay between that about which one is conscious in the moment, or in the "now", in relation to what has just passed before it. Husserl explains this through the note in a melody which exists only in association with the notes that preceded it and the notes that will follow it. "Those to follow being the ones that will resonate as a retention in the *current* note [...] but with which it will then share space as a protention concealed and sustained from preceding retentions" (Stiegler 2010a:14-15).

The resonance between the listener and the melody takes place through primary retention that is only possible as a relation between *retentions* and *protentions*. In other words, resonance retains what has just passed (retention) and simultaneously composes with what is expected (protention). Primary retention is distinguished from secondary retention, which recalls, rather than being the immanent (resonant) experience of the melody. Instead, secondary retention is the re-experiencing of the melody through memory, i.e. consciously projecting the melody

mnemonically without being in the flux of its temporality. For Husserl, primary retention is "the phenomenon of the perception of time" and as such he distinguishes it from the imagination, which is reserved for secondary retentions (Stiegler 2010a:16). Consequently, however, Husserl opposes primary and secondary retention which leads to an "absolute difference between perception and imagination, [proposing] that perception owes nothing to the imagination, and that what is perceived is in no case imagined" (Stiegler 2010a:16).

But Stiegler introduces what he calls tertiary retention to Husserl's analysis. Following from Stiegler's analysis of the technical object that is marked by the process of exteriorisation, tertiary retention precedes primary and secondary retention. Tertiary retention is thus an intergenerational memory that conditions the protentions with which consciousness selects retentions. "Tertiary retention is a mnemotechnical exteriorisation of secondary retentions which are themselves engendered by primary retentions" (Stiegler 2010c:9). Primary retentions are selected by consciousness which itself distils the lived and conscious memory of secondary retentions, however, this must also include tertiary retentions which condition the selections made by consciousness (Stiegler 2010a:22).

Based on these findings, Stiegler criticises Husserl's differentiation between perception and imagination, whereby Stiegler's introduction of tertiary retention also becomes the necessary condition of protentions. Tertiary retentions are the exteriorised memories that support protentions, and as such, these protentions – anticipation – are conditioned by the imagination which in turn have an influence on perception. Contrary to Husserl, Stiegler does not allow the differentiation between the imagination and perception, which is the result of Husserl's structural opposition between primary and secondary retention. Rather, Stiegler's addition of tertiary retention shows that

"perception is subordinated to – is in a transductive relationship with – the imagination; that is, there would be no perception outside imagination, and vice versa, perception then being the imagination's projection screen" (Stiegler 2010a:16).

Stiegler continues with this line of thought to define the cinematic structure of consciousness and adjusts the analysis of the perception of a melody to the perception of cinema. What makes cinema unique in contrast to the melody is that it is an orthothetically constituted audiovisual phenomenon. This means that the exteriorisation that takes place in cinema is the exact recording of audiovisual events, but events which can then be re-played – remembered – as artificially exactly the same event, meaning that the event becomes cinematographically signified.

Stiegler's theory of consciousness allows for an analysis of the technological developments and the influence it had on consciousness in the twentieth century when, through audiovisual technologies, events could become signified and reproducible through the televisual industry. From here Stiegler develops his "new critique" based on the idea that consciousness, resembling a cinematic flow, is subjected to the flux of industrial temporal objects, which are cinematically reproduced temporal objects that can be televised. These "industrial temporal objects" initiated a new era in the psychosocial individuation of the *masses* whose consciousnesses became subjected to industrialised tertiary retentions that are manufactured by the entertainment, marketing and advertising industries in order to stimulate consumption. The conditions that thus underlie Stiegler's new critique are wholly different from the critique that is normally associated with Kant's critical philosophy, but still maintains a fundamental relation to it.

It will be illustrated in the next chapter what the effect of reading and writing had on the formation of synapses in the brain, connecting different parts of the brain and thus also stimulating thought and the imagination in a way that is particular to the medium of literacy. But in the cinematic flux of audiovisual technology, the synapses can not form in the same way as with literacy due to the structural differences in the perception of the temporal object and the

manner in which retentions are formed with reading and writing. Stiegler therefore develops his "new critique" based on an understanding that consciousness, as a system of retentions and protentions, is affected differently by different types of media that store and transmit tertiary retentions differently. But it was particularly audiovisual technologies that were utilised for the social organisation of consumerism in the twentieth century, by what Theodor Adorno and Max Horkheimer labelled as the "Culture Industries".

If criticism, as envisaged by Kant, is devised to test the cognitive limits of reason, then in distinction to the literary form that criticism takes, the "new critique" that Stiegler devises cannot be based on reason alone. From his analysis of the temporal object it was shown that it is necessary to consider the dynamism of tertiary retentions that constitute an unconscious in the selection processes of consciousness (Stiegler 2010c:8). Tertiary retentions act as mnemonic support for secondary retentions, combining with primary retentions and protentions to form attention through which consciousness anticipates and processes the flows of perception and imagination. Stiegler's "new critique" thus includes tertiary retention as that which constitutes the unconscious of the apparatus of attention.

Attention is the flow of consciousness that apprehends and experiences the object that is presented before it, during which it is consciously projected to be *that* particular object with *that* particular significance to it. Through the complex set of retentions and protentions, "the constitution of attention results from [the] accumulation of both primary and secondary retentions, and the projection of protentions as anticipation" (Stiegler 2010b:18). While primary retentions function as perception, it is secondary retentions as mnemonic retentions that combine with the primary retentions to project features or attributes onto the object of attention. If, for example, one sees a stone before oneself, one perceives the object as a stone because the object exists as a stone in memory. If the object is one with the particular features of a stone, one's attention is projected onto the object in such a way that it is accepted to be a stone. In being attentive, one may even realise that it is a stone with qualities that are different from any other stone that one has encountered before.

But attention can also be formed, or conditioned, via tertiary retentions which are materialised in any mnemotechnical object capable of transmitting a memory that exists beyond the memory of an individual conscious. Tertiary retentions can be internalised as secondary retentions without having been experienced or perceived through primary retention. For Stiegler, this adds a fundamental nuance to our understanding of consciousness and the *formation* of attention, which is here differentiated from the *constitution* of attention. As it has been explained above, the constitution of attention is the accumulation of primary and secondary retentions combined with the projection of protentions as anticipation. But since tertiary retentions can be internalised as secondary retentions, attention *forms* as

"a psychic and a social faculty, to the extent that its concentration channels primary retentions according to the individual's secondary psychic retentions, while inscribing them in *collective* secondary retentions that symbolise and 'support' tertiary retentions" (Stiegler 2010b:18).

Secondary retentions are thus subjected to the 'pre-individual milieu' that is constituted by the epiphylogenesis of tertiary retentions. As such the consciousness is also aesthetically affected by the process of grammatisation. In the next chapter this is illustrated by the changes that occurred with typeset printing during the printing revolution. This phenomenon occupied Marshall McLuhan who was able to show how different forms of social organisation resulted from the re-organisation of the printed word. In other words, each stage of grammatisation engenders a new phase in which tertiary retentions have an aesthetic impact that alters the perception and imagination in the flow of consciousness and the way that one pays attention.

Tertiary retentions are materialised in mnemotechnical objects, or *hypomnemata*, which condition the tertiary retentions and form the material basis of what Stiegler (2010b:18) refers to as psychotechnics. Psychotechnics consist of psychotechnical supports (e.g. writing) and corresponding techniques that are deliberately structured so as to form the psyches of a collective

consciousness, or attention, of a *we* through the technical supports. Regardless of the modality of the technical object (oral, literate or digital) the phenomenon of psychotechnics exists throughout all cultures who disseminate knowledge through specific techniques that have been developed to form the consciousness of its youth so that the successive generations can take care of the group.

For Stiegler the significant factor of psychotechnics therefore lies in the transindividuation that takes place when attention is *formed* through tertiary retentions. Since tertiary retention is constituted by the technical object, it is made up of the intergenerational memory that precedes primary and secondary retentions. As such it conditions secondary retentions, which exist in an adoptive relation to primary retention, or perception. But tertiary retentions are projected onto these secondary retentions, thus having a direct influence as a "projective mechanism" in the *formation of attention* as a process of adoption.

"As the basis of this adoptive process, this projective mechanism also allows for the creation of the transindividual: attention formation through its social accumulation (i.e. *education*) is the path by which individual psyches become not only *co*-individual but *trans*-individual, even at the unconscious level [...]" (Stiegler 2010b:18).

The projective mechanism of audio and visual technologies that orthothetically capture the temporal object places tertiary retentions in a different relation to secondary retentions. Since a temporal object is in flux with consciousness, and thus in flux with primary retentions, secondary retentions must be "captured" by the orthothetically recorded temporal object in order to be apprehended. The orthothetic temporal object is projected from the order of primary retentions, meaning that this form of tertiary retention is projected as perception towards secondary retentions, resulting in an inversion of the adoptive process, and rather establishes an adaptive relation between the flow of consciousness and attention. This can be illustrated with the amplification of sound: it is no longer only a sound, but a sound that becomes louder through the *manipulation* of the recorded sound itself, but to which the conscious flow has no choice but to

adapt to the loudness. Thus psychotechnics become *psychotechnologies* with the industrial temporal object wherein attention is what has to be captured and no longer formed or constituted.

The capturing of attention has a direct influence on the energetic response of the psychic apparatus. Because of the adaptive relation established by temporally constituted *hypomnemata*, strictly speaking, one should rather say that psychotechnologies no longer function as a projective mechanism in the establishment of a transindividual, but rather as a detractive mechanism which detracts from the transindividual relation itself. Instead of projecting desires which the transindividual can adopt (through the use of imagination), it detracts from the transindividual by orthographically representing what is imaginable to the captured attention, and therefore what constitutes a desirable transindividual relation – in the process leading to a transindividual adaptation. By capturing attention, the economy of the psychic apparatus is exposed and for this reason Stiegler develops his "new critique" as a pharmacological critique of the unconscious. For Stiegler (2013a:22-23):

"The real question is not, however, as Adorno and Horkheimer believed, the *exteriorisation of imagination* […], but rather the *dysfunction of that libidinal economy* that is presupposed by reason […]".

The formation of consciousness takes place through the formation of attention, which in itself takes place through the formation of desire and reason. For Stiegler (2013a:23) it is necessary to analyse the role of *pharmaka* in this process, in order to understand how the libidinal economy is affected by tertiary retentions that act as a projection mechanism for the unconscious, and through which transindividuation takes place. It is pharmacological in essence because these *pharmaka* (tertiary retentions) can form an attentive consciousness that elevates reason as the object of its desire, or it can capture the attention to solicit psychic energy for the purpose of stimulating consumption, thereby reducing the libidinal economy to become *drive* based (Stiegler 2013a:23).

But yet another technological development takes place with computer based technologies that leads to the mobile telephone, an appendage that itself is an industrial temporal object, erupting at any moment to *stimulate* the immediate reaction of its user. With computer based technologies it is algorithms which begin to distribute tertiary retentions, and with the advent of the social web (Web 2.0) this distribution takes place through the production and connection of content in social networks. This depends on the *prosumer* which can be distinguished from the passivity of the consumer in the sense that the prosumer produces the content which in turn profiles the user for more accurate information that can be used to capture the individual's attention. Social media has thus activated consumers, giving them global communicative access and *broadcasting* capabilities. One should however remain within the register of consumerism if one refers to people engaging on social media, since social media are platforms designed and owned by private corporations that solicit the data generated by users to third parties for advertising purposes.

§ 3.4 The *Thing*: Towards a new critique of political economy

Through the new critique Stiegler proposes to address political economy as it developed during the twentieth century with the stimulation of consumption. Stiegler shows how the consumer capitalism that arose in the twentieth century brought devastating effects to the psychic life of citizens. By the inscription of the consumer into a system that short-circuits and harnesses libidinal energy through marketing techniques, consumer capitalism has devised a method that seems to have overcome what Marx analysed as the tendency in capitalism for the rate of profit to fall. But according to Stiegler (2010c:12), the widely held belief by those who thought that the fall in the rate of profit had been overcome, in part due to gains in methods of production, is fallacious. Instead, another form of energy – psychic energy – had been found to exploit, a source of energy that Marx could not have foreseen, and which generally goes unnoticed to theorists of capitalism.

Consequently, contemporary capitalism has become a drive (instinct) based economy that destroys libidinal energy and as such proletarianises the consumer who loses their *savoir-vivre*, knowledge of how to live, just as Marx analysed that workers would lose their *savoir-faire*, or know-how, through industrialisation. In the twentieth century the tendential fall in the rate of profit is negated, but only insofar as it is displaced and countered with the organisation of consumption based on libidinal economy, resulting in an aggravation of a drive based economy that cannot sustain itself through the creation of long circuits of individuation (Stiegler 2010c:25-27).

Many factors came into reckoning in order to stimulate consumption by extending the reach of the market. Among them was to target women who, in the twentieth century, became increasingly emancipated from their traditional domestic roles to find employment – often as secretaries, a phenomenon which Kittler attributes to the rise of the typewriter – and thereby gaining independence, but more importantly, according to market logic, they gained "buying power" which could be exploited.

Adam Curtis (2002) shows in his documentary "*The Century of the Self*" how marketing techniques were developed by Freud's nephew, Edward Bernays, to exploit unconscious desires. The "brief" was to stimulate consumption of cigarettes by dismantling a taboo that existed at the time, that women were not allowed to smoke in public. Bernays staged an event at a parade in which a group of young women lit up cigarettes in "protest" as a symbol of their independence and freedom – to be able to smoke in public and to defy, or unman, the dominant male order and to thereby gain their independence. Accordingly cigarette sales went up soon after the campaign. Bernays proved that it is possible to stimulate consumption by appealing to the feelings of consumers that may be hidden to them consciously, but that can be activated through the stimulation of unconscious desires that would give them the feeling of satisfaction when they purchase particular products. It was not only women who became the "targets" of advertising,

but everyone, including children, to whom appellations are made that is supposed to give them a feeling of existing, or belonging to a group, when they purchase certain products.

Stiegler raises the concern that the externalities of the marketing and advertising industry is the health of the psychic life of humans. The organisation of consumption depends on the activation of unconscious desires to legitimise the consumption of products, even if it is against the grain of traditions. It will be shown below that there is a fundamental relationship to the object, the transitional object, that conditions the psyche's encounter with the world. The methods employed by the advertising industry draw on this relation in which the object presents the individual with a transitional space, a mode of access to the world, as is exemplified in the case of cigarette smoking. But these remain objects of consumption, they are in themselves ephemeral and determined by the competitive capitalist mode of over-production. Instead of being objects from which consumers can *detach*, they must dis-attach from these products that are disposable and adapt to whatever the market presents to be available and desirable in the following financial year (or quarter). Instead of opening a transitional space in which consumers can individuate themselves, consumerism rather poisons this space which ends up with consumers becoming disindividuated and leaves them with the feeling of non-existence.

Stiegler (2013a:2) extends his pharmacological critique of the unconscious by drawing on the work of the English psychoanalyst and paediatrician, Donald Winnicott, deriving from Winnicott's (1971) “transitional object” what Stiegler calls the “first *pharmakon*”. The transitional object is an object that Winnicott found to be vitally constitutive of a “potential space” which forms an initial relation between a child, its mother or primary caregiver, and the experience of the environment. Winnicott places importance on these initial stages of development in childhood since it opens a third area, the area of play, often neglected in psychoanalysis, but fundamental for creative living to become possible. The transitional object therefore opens a

"potential space between the individual and the environment, that which initially both joins and separates the baby and the mother when the mother's love, displayed or made manifest as human reliability, does in fact give the baby a sense of trust or of confidence in the environmental factor" (Winnicott 1971:138).

Although the "transitional object" is not an instrument, it is a symbolic intermediary that constitutes the spatio-temporal difference between mother and child. The transitional object acts as a symbol of their union, not as a particular object that exists, but rather as a binding attachment through which their love *consists*. For Winnicott (1971:2-4) the transitional object is significant in a child's own development in that it is not necessarily a matter of the first object relation, but the "first possession" of a "not-me" object that signifies the child's transition from oral eroticism (thumb-sucking etc.) to the recognition that the object is not part of, but neither completely exterior, to the child. The attachment that the child forms with the transitional object is thus the first relation that it forms in which it becomes separated from the mother since birth and is the first object to facilitate the next transition to other objects. But as much as it can facilitate this, it may also come to inhibit such transitions if, for whatever reason, the child has a traumatic experience within the potential space that the transitional object engenders.

The transitional object is a *pharmakon* because it engenders both care and dependence on the object, which means that it is exposed to the possibility of becoming toxic if care is not taken by the mother who must also protect her child from this object and the immanent threat that it could pose to the child's development. Even though it is an external object to them that does not exist, but consists, it is through this consistence that heteronomy, as a bond of trust, is established between them. As such it provides a bond between mother and child through which they gain trust in life, and through which they gain autonomy. The transitional object is thus essential for a healthy psychic apparatus to form, and is particularly important for the possibility of sublimation as "a condition of keeping the psychic apparatus of the adult in good health" (Stiegler 2013a:2-3).

It is thus necessary to teach the child to become *detached* from the transitional object so that the child may be able to engage in other transitional spaces that will allow the child to form new relations that exist apart from the mother herself (Stiegler 2013a:3). The process through which the child becomes detached from the transitional object is a process of adoption, in which the child adopts the transitional space through which it gains autonomy. In the process of adoption it is the care of the mother which is interiorised (adopted) by the child who then also becomes capable of caring for him or herself and of others independently (eventually with the growth from immaturity into adulthood). This is opposed to adaptation which engenders a mistrust and an inability to form a healthy relation towards the self and others.

Care is fundamentally a matter of education and the intergenerational transfer of knowledge which occurs in the process of adoption. Without care the transfer and adoption of knowledge does not occur and leads to a proletarianisation to which one cannot help but adapt, and thus to interiorise nothing and live with the experience of *nihilism*. Adaptation leads to the destruction of pharmacological knowledge and spreads a toxicity to which must be adapted. This adaptation to the loss of knowledge "is to proletarianise, that is, to deprive of knowledge those who must submit to that to which they are adapting themselves" (Stiegler 2013a:130).

For Stiegler (2013a:130) contemporary capitalism and the modern organisation of life has engendered a generalised proletarianisation in which the production of a future for humanity seems to have become impossible. It is thus necessary for Stiegler that a politics of adoption is implemented in which the central concern is to re-invigorate systems that are capable of taking care of the psychic health of citizens, by adopting new processes of transindividuation that can restore noetic life. For him this becomes a matter of a political economy of the spirit (*nous*), which has at its foundation the impetus of care as the formation of attention (Stiegler 2013a:23).

But as a politics of the spirit it would have to be grounded in a pharmacological understanding of what Freud refers to as "the Thing", or "*das Ding*". The Thing is the object of all desires, and as

such opens a horizon of expectation (*elpis*) (Stiegler 2013a:62). The Thing is that which *consists* in the individuation of the transindividual. In other words it does not exist but forms the object of desire, acting as a transitional object that opens a transitional space that could constitute fidelity in the social milieu. But through the organisation of consumption that generates ever more disposable *things*, the transitionality of "the Thing" has been destroyed leading to a generalised infidelity of the milieu. Since human life is prosthetic life, Stiegler urges for the formation of a normativity of technical life that would be capable of addressing the pharmacology of the organisation of society into "a new space of fidelity: a *philia* opened *by a noesis*" (Stiegler 2013a:65).

§ 3.5 Forms of Government: Biopolitics, Psychopolitics, Noopolitics

Edward Bernays discovered that psychoanalytic theory can be applied to the masses by developing techniques that could harness naturally occurring psychic energies to stimulate the masses to consume products that they believe they *want* and not necessarily *need.* Ever since, marketing and advertising industries have sought better ways to outsmart their unsuspecting targets to become *better* consumers. An analysis of the organisation of consumption must include technics as the pharmacological meshwork of biological, social and technical organs in order to develop a *new* critique of political economy, especially as it developed over the course of the twentieth century (Stiegler 2010c:36). That is, as a critique of political economy that includes the technological exploitation of the psychic apparatus, and its extension through digitalisation that makes it possible to exploit social relations.

The industrial organisation of consumption has predominantly benefited from the emergence of powerful audiovisual technologies, such as the television that renders the consciousness of the consumer in temporal unison, or flux, with an industrialised cinematic object. One often experiences the arbitrary power of these technologies in a restaurant or public space where a television is nearby: one cannot resist to look at it, or to be attracted to the sounds and images

that come from it. Similar to moths that fly into the headlights of a car, one's attention is immediately captured by the brightly lit and colourful screen attached to the wall (and today this brightly lit screen has become the vibrating mobile phone in the palm of one's hand). But since the cinematic object is a temporally constituted tertiary retention it has a direct relation to the primary and secondary retentions of the individual, meaning that the flow of consciousness is in flux with the conceptually produced data stream of the cinematic object.

Audiovisual technologies transform "noetic, psychomotor and aesthetic functions" through the discretisation of flows between the sensory organs, meaning that in terms of political economy "the functions of conception, production and consumption [...] are grammatised [and] thereby incorporated into an apparatus devoted to the production of tertiary retentions controlled by *retentional systems*" (Stiegler 2010c:11). Through the application of psychological theories to the functions of conception, production and consumption, it becomes possible to construct a "pathway to the imaginary, that is, to fantasy, and through that to the unconscious" to transform the economy of desire "by binding to the material of the drives" (Stiegler 2010c:12). That is, to construct an imagination for industrial audiences through which their drives can be solicited for consumption.

But the organisation of consumption also requires that the daily routines of audiences are structured and standardised. This happens when the time of the consciousnesses of industrial audiences become synchronised through broadcast media that organise broadcasts according to the daily and hourly routines of audiences so that their collective conscious time can be in flux with the cinematically produced industrial temporal object (Stiegler 2009b:46). Programming industries therefore also gain power in the structuring and control of calendrical time that has traditionally been reserved for cultural institutions that would, for example, celebrate the first harvest. Instead, programming industries gain power through the formulation of a science for what time to broadcast the daily news with its daily weather forecast, when to show entertainment, and when to go to intermission breaks that display advertisements for a duration that is scientifically calculated to capture the viewers attention most effectively.

This gives programming industries the power to sell "available brain-time" to advertisers, as the unproductive free-time after a long day at work when the masses gather before their television sets and become targets for advertisements (Stiegler 2013a:38). Through an industrial temporal object such as an advertisement shown on television, the secondary retentions of masses of audiences can be conditioned and standardised through the cinematically produced tertiary retention – the advert itself that appeals and attempts to lure a particular demographic of the audience to a product. Thus a synchronisation takes place in the consciousness of audiences as they begin to share the same secondary retentions that condition the selection criteria for primary retentions that become less individual and more herd like (Stiegler 2009b:55). That is, through the standardisation of secondary retentions, the selection criteria for primary retentions are industrially standardised resulting in the impoverishment of perception and imagination through conceptually produced industrial temporal objects.

The audiovisual milieu controlled by programming industries therefore directly affects the psychic apparatus, of which the brain is the central organ that connects the individual with its social milieu. The brain is a relational organ that is capable of internalising "social circuits within cerebral circuits that enables the constitution of transindividuation processes, that is, the formation of signification (of the transindividual)" (Stiegler 2013a:67). Programming industries seek to capture attention, which amounts to the structuring of the neurochemical or cerebral circuits in the brain that have a direct influence on the individual's relation to the self and the world, but standardises it according to the concerns of the market.

In general, the organisation of attention is possible through psychotechniques (e.g. pedagogy) that can lead to the formation of attention, and through psychotechnologies (e.g. advertising) that can lead to the capture of attention. Stiegler (2010b) thus refers to the social and political formation of a population's psyches as *psychopolitics*. Initially the modern State arbitrates psychopolitics by organising a public of mature consciousnesses through disciplinary institutions such as public schools that are concerned with the formation of attention in the citizenry.

Through mandatory education the State can also administer the projection of an ideal to which the average citizen of a nation should conform. As such, this form of organisation that begins in the nineteenth century as part of modern democracies engenders a psychopower as a corollary of psychopolitics. Stiegler's (2010b:174) development of psychopolitics is indebted to Foucault's reading of biopolitics, but for him, Foucault's reading of biopower neglects the growth and expansion of markets in the twentieth century, especially after the world wars and what it saw in particular with a "previously unknown technology of power" called marketing, a psychopower which was greatly assisted by the new forms of communication media (radio and television).

Public education forms attention through a disciplinary pedagogy that is necessary for the adoption of the psychotechniques of reading and writing, shaping the reflective consciousness of a nation as a public that can read and write. Modern education thus rests on the principle of forming long circuits of individuation with the intention of constructing generations of mature adults who are critically conscious of their capabilities of reason and are capable of taking care of public and private responsibilities that arise in modern industrial societies. Although these consciousnesses are politically constructed, as opposed to being ethnically constructed, the ideal of such an education is to form the kind of maturity, or critical consciousness, that is capable of using reason publicly, as in the Kantian sense, meaning in front of a reading and writing public (Stiegler 2010b).

Mandatory public education originates in the nineteenth century as a result of industrialisation, Enlightenment thought and the rise of the modern State (Stiegler 2010b:55). The State thus sought to form the attention of citizens with the idea to organise a public of mature consciousnesses that could adopt the modern ideas of the Enlightenment, eventually leading to "the formation and solicitation of the population's intellectual talents; the 'population' is thus no longer viewed biologically but *noetically*" (Stiegler 2010b:174). Through the institution of mandatory education, scientific and technological research become a fundamental aspect of the organisation of society. As such a noopolitics develops since the education system in conjunction with the development of scientific and technological research results in a politics of minds

"aimed at developing and managing a national spirit serving a national economy and a national industry" (Stiegler 2010b:175).

National education constructs a different form of individuation that Stiegler refers to as referential individuation. Referential individuation can be understood in the sense that an ethnic *we* is usurped under a political *we*, that is, of a particular nation being usurped under the nation-state, both of which an *I* can belong to, although supposing different *we's*. This can be seen, for example, in South Africa where children from different ethnic groups (*we's*) individuate referentially as a political (South African) *we* at the public schools which they have to attend. As such, the psychic process of primary identification is supplemented with "primary collective and social identifications" which form a superego that a public adopts as a necessity for unification, as the adoption of a national *philia* (Stiegler 2010b:59-61).

It was therefore undertaken to construct the new system of primary collective identification with the rise of industrial society to transform the psyches of adolescents into mature consciousnesses so that they could relate with one another critically and collectively as individuals. Taking into account that the modern organisation of society imposes the nuclear family which is also suitable for economic growth under capitalism (Greif 2005:6), the modern education system plays the role of "principle social apparatus for the systematic formation of care as shared responsibilities and the construction of maturity" (Stiegler 2010b:64). The pharmacological consequence is that the psychic apparatus of traditional social bonds that had been under the purview of the family or larger kinship structures is restructured. As such, traditional social bonds (*philia*) are re-ordered in modern industrial democracies where children begin to collectively identify with appointed authority figures other than their parents or whom they would traditionally (primarily) identify with.

The ideals of nation-states remain politically instituted ideals and are subjected to a political process. The transindividual relation that emerges from it is thus established as a public, or

political, relation. But this changes with the psychopower that arises out of the social organisation of consumption. The projection mechanism no longer projects a political ideal and instead projects the ideal of privatised corporations, which is to make (more) money. Through the invention of the consumer, it is no longer a matter of belonging to a publicly instituted social organ, but rather to a social organ that can relate to trends in the market. At a very young age children are already targeted by programming industries resulting in the youth becoming a "generational economic and political power", as a discrete market which becomes a "primary market predictor for adult behaviour" (Stiegler 2010b:176).

For Stiegler, consumer society renders parents helpless in the face of service industries that rid them of their *savoir-vivre* (knowledge of how to live) as these industries take over their responsibilities. Through the organisation of consumption adults become infantilised and children pre-mature, making it seem that adults can no longer care for their children, and that children can no longer take their parents seriously as authority figures as they become prescribers to their parents (Stiegler 2013a:88). As such the family, which has already undergone structural changes necessitated by the modern political organisation, has lost its authoritative position in the organisation of the social organ leading to a generalised liquidation of the generations. Simultaneously, the intention with which the programming institutions sought to construct a public of mature consciousnesses capable of taking responsibility through care is systematically destroyed by the programming industries that do not seek to form attention but to capture it at all costs.

It is at this point that psychopower becomes central to the question of political economy which is confronted by the limits that capitalism imposes. According to Stiegler (2013a88), the first limit is the tendential rate of profit to decline (as analysed by Marx) which also leads to the proletarianisation of the worker. The second, as a response to the decline of profit, is the figure of the consumer that is invented in order to counterbalance the effects of industrial overproduction. The second limit however exploits the libido of the consumer through the marketing and advertising techniques of the programming industries, coinciding with the overproduction and

"planned obsolescence" of products in order to continually stimulate consumption. It leads to the destruction of desire and the faculty of attention, impoverishing the ability to take care. For Stiegler (2013a:88):

"A *third limit* is now imposing itself, deriving from the fact that the industrial way of life, inherited from the nineteenth and twentieth centuries, has become toxic not only on the plane of minds and libido, but also on the geophysical and biological plane".

But towards the turn of the twentieth century a new form of technology emerges through internet and digital technologies that transform programming institutions and industries in unprecedented ways. Through digitalisation the organisation of global capitalism converges "in a *computational* system of globally integrated production and consumption [with] new cultural, editing and programming industries" (Stiegler 2011a:5). It is predominantly the social web (Web 2.0) as a new programming industry that has had the most remarkable effect on social and political organisation over the entire globe. Web 2.0 economises and exploits what becomes the currency of peer-to-peer relations in digital networks, but nevertheless reinforces peer networks beyond the anticipation of the programming institutions and industries that has preceded it.

The structure of digital technology differs both from the literary technologies of programming institutions and the audiovisual technologies of the programming industries. These organisational modes are exceeded by digital technology that can compute at the speed of light what is being transmitted and stored over a digital network. Digital technology is also the technological invention that has been distributed most widely throughout the populaces of the entire globe, including also children. The historical implications of digitalisation can thus only be felt, at its dawn, through the lenses of the institutions and industries that precede it. As, for example, in relation to the (black-letter) law, which transcribes the word and is structurally based on literary technologies, digital technology transforms legality since it operates "structurally outside the

law. Not so much in the sense of delinquency although this happens too, but rather it creates a legal vacuum, increasingly. It creates factual illegality, or factual a-legality" (Stiegler 2015:78).

A new technical milieu thus arises through digital technology that captures data in text, image, audio and video all at once, thus constituting a convergence of all inscription technologies that has preceded it. As a mass-distributed technology it facilitates peer-to-peer communication in all these aforementioned modes of inscription, which consequently affects the modern governing systems of the nineteenth and twentieth centuries that have sought to govern populations through administration and management, as well as the stimulation of consumption. The digital epoch, in its proximity to these governing systems, engenders new forms of government that respond to the structural transformations that are taking place in the transition from the modern organisation of society to digitalisation. A new mode of psychopolitics therefore develops that must respond to the digitalised technical milieu.

Psychopolitics is a politics of attention, whereas the formation of attention and the capture of attention has guided the respective organisational strategies for the transmission of tertiary retentions by programming institutions and programming industries, a new battle for psychopower is evolving that contends with the production of tertiary retentions in peer-to-peer relations over digital networks. If attention manifests in the play between retentions and protentions, then a digitalised politics of attention will develop out of the disparities of content produced over socio-digital networks, whereby psychopower becomes the power to flatten and integrate the production of tertiary retentions with global political and economic strategies. Psychopower therefore

"becomes the heart of economic and military, not just political, power, through retentional apparatuses […] as they create tertiary retentions. This 'psychopolitics' is the object and the goal of integrated economic, military, and political strategies as *soft power*" (Stiegler 2010b:173).

Soft power therefore revolves around the national and global interests of states and corporations that have nevertheless been engaged in a global economic war since the Second World War and decolonisation (Stiegler 2010b:175). The exercise of soft power is reflected in "nation branding", whereby a nation-state seeks to maintain an image or reputation of the country as a brand, to be attractive for foreign investment and tourism. But digitalisation significantly transforms the management of established national and international relations as "it might be said that the information revolution is impelling a shift from state-centric to a network-centric world" (Arquilla & Ronfeldt 2007:4). In the network centric world non-state actors (NGO's, Multi-national corporations, terrorist groups, civil society) gain a significant foothold in the circulation of ideas and narratives that escape the control of states, thereby disrupting national schemas that have otherwise been under the purview of state sanctioned programming institutions.

The spread of ideas through the Internet, as a globally integrated digital network, announces the emergence of a *noosphere*, a concept developed by Pierre Teilhard de Chardin, that supposes the formation of planetary consciousness as "peoples from different nations, races, and cultures develop minds that are planetary in scope, without losing their personal identities" (Arquilla & Ronfeldt 2007:2). The global spread of ideas and processes of ideation cannot be administered by the state but gives rise to the use of soft power to respond to the intensified networks of non-state actors that have gained political influence. This has led to the development of an approach to statecraft, termed *noopolitik*, that aims to balance the roles of state and non-state actors by privileging soft power over the hard power of *realpolitik*. Noopolitik thus

"emphasises the role of informational soft power in expressing ideas, values, norms and ethics through all manner of media […] In sum, noopolitik is an approach to diplomacy and strategy for the information age that emphasises the shaping and sharing of ideas, values, norms, laws, and ethics through soft power" (Arquilla & Ronfeldt 2007:3-5).

But the existence of a noosphere, or noospheres, has perhaps only become evident with the advent of Web 2.0 in the early twenty-first century. That is, through mobile access to the Internet and the rise of social networking platforms such as YouTube, Facebook and Twitter, a much broader base of the citizenry have gained real-time broadcasting capabilities in various media, constituting what can be regarded as a fifth power, or the fifth estate. Through social networking platforms, new processes of ideation are taking place in real-time across networks of peers who become associated and individuate with ideas and ideologies that do not necessarily correspond to the prevailing ideologies in the localised networks of social and political institutions. As such these processes of ideation may challenge the noetic view that any given nation-state has sought to administer and cultivate in its population through programming institutions – which are structurally grounded in literacy and not digital technology.

Digitalisation supposes the entrance to a new industrial organisational model that must contend with the productive influence and organisational capabilities that come with industrial participation in socio-digital networks. A digital organology has to account for the effect of transindividual processes that are taking place over socio-digital networks, and how this affects local governance in relation to the real-time globalisation of transindividual processes. All the while, a global noesis seems to be taking place that is also announcing itself as a global "war of ideas" (Arquilla & Ronfeldt 2007:7). Throughout the world a steep increase in ideological oppositions, from religion to politics, is manifesting and being reified through global processes of transindividuation, posing a definite noopolitical crisis for governing regimes.

Socio-digital networks constitute a new phase of grammatisation whereby social relations are grammatised, thereby also making the reification of ideas and ideologies shared by groups over the vast distances of the globe more plausible. However, for Stiegler (2013a:83) it means that "it is the mechanisms of transindividuation itself that are grammatised, that is, formalised and made reproducible, and therefore capable of being calculated and automated". Digitalisation therefore also makes possible an algorithmic governance that would be a matter of intervening in transindividual processes through automation. That is, to anticipate and shape processes of

ideation or expression through socio-digital technologies, to constitute a soft power which can be embedded in the automated mechanisms of social networking platforms.

One such example of algorithmic governance over social networks can be seen in a recent experiment showing that the emotional states of users can be transferred to their peers via "emotional contagion" (Kramer, Guillory & Hancock 2014). By deliberately reducing the display of positive and negative expressions in Facebook's "News Feed" application, the experiment revealed that the emotional expressions of users correlated to the amount of positive or negative content expressed by their peers in the News Feed. More importantly, however, is that the experiment was conducted on a massive scale (N = 689,003) over one week through the use of software that correlated the words posted by users with positive or negative emotions. Consequently "no text was seen by the researchers. As such, it was consistent with Facebook's Data Use Policy, to which all users agree prior to creating an account on Facebook, constituting informed consent for [the] research" (Kramer *et al.* 2014:8789).

Algorithmic governance therefore intervenes in transindividual processes through automated mechanisms (algorithms) that arbitrarily collect and arrange the production of content between peers. As in the example above it would not even be necessary for human beings to perform analyses of the raw data (which would otherwise have been illegal had the researchers seen text) and to make calculations, but only requires the development of a software programme that can arrange content according to the predefined rules of the programme itself. With the emergence of "big data" it becomes possible to "extract extremely quickly from huge databases, structures and elements of information on the state of the system, and to react on the system with this information on the state of the system" (Stiegler 2015:78). These algorithmic procedures take place firstly through data-mining for pattern recognition, and secondly through machine-learning that makes computers "better at recognising these patterns in future data" (McQuillan 2015:566).

Consequently algorithmic governance becomes preemptive by analysing data sets that are correlated to behaviour, after which an intervention can be formulated to alter the predicted behaviour. These interventions are not limited to online social networking platforms, as in the case of Facebook above, but also becomes a mechanism that extends the biopolitical control over populaces through the submission of databases for data analysis in order to profile citizens, resulting in the possibility to preemptively govern individuals and groupings of populaces by defining and correlating them to statistical predictions of their behaviour. This leads to an a-legal mode of governance that no longer adheres to the due processes of the law, as procedures that follow causation and presume innocence, but bases procedure on correlation, "where correlation becomes a basis for correction or coercion" (McQuillan 2015:567).

Governance in the digital epoch is pervaded by a double genealogy of the programming institutions and programming industries that has preceded it. Whereas these modes of organisation had been concerned with the formation and capture of attention as modalities of psychopower, digitalisation has led to the grammatisation of transindividual relations through social networks, and has transformed the question of attention into the question of transindividuation. Psychotechnologies have become sociotechnologies of transindividuation and has engendered a "new milieu and new reticular condition of transindividuation that grammatises new forms of social relations" (Stiegler 2013a:84). As it has been shown in the above, an algorithmic governance is emerging that intervenes in the transindividual process and as such can form new social relations through soft power. Soft power seems to split organisational strategies in two directions: on the institutional (political) level it seems to follow the route of *noopolitik*, as the ability to shape processes of ideation; on the industrial (economic) level it seems to take place through the automation of mechanisms that condition the expressions of users.

Digital technology brings new governing capabilities to institutions and industries that are not yet fully digitalised, producing a reaction which Stiegler would describe as the "pharmacological shock" of an invention (Stiegler 2013a:35). Any invention suspends existing social programmes and as such opens an epoch that causes an infidelity within the order of existing modes of

organisation, which can be understood as an infidelity in the social bond (*philia*). But a second suspension becomes possible in hindsight of the first suspension that has produced the pharmacological shock. In hindsight of the pharmacological shock new practices of care can and must be developed to establish a fidelity in the social bond that has become digitalised. The second suspension of an invention occurs with the *adoption* of new practices that aim to establish a new form of affection and normativity through the institution of another "technics of self and others" (Stiegler 2013a:35).

If it is a matter of establishing a new *philia* for the digital epoch, it is however necessary to consider the historical implication of the discourse on *philia* as it was discussed in Chapter 2. As such the question of *philia* in the digital epoch is at once a geopolitical question that arranges the relations between and within nation-states but must also include non-state actors such as multi-national corporations, terrorist groups, NGO's and so on. If the notion of a *noosphere* is accepted, then the territorial demarcations set by nation-states are being deterritorialised and instead, through the intensification of peer networks, a reterritorialisation of *philia* is taking place in the realm of the mind (*nous*). This does not mean that nation-states are disappearing, but instead that a territorialisation of objects that *consist* is taking place and that these processes of transindividuation are nevertheless grounded in localised spaces. It is inevitable that the pharmacological shock of digitalisation will produce reactionary strategies and policies for the control of these new processes of transindividuation and it will be a matter of time before institutional and industrial adoption of digital technology will be realised.

§ 3.6. Conclusion

In this chapter the key concepts of Stiegler's philosophy were explicated in relation to his development of the general organology. It was shown how artificial, social and bodily organs exist in a transductive relation to one another, and how individuation is constituted by tertiary retentions which transmit intergenerational memory. Furthermore, consideration was given to

Stiegler's proposal for a new critique of political economy which includes a critique of the unconscious that is constituted by tertiary retentions. Finally, Stiegler's distinctions between programming institutions and industries that engender different modes of governance were juxtaposed in relation to one another, after which it was considered how these modes of organisation have been affected by digitalisation. In the next chapter an analysis of technical epochs will show how different modes of the technical object has affected artificial, social and bodily organs.

4

Archaeology of the Social Bond

In this chapter it will be considered how the technical object, as both medium of communication and memory-object, has affected the social milieu. Technological developments will be traced in order to illustrate how new modes of the technical object affect the human being as a biological organism and how changes in social and political organisation correlate with changes in the technical object. In the previous chapter it was shown that exteriorised memory in the form of *tertiary retention* enables the process of *transindividuation* to take place. Since the *transindividual* exists in a *transductive* relation to the technical milieu, it is considered here how technical developments led to new formations of tertiary retentions, affecting the processes of *transindividuation*, and thus formations of the social bond (*philia*).

A genealogy of the technical object is considered by dividing it into the two axes of communication (speech/transmission) and performative function (gesture/memory). The first section of the chapter deals with the axis of communication and transmission, distinguishing between three epochs, namely: orality, literacy and electricity. Here the work of the three media theorists, Marshall McLuhan, Walter J. Ong and Friedrich Kittler will be considered in addition to Stiegler's conceptualisation of the general organology. The second section, addressing the axis of gesture, will consider the industrialisation of the technical object and the subsequent rise of modern capitalism that monetises time and reduces the social bond to the calculability of credit. The final section will consider how the genealogical consequences of the technical object is caught in the web of digitalisation and how a general organology of the digital may be affected and conditioned by this accumulated history.

§ 4.1 Epochal transitions: orality, literacy, electricity

4.1.1 First Transition: Orality to Literacy

Leroi-Gourhan (1993) develops a theory of the evolutionary process of the skeletal system, showing that anthropoids came into existence as a result of bipedalism which freed the hand and face from locomotion and exposed its functions to the "anterior field of responsiveness". This drew consequences for the primary motor cortex which distributes the neurons that control the face, fingers, upper limbs, trunk and lower limbs. But since the hand is freed from locomotion, it

"predominates in coordinated actions of grasping and preparing food, as well as of attack and defence [but above all] serves for making things, whereas the face is the instrument of phonation organisation as language" (Leroi-Gourhan 1993:84).

Even though anthropoids and simians possess the same primary motor cortex, the bipedalic gait of the anthropoid suspends the cranium in such a way that the cortex is opened and spread out to connect to the central parts of the brain that involve and make language possible. Anthropoids can thus be differentiated from the higher apes since they remain quadrupeds and do not have a cranium containing the same cortical structure that physically constitutes language in the anthropoid. It is precisely the physical ability of the anthropoid to organise expressive sounds and gestures that allow for the intellectual possibility of inventing symbols expressed by sounds or gestures that constitutes language, and differentiates man from ape (Leroi-Gourhan 1993:87-89).

It is thus through the skeletal evolution of the body that the cranium is suspended and allows the brain to increase and settle volumetrically in bipeds, making the brain the "tenant" of the body

and not the other way around (Leroi-Gourhan 1993:37). Although skeletal evolution and the process of corticalisation comes to an end in the anthropoid, the evolution of *Homo sapiens* continues through the exteriorisation of memory in the technical object. Along with the advantages of the biped's cranial suspension opening the cortex widely and the exposure of the face and hand to the anterior field, it is through the invention and exchange of symbols that language forms human society. But the proximity of the hand and face in the primary motor apparatus of the brain also means that the face and hand are coordinated in speech through gesture and as such the coordination between hand and face "reappears in writing as the transcription of vocally emitted sounds" (Leroi-Gourhan 1993:85).

Even though *Homo sapiens* have "been in existence for between 30,000 and 50, 000 years" and have been aided by oral speech to form societies, the "earliest script dates from only 6, 000 years ago", showing that literacy is a relatively recent phenomenon in the history of human beings (Ong 1982:2). But already in the 8th millennium B.C. the first steps in reading and writing were made in the use of clay tokens that had numbers inscribed on them to keep track of goods and livestock. In the 4th millennium B.C. more advanced forms of writing developed in Sumeria and Egypt as they began to write in cuneiform and hieroglyphs. These forms of writing were highly advanced and required a lot of "brain power" since it is characteristic of writing and reading to form new connections, or make new neural pathways (synapses) between different areas of the brain that would not be connected in speech. Cuneiform and hieroglyphs were mentally taxing because they had such a vast system that interpreting it would require extensive use of the brain's energies, and as such it was available only to some to interpret what was written down (Carr 2010:53-54).

Only in 750 B.C. did the Greeks invent an alphabet that is said to be the first that contained vowel and consonant sounds. There had been alphabetic writing before the Greeks with the Phoenicians, but the addition of vowels and consonants made it easier to write down the spoken word. With only twenty four characters in the alphabet the Greeks managed to optimise writing and interpretation by orthographically (meaning with exactitude) writing down what was spoken.

The Greek alphabet thus also served as an economisation of brain function, since it required less perceptual depth and reduced the use of memory in interpretation. As an economic function[12] it also made reading and writing accessible to all of those who could speak Greek (Carr 2010:53-54).

The invention of alphabetic writing spawns the transition from orality to literacy and can be directly linked to the advent of philosophy in Ancient Greece as it is exemplified by the transition from *mythos* to *logos*. Although the transition was disruptive of the enchanted oral world, abstract distinctions were not yet made between things as animate and inanimate objects that existed separately from the realm of the gods. According to the classicist W.K.C. Guthrie (1950:12) this naturalised connection between different realms followed the *law of sympathy* and was rife in Aristotle's time when it was still believed that "even to write the name of an enemy on a lead plate, transfix it and bury it (thus consigning it to the powers of the underworld), could injure or kill him".

Writing was thus regarded as a very powerful instrument with direct connotations to the sacred, and what was written down was taken as an exact representation (orthothetic) of the truth. But what this truth signified was no longer represented in the stories of myth, and had to be represented in truth by the *logos*. A phenomenon particular to the functional aesthetic of alphabetic writing (as *prosthesis*) is that it sharpens the visual sense, affecting the *attentional apparatus* by focusing it through a process of visualisation. This can be seen with the development of *theoria* (seeing, reflecting in contemplation) amongst the Greeks as a specialised activity for gaining insight to the truth. It is thus also *theoria* that sharpens the visual sense of truth in the *logos* which however bifurcates towards empirical truths and rational truths, engendering ēpistēmē as a mode of knowledge which seeks to distinguish between truths.

12 The advent of digitalisation in the late twentieth to twenty-first century A.D. would again serve as an economisation of brain function through storage capacity and the performance of calculations at speeds incomparable to the human being.

An example of this bifurcation can be seen in Plato's dialogue, *Meno* (82b-85c) when Socrates draws a square in the sand to illustrate that the area on a diagonal of a square is twice the area of the square, and that it is a mathematically abstracted truth that can be learnt, or recollected through *anamnesis*, without having empirical evidence. For Plato this indicated that geometrical (rational) truths are independent of sense perception, or experience, and that these universal truths can become known through the elenctic method that would allow the soul to recollect this knowledge (*anamnesis*) that the soul has already acquired in previous lives. Nevertheless, the example relies on a diagrammatic illustration thereof, that is, as a visualisation of the theorem that is technically reproduced by drawing in the sand.

Consequently science (*epistēmē*) becomes possible when the empirical world can be muted by a diagram which serves the function of distinguishing the ideal form that represents a universal or mathematical truth from the empirical (Serres 1982a:69). The assumption is that knowledge of truth can be acquired through non-empirical means, however, access to this truth required the technique of drawing the diagram so that the theorem could be understood. Knowledge thereof is therefore not simply acquired through the process of *anamnesis*, but requires the *hypomnesic* (artificial memory) representation of the theorem that makes it understandable.

Hypomnesic memory (tertiary retention) has to be learnt through the acquisition of a technical skill (i.e. of reading and writing) in order to gain access to the knowledge which has been exteriorised. But Plato, through the mouth of Socrates, opposes *anamnesis* and *hypomnesis*, devaluing the artificial nature of the latter as dead memory that has not been acquired by the living soul as interior memory[13]. Hypomnesic memory is therefore a *pharmakon* and can either grant access to knowledge, or lead to the loss thereof (Stiegler 2010c:29). Plato recognises that the exteriorisation of knowledge can equally lead to a loss of knowledge and understanding, but through reproduction it could also become a powerful source of manipulation.

13 The prefix of *ana*- means "from above", contrasted to *hypo*-, which means "from below" (hypodermic needle: below the skin). *Anamnesic* memory thus stemming from the *eidos* is contrasted here to the memory from below, the underworld. In the *Phaedrus* Socrates gives an explanation of the doctrine of the fallen soul and its ten thousand year cycle, beginning in the underworld and only reaching the *eidos* in its final years.

Writing thus also posed a political and organisational problem, since it could be used as a *tekhnē* to construct reproducible speech acts. This is at the centre of Plato's battle with the Rhetoricians who would teach their pupils (for a fee) how to become persuasive orators through *tekhnē rhētorikē*, the art of rhetoric, and through this to become influential politicians and law makers. Writing therefore did not

"reduce orality but enhanced it, making it possible to organize the 'principles' or constituents of oratory into a scientific 'art', a sequentially ordered body of explanation that showed how and why oratory achieved and could be made to achieve its various specific effects" (Ong 1982:9).

It thus became possible for any citizen to learn to purport truths that need not be known *anamnesically*, but could be learnt by *hypomnesically* memorising words and mimicking gestures that would convey the possession of knowledge, albeit through illusion. Speech and oratory in the Athenian *agora* was regarded by Plato as *doxa*, popular opinion, believing that the "distinction between persuasive statements for the civil population and the clamouring of war parties as having narrowed to almost nothing" (Sloterdijk 2010:41). The regress of political life in a warring Athens signalled the collapse of its political model, and would eventually drive Plato to the outskirts of Athens to established his school, the Academy in 387 B.C (Sloterdijk 2010:41).

As a place for the practice and the study of theory it also became possible to suspend the *noise* of the *polis* and to develop theories about political life without subjecting the theoretician to commit to it in practice. This left the *polis* in an idealised state to become an object of reflection and not the sight of active communal organisation. Borne from this turn towards *ēpistēmē* it also enabled Aristotle to methodically categorise various state forms as if they existed as separate categories of political life (Sloterdijk 2010:47). As such Aristotle also categorised *philia* and devised a theory about it that rationalises political organisation accordingly. The development of theory in

this way takes place through the practice of reading and writing, and spawns the republic of letters that informs the Western tradition of social and political organisation. But one can also see how the change in the technical object from a speaking system to a writing system draws further consequences for the general organology. That is, from changes in perception and brain function induced by a new mode of communication that also engenders new modes of social organisation.

4.1.2 Second Transition: From Manuscript to Print Culture

The theoretical turn towards social life is bound up in the rise of literacy. From a historical perspective literacy can be divided into manuscript culture and print culture. Literacy and the fruits that it bore for consciousness remained exclusive to the elite, from Plato's time up until it became possible to reproduce literate works for wider dissemination. This required that new ways of transcription, production and distribution should be invented (Carr 2010:57). The printing press, as the invention that made the wider dissemination of literate works available was first invented in Asia and was widely used among the Chinese, Koreans and Japanese who were printing verbal texts already in the seventh to eighth century. But only once the alphabetic letterpress was invented in fifteenth century Europe did printing become a significant agent of change in global history.

In principle it was the movable typeset, broken down into letters and not whole words (as was the case in other printing) that made the manufacturing process of printed works cheaper, turning words into a commodity, making words appear to be *things*, more than writing ever could (Ong 1982:116). Only with the printing press did reading eventually become silent reading, separating the visual and auditory senses further from one another. In manuscript culture the written text was not regarded as being separate from the voice and was therefore read aloud. The exceptional circumstance in which someone had been reading silently was regarded as very strange and foreign. For example, when Saint Augustine saw the bishop of Milan reading silently, he found it

incomprehensible and could not understand how his voice was not making the sound of the words that he saw the bishop reading (Carr 2010:60).

The technical tendency of literate culture is that it is dominated by the visual sense. It was already discussed in the above how *theoria* arose with orthographic writing in the phonetic alphabet and how this in turn became the basis of the theoretical developments from Plato's time onward. Once a manuscript culture was under way the "empathic involvement, natural to the oral society and audile-tactile man, [was] cracked by the phonetic alphabet which abstracts the visual component from the sensory complex" (McLuhan 1962:39). It was, however, only some time after the printing revolution in Europe that people began to read silently. Although the visual had increasingly become dominant through the written word, it was still subordinated to oratory. The gradual shift towards "sight-dominance" only came into fruition with the printed word which positioned and fixed words in a visual space. In manuscript culture the text did not contain spaces between the words. Spaces between words only came up with printing and as such broke with the flow of writing as the spoken word, transforming words into visual units and thus focusing the attention on the visual aesthetic as opposed to the aural aesthetic (Ong 1982:119).

For McLuhan (1962:15;269) this is the genesis of the "fixed visual point of view" in which a three-dimensional visual perspective becomes a conventional acquisition through literacy and separates the sensory "faculties and functions", which also becomes a major assumption in Newtonian physics. The effect of the "fixed visual point of view" is that whatever may have appeared regularly in an environment gained a second visual sense on top of the primary visual sense. It had the effect of magnifying the visual dimension by blurring or separating the other senses from the focus of the visual object. The overdetermination of the visual itself had the drastic consequences of affecting the faculty of perception through the habituation of visual dominance. The consequences were such that it led to a complete reorganisation of society. It has even been noted how this visual dominance engendered by the printing press was responsible for the

"Protestant Reformation and reoriented Catholic religious practice, [...] affected the development of modern capitalism, implemented western European exploration of the globe, changed family life and politics […] made possible the rise of modern sciences, and otherwise altered social and intellectual life" (Ong 1982:116).

According to McLuhan (1962:12) the increase in visual dominance had the effect of separating the visual sense from the 'world' to project a reorganisation of established orders into more specialised functions. The specialisation of functions also meant the rise of competitive individualism fundamental to the private/public distinction and modern capitalism. These developments mostly had to do with the shift in the locus of power which became more centralised as it shifted from the feudal monarch who included himself in all his subjects to the "Renaissance prince" who delegated powers to areas and individuals that specialised in functions (McLuhan 1962:12).

The shift within literate culture in the Western world thus reveals an organological change based on the effects that the medium of communication has on the sensory complex. For McLuhan this led to the 'literate man' becoming linear in his thought and his actions. In the social organ the rise of centralism as the delegation of powers and the specialisation of functions paved the way for the modern organisation of society in which activities became organised systemically and in a lineal fashion. Print, being a commodity, also initiated the first phase of consumerism and "showed men how to create markets and national armies. For the hot medium of print enabled men to *see* their vernaculars for the first time, and to visualize national unity and power in terms of the vernacular bounds" (McLuhan1962:138).

With centralism the gradual shift of power tended towards the individual and placed more emphasis on privacy, leading to the rise of the private sphere as distinct from the public sphere. If individuals were being given more power, it was only natural that the individual should gain more rights. First, however, laws and regulations had to be centralised – which is the role that the

State had come to fulfil. As such the State took over the functions that had previously been attributed to individuals or families, and as such public authority was de-privatised (Chartier 1993:399). The rise of the private sphere became possible because of the centralisation as mentioned above, but it only became a matter to be distinguished from the public when the individual began to appeal for more freedom of choice. It became increasingly important for individuals to share their time with other individuals of their choosing and to no longer be dominated by obligations imposed on them. These developments were not only instrumental to the French Revolution but also had significant influence on the family practically becoming synonymous with private life in the nineteenth century (Chartier 1993:400). The private sphere as a sphere unencumbered by customs and social impositions became the conditions for a new manner of associating with others.

Marriage which had once been a communal matter became more romanticised since individuals now had the liberty to choose their partners for themselves. But this had particular consequences that could no longer be be dealt with by the family only. Domestic problems became a matter for centralised power, the State, to take care of and subsequently defined the rights of the man and woman in relation to divorce. Thus a new *philia* originated between the sexes in the private sphere as a result of the individual rights that had to be protected by a centralised authority. Thereafter family became the focus of private life, not only in the relation between the man and wife, but also in relation to the household as a private space that housed the family and its children (Chartier 1993:401). The administration of individual rights by the State therefore also embedded the nuclear family and its ideals as representative of the organisation of private life.

The wider dissemination of books and the rise of the private sphere meant that social organisation became more dependent on the representation of ideals which could be internalised by the people, who became speculative of what these ideals must be and how they must be represented. Whether it was the printed word that represented the vernacular, or whether it was the State as the central power of a nation that represented a community, dependence on representation can only be a result of what McLuhan (1962:11) recognised as the “isolation of

the visual sense as a kind of blindness". In the world of theory, this can also be seen in Immanuel Kant's (1934:12) famous Copernican revolution which he made analogous to his speculative philosophy by showing that the inversion of the observer as a spectator revolving around the stars, and not the other way around, meant that objects could conform to our *a priori* knowledge of them. Knowledge of the object could thus be acquired by re-presenting the object ahead of itself so that the object could conform to knowledge thereof despite how it may be perceived. Paradoxically, with advances in modern scientific theories, knowledge is acquired through the repression of sight. In turn vision is affirmed only through re-presentation. The dominance of the visual that arose out of literacy after the printing press thus engendered a dependence on representation to serve as evidence.

Theoretical knowledge thus progressed from the mathematical model of the Greeks towards scientific representation with Newtonian physics. As Heidegger (1977:280) shows, this change is predominantly due to the establishment of Newton's "First Law of Motion" that became regarded as a fundamental principle, or law, that had to be factored into reasoning. What this meant was that from then on this fundamental principle had to be applied to reasoning about something, without having experienced the knowledge that the principle claims to carry. Instead of the mathematical as that which we must first learn about, as it was with the Greeks, the mathematical now becomes something that is projected onto that which we would like to study – it becomes axiomatic. "As axiomatic, the mathematical project is the anticipation of the essence of things, of bodies; thus the basic blueprint of the structure of every thing and its relation to every other thing is sketched in advance" (Heidegger 1977:292).

In light of the Newtonian world-view, the individualism engendered by Descartes and the social consequences of the printing press where reading became a widespread individual activity, also causing other social upheavals such as the Reformation and Counter-Reformation, Kant sought to develop his critical philosophy as fundamentally necessary for the Enlightenment and modern political organisation. Kant's (1784) concern with the Enlightenment was to begin with the question over the "self-induced immaturity" of those who are too lazy to think for themselves by

relying on others to think for them, whether it be through the use of a book, a physician or a priest. Kant implored individuals who want to think for themselves to come of age, and to freely and publicly practice the use of reason, by responsibly addressing the literate world (Kant 1784:2-4).

Kant distinguishes between the private and public use of reason, favouring the public use of reason should it entail the complete freedom to reason for the sake of it and through which the constructive criticism of institutions and public organisations can take place. For Kant, criticism, as the public use of reason, should be made in writing by the mature and independent thinker so that the criticism that is levelled at matters of public concern would not be the cause of insubordination in society. Instead, criticism could rather be tested before the literate public who are themselves also believed to be independent thinkers.

Kant proposed that the *private* use of reason should be limited to the individual use thereof. He saw this within the context of those who had taken up particular occupations in which it could not be afforded for them to use their reason haphazardly. It would be the cause of insubordination if those who occupied positions that required of them to represent their institutions to suddenly be critical of these institutions before those to whom they must appear as responsible guardians that can guide them to maturity. For Kant (1784:2) “obedience is imperative”, and one should thus proceed in a prudent manner so that those who have not yet come of age could still learn through the responsible guidance of their guardians. Those who are mature and could think for themselves should be allowed to reason freely and criticise as much as they like, as long as it took place in the space of literacy.

Kant therefore presents the critical use of reason in such a manner that it should be regarded as a *pharmakon*. Regarded as such, a curious shift in register occurs from Plato to Kant when it comes to the testing of one's reason. For Plato it was vitally important to practice dialectics in order to take care of oneself, and of others – which also required one to engage in verbal

dialogue with others. But for Kant this becomes the role of criticism which is a literary practice, transforming dialogue, through literacy, to become dialogical. Since the printing press that opened up a body of knowledge to a wider public, the tutelage of the institutions that retained control over this body of knowledge came under duress – the consequences of which is perhaps exemplified by the French Revolution. It thus became a necessity to pose the limits and use of reason in terms of literacy as opposed to the spoken word.

Comparatively, the maxim above the entrance to Plato's Academy "*Ageometrētos mēdeis eisito!*" is replaced by Kant with "*Sapere aude!*" (Dare to Know!) - the motto of the Enlightenment (Kant 1784:1). From Plato to Kant, the shift in register with regard to the exploration of reason is forewarned by this message that shifts from an instruction to a challenge. Both messages appear to unveil the entrance to a new, or different space in which reason can be practised – at a distance from the immediate political space in which thinkers are situated. But in distinction to the Academy that was built on the outskirts of Athens, Kant's proposed space in which criticism should take place is through the network of written letters, or the "republic of letters".

But a more radical and perhaps unnoticed consequence, of the forgetting of technics emerges. Kant places the public use of reason in the sphere of literacy as the space in which the task of criticism can take hold of the question that he poses in the *The Critique of Pure Reason*: "What and how much can reason and understanding, apart from experience, cognise and not?" (Kant 1934:5). But it is only with the technical support of writing that this form of cognition could become possible in the first place. Kant's "Copernican revolution" however inverts the relationship between *anamnesis* and *hypomnesis* while at the same time opposing cognition and experience. In Kant's conception, reason becomes exteriorised and permits us the ability to posit knowledge of the object before knowledge thereof is given to us. Reason thus goes ahead in time and becomes a prosthesis that invents knowledge before we can have experiential knowledge thereof. But Kant (1934:422) nevertheless develops his critical philosophy as a therapeutic to reason, since he posits that: "Reason must be subject, in all its operations, to criticism, which must always be permitted to exercise its functions without restraint; otherwise its interests are

imperilled, and its influence obnoxious to suspicion". Criticism is that which must place reason before a tribunal in order to judge the validity of its proposition and to evaluate the use of reason, but which must be regarded pharmacologically in the sense of its dependence on the prosthesis of literacy.

Consequently the reversal of *hypomnesis* and *anamnesis* is what Deleuze (1984:vii) refers to as the subordination of movement to time. In antiquity, time was subordinated to movement, but with Kant movement becomes subordinated to time. This means that time is set free and that movement must catch up to it. "Time is no longer related to the movement which it measures, but movement is related to the time which conditions it" (Deleuze 1984:vii). As such the process of *anamnesis* is forced to conform to *hypomnesic* memory – meaning that *anamnesic* knowledge now becomes that which has to 'catch up' to the *hypomnesic* knowledge that exists ahead of an empirical understanding thereof. Although it is not indicated as such when Kant (1784) publishes his essay on the Enlightenment, it is the opposition between the immature and the mature that becomes the place holder for the opposition between *anamnesis* and *hypomnesis*. Simultaneously empirical knowledge (*a posteriori knowledge*) is infantilised and subjugated to pure reason (*a priori knowledge*). From here on, coming of age means the cognitive ability to deduce fundamental principles from tertiary retentions.

Although Kant's proposition that cognition must attain to the axiomatic principles of pure reason cannot be discarded, it is the consequences of the marriage between science, or pure reason, and *tekhnē* that becomes technology which produces the modern schism between the *what* and the *who*. In conjunction with principles posited ahead of empirical knowledge, techniques and instruments for experimentation have to improve in order to attain towards pure reason. According to Heidegger (1977:292):

"Modern science is experimental because of the mathematical project [*Entwurf*]. The experimenting urge to the facts is a necessary consequence of the preceding mathematical

skipping of all facts. But where this skipping ceases or becomes weak, mere facts as such are collected, and positivism arises".

The 'mathematical skipping' to which Heidegger refers here is experiential knowledge that recedes in anticipation of the axioms that are projected. "Therefore, the project also determines the mode of taking in and studying what shows itself, experience, the *experiri*" (Heidegger 1977:292).

The speculative nature of thought that develops in a literate culture is not only limited to philosophical reflection, but also becomes part of the operations of the market economy, starting with the first stock-market that was found in 1611 in Amsterdam, giving Dutch investors limited liability – meaning they were only liable to lose their investment (Micklethwait & Wooldridge 2003:28). This set the tone for the operation of market capitalism that pits the investment against the value that it represents. The trading of stocks between investors thus becomes a speculative activity that remains dependent on the representation of value, and not the essential value of what is being traded. The logic of investment develops as the positing of value ahead of what is given, and organises the economy through speculative exchange.

4.1.3 Third Transition: Electricity

The next major transformation in the communicative ability of human beings after literacy was only seen until electricity became a source of energy and widespread utility. In 1889 Nikola Tesla's invention of the small electric motor became an energy source that could be applied to older machinery, assisting in the increased productivity of agriculture and industry. Shortly after, and with Thomas Edison's invention of the electric light bulb, the American federal government created the first national electric grid in 1906 to supply households with electric power (Attali 2009:78). The rapid adoption of electric power as a source of energy is only testament to the

speed implied with the use of electricity. Within a century it would also become the foundation for the development of infrastructure and all the organisational capabilities that eventually come with digitalisation.

The electric motor also had an impact on urbanisation since it allowed for the building of elevators, increasing the possibility of vertical housing, leading towards smaller families as more people migrated from rural areas to live in cities that now also expanded vertically. Within the household the domestic role traditionally assigned to women gradually became less rigid as household appliances became available (Attali 2009:78). These appliances as well as the radio and the television managed to uproot the domestic arrangements of the modern nuclear family as more women entered the marketplace professionally. Finally, the invention of the transistor and electric battery mobilised the youth as portable radios opened a world unsupervised by parents where the youth could party, paving the way for sexual liberation, and introduced them to all new kinds of music, spurring on rebellious activities away from home. But most importantly, women and the youth became new market sectors through which to stimulate consumption (Attali 2009:77-81).

The invention and widespread use of electricity developed parallel to market capitalism. The new electronic commodities fell in place for the organisation of consumption which became a matter of extending markets and reaching more consumers through advertising. As such the programming industries gained a foothold over the masses to capture their attention, simultaneously liquidating the attention formed by the programming institutions. But through the programming industries, in the latter half of the twentieth century, the masses also gained a sense of unity that was altogether different than the national unities engendered by literacy. According to McLuhan (1962:272) it was the particular effect of radio and television that altered the “sense ratio” from the hypnotism of literacy's visually fixed point of view towards a more “organic” feel within the electric age where there is a renewed perception of becoming an oral culture. But for Walter J. Ong (1982:134) this is a secondary orality which appears similar to primary orality, but remains remarkably different. Secondary orality generates a stronger group sense through

audiences listening to the words spoken by others, turning them outward and developing their social sensitivity, as opposed to reading a text which turns an individual inward. But

"where primary orality promotes spontaneity because the analytic reflectiveness implemented by writing is unavailable, secondary orality promotes spontaneity because through analytic reflection we have decided that spontaneity is a good thing. We plan our happenings carefully to be sure that they are thoroughly spontaneous." (Ong 1982:134).

Albeit that electrically mediated society is more impulsive, analytic reflectiveness is ingrained and inherited from the modern organisation of society. The renewed sense of social awareness remains confronted by the procedures of the written, black letter law, which tends to lend itself to the old ways of tradition embedded in tremendous bureaucratic systems that are slow and cumbersome to change in comparison to the rapidity of electronically mediated society. Only in the late twentieth to the twenty-first century did a convergence of the oral, literate and electric take place in the digital *mnemotechnical* system of the Internet, which would again have a radical impact on social awareness, but with the addition of individual contributions to social awareness campaigns through blogging or posting online.

Organisationally, however, the Corporation plays a dominant role with organisations such as Google and Facebook that provide the *space* through which online participation takes place. This can be distinguished from the oral space of the ancient *polis* and the literate space that was facilitated through the institutions of the State. But, critically, the digital space of the Internet, and the infrastructure of all organisation (becoming digitalised) in the twenty-first century is dependent on electricity for operational functionality. This implies a shift in the technical object which has become industrial. In totality social organisation has become dependent on the transmission, distribution and expenditure of energy. Neither institutions nor industries can any longer function without a supply of energy which is provided by electricity. The following

section will consider the transformation of the technical object to the industrial object, so that in the final section, the digital epoch can be addressed.

§ 4.2 The Industrial Technical Object

It has already been established in the previous sections that the technical object is a memory-object. But a technical object becomes a memory-object only insofar as there is someone who operates the object in such a way so as to produce something with it. For the operator to do this, he or she requires a skill, or a *tekhnē,* that is connected to the object itself. Objects thus become technical once they have a certain use and a skill that requires them to be used in a certain intentional way. As it has been shown in the above, these technical objects are social in nature and therefore are constitutive of an external memory for the individual and the collective. Technical objects are traditionally the auxiliary of the human being, but only until the industrialisation of the technical object reverses this relationship. No longer are humans the tool-bearing individuals, but according to Simondon, machines become tool-bearing individuals once "the human becomes either the machine's servant or its assembler" (Stiegler 1998:23).

Since technical evolution is regarded in phases that are accompanied by inventions made by its human operators, the phase in which the industrialised machine becomes the tool-bearer complicates the nature of the fundamental relationship between the human and the technical system. It is no longer a matter of invention, which is an empirical matter that requires an accumulated technical knowledge that can transpose technicity onto a tool for its use in a setting other than a tool has been used before. Rather, it becomes a matter of innovation which is different from invention because an "innovation accomplishes a transformation of the technical system while drawing the consequences for the other systems. In other words, the rules of innovation are wholly different from those of invention. The rules of innovation are those of socialisation [...]" (Stiegler 1998:34-36).

Social, political and economic systems, are thus radically exposed by the technological innovations that are made in industrialisation, always being tied to the market economy that either invests or speculate, by calculating the most feasible economic outcome. Stiegler refers to this phase generally as “permanent innovation”. The consequences for the human as tool-bearing individual is that the technical object as memory-object becomes fundamentally disconnected from the human as the bearer of the technical skill and leads to a loss of memory. Instead the human becomes a trainee who as an individual is trained to operate functions on the machine without having to understand the whole of the machine and its production process.

In the process of exteriorisation, as the principle of the human being's co-evolution with technics, a marked change occurs in the era of mechanical reproduction that begins with industrialisation. The process of exteriorisation for the first time manifests as an exteriorisation of bodily functions or gestures into the technical object. This exteriorisation is the breaking up of flows, or fluxes, into smaller parts so that it can be reconstituted materially. The (modern) alphabet with its twenty-six letters is testament to the breaking up of language into smaller parts that reconstitute it materially through writing to reproduce the spoken word. The same principle applies to the mechanical reproduction of labour which breaks up the flows of work so that the work, as memory, becomes reconstituted by the machine's productive capacity. This process of the breaking up of flows is what Stiegler (2010c:10) refers to as the “discretisation of flows”. It consist of the breaking up of the flows of memory, in this case the gestural flows of the body's work, to become “analytically reproducible”. This requires a technique of spatialisation that reconnects the discretised flows to reproduce the time of the flow. In machinic reproduction this becomes possible through automation, enhancing and speeding up the flows of labour, meaning that the rate of production increases. The process of discretisation, manifesting in all its different forms, from speech to gesture, is also what Stiegler generally refers to as grammatisation.

4.2.1 Permanent Innovation

The challenge to the human being in productive work has always been a challenge of physical strength and capability. These challenges have always been met by the process of exteriorisation, as can be seen in the history of agriculture whereby domestic animals have been used for millennia to assist in ploughing soil. But with the development of modern science, fundamentally based on the advent of calculus, and the capitalist emphasis on the productive capacity of the individual as the worker whose vocation it has become to make money (Stiegler 2011a), it was only a matter of time for the right inventions to assist in the productive capacity of work. Advances in the understanding of the mechanical workings of the world, made by Isaac Newton using calculus, also led to advances in the mechanisation of work through the industrial technical object.

The technical object that is imbricated in the memory of the tool-bearing human individual, becomes an industrial technical object once the machine becomes the tool-bearing individual. But the machine as a tool-bearing individual no longer requires the memory of the human to function. It consists of functional memory within itself, based on the standardisation of functions that cooperate with one another to make the machine work. The machine, in other words, is constructed in such a way that it is independent of the technical ability of the human to perform its technical function. Contained within the machine is a series of technical functions strung together to form a productive unity. As Stiegler (1998:78) notes:

"The industrial technical object has brought us to the suppression of the intentional anthropological part of the techno-logical dynamic. But a part still remains, namely that the living, who no longer *commands*, *operates*".

After the ancient separation of *ēpistēmē* and *tekhnē*, the modern scientific *ēpistēmē* rejoins *tekhnē* during the industrial revolution when technical production becomes scientifically calculated and structured according to the principles that arise out of the Newtonian world-view. The recombination between *ēpistēmē* and *tekhnē* forms what is called technoscience, or more generally, technology. The relation between science and technics essentially becomes an economic relationship as technological and scientific progress becomes economised through innovation. As a co-dependence develops between scientific progress and economic progress, innovation is no longer the natural outflow of an invention but the structured anticipation of economic calculability. The logic of innovation consequently engenders the belief that economic progress equals to social progress. Insofar as scientific progress is made, it is applied to innovations in production which are incited by economic growth. On the scale of industrial production, these developments require ever more capital to enhance production through innovation so as to stay abreast with new innovations that constantly arise in replacement of older innovations. This results in a chronic disadjustment between the technical and social systems which is first analysed by Karl Marx as what causes proletarianisation, and results in what Stiegler refers to as "permanent innovation". This permanent innovation is determined by the tendential decline in the rate of profit, leading eventually in the twentieth century to a consumerist society (Stiegler 2010c:115).

Innovation, becoming a factor of economic growth is in a certain way always confronted with a crisis. If there is no progress in terms of innovation then economic growth declines. Large scale investment in industrial production necessitates that the economic system must be re-adapted to ensure the mobility of capital. The mobilisation of capital was achieved by adjusting the financial sub-system when the limited liability, joint-stock company was created (Stiegler 1998:38). Micklethwait and Wooldridge (2003:2-3) write how the "new companies set free by the '[Companies] Act of 1862' and by its imitators in other countries, were speeding the first great age of globalisation". With the Companies Act of 1862, the company gained legal rights akin to that of a human being but "without the attendant disadvantages of biology". This inaugurated a new kind of individual into global society, the corporate individual – the corporation being the

individual itself, having individual legal rights wherever its legitimating (imperial) power found itself in the world[14].

The invention of the limited-liability joint-stock company ensured that investments would increase, because investors now only risked losing their investment and were themselves no longer fully accountable. With the influx of investments, speed became a major factor of innovation, not only because an increase in the rate of production led to an increase in economic growth, but because the speed of production meant that the speed of communication must also increase so that capital could be mobilised faster. This capital, dependent on the financial system based on credit (investors being creditors) thus possessed an "Achilles' heel", in the form of communicative ability when it came to inter-continental trade. With no surprise then, simultaneously and in conjunction to these developments were also the developments in telecommunications, with the first underwater telegraph cables being laid, essentially extending imperial power through global trade. As Kittler (1996:75) notes:

"This detachment from the ground, whose distances (as in synchronous mathematical topography) are [...] no longer calculated because only absolute speed counts, brought internationality: from the stock exchange reports of world trade and the telegraph agencies of the world press, to colonial empires which, like the British Empire, were founded on a "fleet in being" and consequently on a global undersea cable monopoly".

But this speed comprises of a paradox which can be regarded in terms of risk. The paradox is that innovation has to "perpetually go faster in order to reduce risk [and] through this acceleration, to displace risks by taking them to their limits" (Stiegler 2009a:140). These risks, however, cannot be calculated and their limits cannot be tested without the existence of a telecommunications network that introduces the capacity to communicate at "light speed". Introduced by the need for a higher speed telecommunications network, further development thereof in the twentieth

14 The corporation thus has to be added to the discourse on *philia* [Chapter 2], but only insofar as it acquires such a status through the inclusion of the history that the discourse on *philia* implies.

century results in the TCP/IP network. Regardless of speed, electronically mediated telecommunications networks allow for international capital to circulate in real time, opening the possibility to remotely control production and distribution in international markets through the industrial organisation of automation and its corollary of the organisation of consumption (Stiegler 2010a:132). All of which results in a

"global mechanism of regional specialisation […] organising the industrial division of labour as a function of geographic opportunities or political contingencies defined from the perspective of investors" (Stiegler 2010a:132).

Corporations gain unprecedented power in the latter part of the twentieth century when the "conservative revolution" with its neo-liberal policies deregulate state apparatuses and open the borders of nations to corporations for international trade, eventually assisted by the commercialisation of the TCP/IP network that connects flows of information and financial capital between stock exchanges all over the world. This leads to the financialisation of the economic system which decouples from the technical system as investment in industrial development is replaced by financial speculation, subordinating innovation in the technical system to the constraints of a financialised economic system (Stiegler 2010c:102). As soon as industrial production is decoupled from the economic system and subordinated to financial capital that operates by speculating on financial instruments, the economic system that is grounded by industrial production no longer receives long-term investment for its development but becomes subjected to the short-termism of financial speculation (Stiegler 2010c:106).

A disadjustment occurs between the technical and economic systems and instead imposes technological innovations on social systems through marketing aimed at stimulating consumption, short-circuiting the transindividual processes of social systems which have to adapt to technological innovation[15] (Stiegler 2010c:102). Since these systems exist in a *transductive*

15 One only has to consider the introduction of mobile phones as consumer products that are incessantly innovated upon and imposed on the masses as "must haves".

relation to one another, the disadjustment exacerbates the entropic effects of industrial production. A consequence of industrialisation is that industrial organisation is subjected to the technical tendency of the industrial machine, which is a *thermodynamic* machine that continuously requires more energy to keep on working (Stiegler 1998:69). If a machine is not continuously in use it becomes *unproductive* and is referred to in accountancy as a liability. Industrial production therefore requires long-term investment (production capitalism) if it is to resist the effects of entropy. Financial capitalism therefore exposes the social system to the entropy of the technical system, and thereby destroys the negentropy that would otherwise constitute its sustainability.

4.2.2. Entropy and Negentropy in the Industrial Organisation of Society

Entropy and negentropy, or negative entropy, is distinguished by the energy either being released or consumed. Entropy is the tendency of any form of matter to continually expend energy until it no longer gives off energy (as heat), reaching thermodynamic equilibrium, or maximum entropy. Negentropy is particular to living organisms that continually consume energy to remain alive – in avoidance of maximum entropy, as death. The living organism thus draws energy from its environment as part of the metabolic process in which the expenditure of energy (positive entropy, as the increase of entropy) is continuously supplemented by the consumption of energy (negative entropy, decreasing entropy) in order to resist the positive entropy that tends towards thermodynamic equilibrium, or death (Schrödinger 1967:69-71).

Regarded as such, the industrial technical object, which finds itself characteristically in-between the phylogenetic and epigenetic, as an organised inorganic (epiphylogenetic) machine, constantly requires more energy to avoid reaching its thermodynamic equilibrium. In this case equilibrium is not so much the death of a living organism, but rather the inoperativity of the machine which renders it redundant. Borne out of this threat is the drive towards automation. But from this drive towards automation a new predicament manifests. In industrial production there is the tendency

to always produce too much, meaning that production increases entropy, in the sense of potentially producing goods at a financial loss, and therefore requires a constituent that decreases entropy. From here one can see that industrial production necessitates industrial consumption.

As it was shown in Chapter 3, in the twentieth century it became possible to harness the libidinal energy of the masses of consumers by capturing their attention so that the traditional opposition between production and consumption converged to overcome the "tendential fall in the rate of profit" (Stiegler 2010c:68). Having managed to stimulate production through consumption, capitalism made a new turn in the twentieth century based on the energetic funds that make up the psychic individual, or the human being as consumer. Media such as the radio and the television made it possible to capture the attention of consumers, but it was only with the aid of psychoanalytic theory that it became possible for the pioneers of advertising, such as Edward Bernays, to apply psychoanalytic theories to stimulate the desires of consumers (Stiegler 2010c:28).

As Michel Serres (1982b:71-72) points out, thermodynamic theory coincided with the industrial revolution as a theory about the exchange of heat, or energy. Since new observations could be made with regard to the expenditure of energy, a new understanding of time also evolves, specifically in relation to the dissipation of energy. A century after the industrial revolution, a theory of energy in the psychic apparatus of the human being evolves out of Sigmund Freud's psychoanalysis. Freud, according to Serres (1982b:72), is remarkably one of the few, if not the only, philosophical or psychological theorists who kept up with the theoretical developments in physics, especially in terms of a theory of energy concerned with temporality.

By establishing a topographic theory of psychic energy, Freud shows that the excitation of the psyche, of energy, must be kept constant or to a minimum over a period of time if it would like to retain pleasure. If there is too much excitation, it will cause displeasure. For Freud (1923:19) the heightening of emotional investment leads to pain or displeasure, whereas the lowering of

emotional investment leads to pleasure. This is known as the pleasure principle. Freud's theory of pleasure and displeasure remarkably resembles the thermodynamic distinction between order and disorder, where the decrease of entropy (negentropy) creates order by keeping the increase of entropy to a minimum. An increase of entropy creates disorder primarily because it increases heat motion (Schrödinger 1967:72).

Because Freud's psychoanalytic theory of the psyche is based on a topography of the super-ego, ego and the id, it becomes possible to regard the exchange of energy in terms of a flow between different parts of the psyche. Freud (1920:26) found through his patients that the pleasure principle is based on the resistance of memories, or repression of memories that cause displeasure, by keeping them unconscious. The unconscious has the tendency to want to 'break out' and to manifest in the conscious. As Freud (1922:25) puts it in a reflection on the psychoanalytic treatment of neurotics: “The unconscious – that is to say the repressed – offers no resistance whatever to the efforts of the treatment. Indeed, it itself has no other endeavour than to break through the pressure weighing down on it and force its way either into consciousness or to discharge through some real action”. Freud follows from here by distinguishing between the instincts as part of the id and resistance as that which arises out of the ego. As such it is the ego that is responsible for the unconscious repression of displeasure.

The super-ego, however, is situated within the external world of culture as the norms and values with which the ego must keep account, to remain 'civilised' by being obedient towards these norms and to prevent the instincts from discharging. The functional topography of the psyche can thus be described as follows: “What consciousness yields, consists essentially of perceptions of excitations coming from the external world, and of feelings of pleasure and [displeasure], which can only arise from within the mental apparatus” (Freud 1920:35). It is thus the ego that negotiates between the super-ego and the id to distribute psychic energies accordingly. One can then presume that the idea behind advertising is to alter the perception of cultural values or ideals (super-ego) in such a way as to 'convince' the ego to channel its unconscious energy (the

instincts, or drives of the id) towards the object of desire, namely to the product advertised for consumption.

In a similar fashion to how industrial production tended toward entropy in the nineteenth century, the systemic exploitation of psychic energy in the twentieth century inevitably leads, or has led, to cultures becoming entropic. It is not only biological structures that are subject to entropy, thereby requiring negentropy to resist death, but also cultural structures that require negentropy to resist their own destruction (Stiegler 2009b:43). If one follows that the goal of advertising is to consistently alter cultural structures so as to introduce new products for consumption, rendering these products to be constitutive of 'cultural' ideals, while at the same time always renewing the products to be consumed (the iPhone being the epitome of consumption in this regard) then it seems clear that a cultural entropy must follow.

Entropy can be regarded as the loss of memory. In the case of industrial production it is the memory of work that is lost and therefore proletarianises the worker. The worker that becomes an auxiliary to the machine does not only suffer the loss of skill, but also the loss of the motive to work. A loss of memory and motive through industrial over-production results in disorder and has to be counter-balanced by consumption, as negentropy, in an attempt to re-instate order, or motive – albeit then the profit motive. Yet as consumption becomes the economic phenomenon of consumerism, a further loss of memory occurs, this time in the form of cultural memory that leads to a disindividuation between the *I* and the *we*. As it has been shown, cultures are imbricated in the technical objects that store cultural memory and are dependent on a system of signs that correspond to the cultural milieu grounded by the technical object. Through organised consumption, however, the system of signs is transformed by attaching signification to the consumption of products and its corresponding lifestyles.

Any system of signs must provide resistance to the stream of energy, or perhaps information, coming from the external world to balance it with the flow of energy that demands to break free

from the internal world of the instincts. The cultural milieu resists entropy by constructing a membrane (culture itself) between the internal and external worlds. Under duress the balance (entropic disequilibrium) between the interior and exterior world is regulated by the psyche, or in part, by the super-ego and the ego. It could then be said that the super-ego forms its resistance through the tertiary retentions of the technical object, and constructs a system of signs through language and the symbolic order that makes up a culture. It is up to the ego to resist the instinctual energies from breaking out, causing a destruction of the system of signs that make up the super-ego. But in the process it has been the systemic effacing of the mnemonic functions that are capable of resisting the increase of entropy that leads to the subjection of cultures to the entropy of an industrial machine.

Organised consumption is therefore subjected to the entropic tendency of industrial production, meaning that the system of signs that generally resists the increase of entropy through the cultural milieu now have to resist the entropic tendency of the industrial technical object. As such the logic of organised consumption is to continually produce new products and lifestyles (ego-ideals) by renewing the system of signs through marketing and advertising techniques to counter-balance the solicitation of the *drives*, which do not offer resistance but that engender the need to attach to the ego.

4.2.3 Invention of the Brain-Machine

In the above it was shown that developments in the twentieth century with regard to production and consumption also required progress to be made in terms of the communication of information which became much faster through telecommunications networks. These networks first developed with the invention of appropriate storage media. For Kittler (1999:243) these developments occurred in three phases, all in conjunction with war. In the first phase that began with the American Civil War, technologies that could store acoustics (gramophone), optics (film) and script (typewriter) were invented, but only with the outbreak of the First World War did

electric transmission technologies such as the radio and television develop. The third phase came with the outbreak of the Second World War when the schematic of the typewriter was transferred to "a technology of predictability *per se*; Turing's mathematical definition of computability in 1936 gave future computers their name" (Kittler 1999:243)

But when it came to data processing it was still the limitations of the human, as auxiliary function, that affected the speed of processing data. Thus, accompanying the development of transmission technologies was the development of information theory. Information theory concerns itself with signal processing, or the rate of transmission and the quantification of information, requiring that information could be physically represented without "psychological factors" in transmission (Hartley 1927:5). As Serres (1982b:73) shows, the development of information theory in the twentieth century, as a theory of the emission, transmission and reception of information, quickly became associated with thermodynamics in the sense that the storage of information and its accompanying acts of communication which sought to minimise the expenditure of energy by reducing the "noise" in signal processing, resembles negentropy.

These developments pointed towards a kind of 'negentropic machine' that would be capable of performing the function of processing information without psychological factors, as required by the criteria of information theory. This 'negentropic machine' is what became known as the computer, a machine that is capable of storing information based on the binary system, as well as the capability of delivering information by breaking with the psychological and physiological factors that accompany the transmission of information. These physiological factors are analogue signals of optics and sound which could now be reproduced digitally in the binary system of 1's and 0's. According to George Dyson (2012:7):

"The stored-program computer, as conceived by Alan Turing and delivered by John von Neumann, broke the distinction between numbers that mean things and numbers that do things. Our universe would never be the same".

For Kittler (1999:16), however, if our 'universe would never be the same' again it first required the mechanisation of writing:

“For mechanised writing to be optimised, one can no longer dream of writing as the expression of individuals or the trace of bodies. The very forms, differences, and frequencies of its letters have to be reduced to formulas. So-called Man is split up into physiology and information technology”.

This split between physiology and information technology was first made possible by the typewriter because it became possible to write faster, as such the typewriter discretised writing. Whereas the word had to be written with the guided movement of the hand, with the typewriter the word has been broken down into the striking of the separate keys on the keyboard to form the desired word. This sped up the process of writing since it only took one strike to capture a complete letter, in contrast to the numerous strokes it took to write a letter by hand (Kittler 1999:191). Once writing has been discretised, or mechanised, it is only conceivable that writing should become automated, and with automation comes speed. Hindering this speed, however, was still the physiology of the slowly moving analogue world of human beings who still had to distinguish truth from error, a capability which still had to be achieved by the automated mechanical world.

Mathematically the problem of a machine's capability to distinguish between truth and error was expressed by David Hilbert in 1928 as the *Entscheidungsproblem*. Hilbert posed a problem in which it would require an algorithm to solve the *Entscheidungsproblem*, or “the 'decision problem' of whether provable statements can be distinguished from disprovable statements by strictly mechanical procedures in a finite amount of time”, a problem which led Alan Turing to the discovery of what became the computer (Dyson 2012:123). Turing's success came in defining a theoretical machine that would be capable of computation by reading, writing and erasing

symbols on a piece of tape, divided up in squares, according to a predefined rule (algorithm) corresponding to a finite set of states that would cause the machine to move the tape to the square on the left or right, or not at all, so as to continue with the computation. “Turing introduced two fundamental assumptions: discreteness of time and discreteness of state of mind. To a Turing machine, time exists not as a continuum, but as a sequence of changes of state” (Dyson 2012:294).

The significance of the computer is that it has the ability to make computations that has generally been assumed to be reserved for humans only. The discretisation of time and 'state of mind' can be digitally reconstructed by the binary system, and thereby automate computation without the encumbrances of psychological and physiological factors. The computer made it possible to place the calculative function and the subsequent application of the calculated function in the machine, the computer, itself. The computer is thus the mechanisation of calculative thought, and as such all that is calculable can be submitted to a computer for processing[16]. The Turing machine, as the computer's foundation, is according to Alonzo Church, computation equated to effective calculation (Dyson 2012:297). This form of computation is none other than the automation of calculation.

These developments, however, are preceded by a complex history in the mechanics of computing. Seen from a topographic perspective, these developments include a miniaturisation in the mechanical reproduction of the computer hardware itself while storage and computing capacity paradoxically increases. This is partly due to the invention of the Integrated Circuit in computing, which eventually led to the microprocessor and today is extending to nanotechnology. But with the microprocessor the programming of functions became completely mechanised, inscribing into silicon “the three basic functions of storing/ transferring/ processing [which] are replicated on internal levels no longer accessible to programmers” (Kittler 1999:244).

16 This particular aspect of computational power is announcing itself in the growing concern that new automation technologies, robots, are threatening to replace what is sometimes referred to as “cognitive labourers”. All work that requires calculative thought can theoretically be done, or assisted, by the algorithms that run a computer.

Once the programming of these three basic functions became mechanised in the microprocessor, it also saw the rise of the personal computer. Having the basic mechanics already inscribed, the personal computer simply required its owner to write software programmes that could perform the functions that are already inscribed on the silicon chip, so that the capacities of the computer could then be utilised. The transformations of the computer from the middle of the twentieth century until today saw the development of the computer as a data processor to a useful and fun machine that could be programmed by enthusiasts. Eventually it was Microsoft that "transformed it into a standardized platform that could run a cornucopia of commercial software sold in retail stores" (Ceruzzi 2003:345).

If the computer is regarded as a machine that automates calculation, then the significance of the commercialised personal computer in the vein of what Microsoft introduced, lies in the fact that it opened the use of the computer for a general public that is not capable of programming what the computer should calculate. Rather, the commercial personal computer is a computer that comes with programmes that caters for the needs of the *user*, and is capable of doing all the necessary calculations without the effort of the user. At the same time it also standardises computers and its programmes for a consumerist market. Its utility lies in its convenience. But these computers are more than utilities, they are also personal, and in this sense social machines that "welcome" the user. The phenomenon of this kind of hospitality should not be taken for granted. Since the central nervous system of the human being has a strong social instinct, the socialised personal computer has a direct influence on the perception that it is a truly personal relationship, in many regards similar to the personal relationship that one could have with another human being (Carr 2010:213).

The computer hosts a convergence of various storage media (image, text, audio and video) and with its commercialisation introduces the novelty of being a personalised machine. It is not only a machine that can store and transmit data, but can also process data for transmission. All technical media that preceded the computer remained dependent on a human being to fulfil the

processing function, "so-called thinking remained thinking; it therefore could not be implemented. For that, thinking or speech had to be completely converted into computing" (Kittler 1999:244). As a machine the computer is an industrial technical object. With its capability to automate calculation and to intervene as a processing power where the human being had once done the processing, the computer as a *pharmakon* also introduces a new phase of proletarianisation.

On the one hand the computer threatens to replace the cognitive functions that have generally been performed by humans, but at the same time the computer also frees up brain function, meaning that computational tasks that can be performed by a computer frees up space for human beings to make use of their intuition. For Serres (2015:26) the space that is freed up by the computer allows for one to think and invent better if one no longer needs to store all the information and knowledge in one's own head. But simultaneously it engenders the possibility that human beings would eventually no longer be capable of performing the very functions that they have once programmed into computers, which are themselves automated, and thus to an extent autonomous.

Computers have generally relied on the rule-based algorithms that have been programmed into them by a programmer. But new computational technologies are developing that are referred to as "smart machines" (Austin 2015). Smart machines, are divided into two classes, perceptual and executive smart machines. Most progress has taken place in perceptual smart machines that operate on a Deep Neural Network, a much more powerful algorithm than a rule-based algorithm, that allows the machine to learn from experience and can produce results independent from the expectations of its human creators. Smart machines can therefore categorise what they perceive by recognising unique patterns in a data stream which may include image, audio, text and video. They are particularly good at facial recognition and even outperform human beings in this regard. Smart machines nevertheless function on a model that is developed by a data scientist, and also need training by feeding data-sets into the Deep Neural Network so as to test the efficacy of the model that it uses. Depending on the outcome, the result is that "the output

from a perceptual smart machine" can be fed into a rule-based system or un-smart technology (older, but still powerful, computers), therefore developing into unprecedented computing power that is yet to be understood (Austin 2015:11)..

4.2.4. The Internet

Although computers have become ubiquitous, beyond the personal computer, wherever a use can be found for them in performing various functions that can be enhanced by their utility, the networked personal computer becomes of interest because of its general application and public use. Since the 1990's the personal computer finds itself connected to the TCP/IP network that has become globally connected. The Internet, as it is commonly referred to it today, thus became the realisation of a global network of users.

The Internet sprung from the concept of a network of computers that would be able to communicate with one another by sharing information. The first network that achieved this was the ARPANET. The Internet, however, was based on the idea that there would be many different and independent networks that should be able to connect to one another if there was a standard for the transmission of information between the networks. It thus required that a basic protocol should be followed to keep the network architecture open so that this could be achieved. The Transmission Control Protocol/ Internet Protocol (TCP/IP) network was exactly the infrastructure upon which the Internet is based. Initially, sharing and communicating over the network was not commercial and was intended for the purposes of sharing information between research and education communities. It was Tim Berners-Lee who invented and developed the World Wide Web in the early 1990's as an Internet application that would allow access to hypertexts that contain various forms of information (text, audiovisual etc.) that link to one another around the globe (Leiner et al. 1997:102-108).

After the invention of the World Wide Web, the Internet became commercialised and it has since seen an exponential growth in the amount of users each year. Soon after the commercialisation of the Internet investors began to speculate on the potential of e-commerce – the direct purchasing of goods over the internet. Large amounts of money was invested in the "New Economy", but it resulted in the stock market crash of what is subsequently known as the "dot-com bubble". The Dutch theorist, Geert Lovink (2012) points out that after the "dot-com bubble" it was necessary for the Internet companies to re-adjust their business model so that they could recover or prevent another bubble from occurring. The answer was to change the way in which the Internet can be used. It has become generally referred to as "Web 2.0" in which the Internet becomes the site of "user-generated content" to be used by organisations for advertising purposes. For Lovink (2012:4) Web 2.0 is nothing but a "renaissance in Silicon Valley" in which the Internet start-ups had to move away from the e-commerce business model towards a culture of participation "in which users (also called prosumers), and not venture capitalists or bankers, had the final say". Web 2.0 manages to do this by relying on user-generated content selected by algorithms that collect data on the user's searches and whatever the user loads up on to the Internet. Lovink (2012:5) continues:

"Web 2.0 has three distinguishing features: it is easy to use, it facilitates sociality, and it provides users with free publishing and production platforms that allow them to upload content in any form, be it pictures, videos, or text".

As a consequence of the dot-com bubble, Web 2.0 generates profits from users. It is thus no longer e-commerce that generates profits via the Internet, but the mining of searches and data uploaded by users via user profiles. This allows for the selling of user data, including the user's demographic details, to third parties for them to personalise advertisements so that it can be directed at the user.

"Companies no longer profit at the level of production but instead through the control of the distribution channels, and users do not immediately realise how their free labour and online socialising is being monetized by Apple, Amazon, eBay, and Google, the biggest winners in this game" (Lovink 2012:5).

In addition to Web 2.0 with its social networks, such as Facebook and YouTube, social media extends further by integrating the mobile telephone into the network. Through the process of miniaturization that accompanies computing, the mobile telephone has developed to become a powerful computer itself with many of the capabilities that are found on personal computers, adding to it a powerful camera with which to take pictures and videos, and a GPS – meaning that it remains completely traceable, and so too does its user. Not only is it a mobile telephone with which to receive telephone calls and send text messages, but it has also become mobile device with which one can do everything that one can do on Web 2.0 – social networking, emails, internet banking and so on. Consequently, the mobile telephone (or device, since it may include a tablet computer) has also kept its users 'in touch with the office' wherever they go, and makes them available for work related matters whenever possible (always). As such, permanent innovation extends to permanent availability.

Since the networked personal computer, the dialogical relationship between the user and the computer became synchronic: the user and computer become identical to one another in communication with other users-computers. Networked connectivity via computer technologies engender another form of discretisation as the real-time distance between people become discretised. Only to be reconfigured by telecommunications networks that re-connect discretised distances at light speed, traversing space at the uncanny speed of electricity for the immediate delivery of a digitally reconstructed message, voice or face from far away. But prior to its mobilisation connectivity generally required a hard-wired terminal (computer) that was connected to the network. Today, however, it is no longer the computer or device but the user who has become the terminal by connecting to a wireless network. This is especially the case with cloud computing which connects any device remotely to a server via the mobile network so

that the user can access whatever they have stored in "the cloud". An inversion of the process of exteriorisation seems to have dawned, the user as terminal: the *terminal user*.

§ 4.3 Convergence: The Digital Epoch

Besides its various connotations, the terminal is a space of intermission, an end-point that delineates the boundaries between places. The most common example of a terminal would be the terminal at an airport or train station. These spaces of intermission that suspend travellers between places are defined by Marc Augé (1995) as "non-places". Non-place is distinguished from place which is regarded anthropologically as the space of cultural signification constituted by a *where* or territory that grounds the symbolic milieu of a *we*. On the contrary, non-places are spaces of transmission that do not constitute a *where*. "The space of non-place creates neither singular identity nor relations; only solitude and similitude", and is inhabited by the contradiction that "it deals only with individuals (customers, passengers, users, listeners), but they are identified (name, occupation, place of birth, address) only on entering or leaving" (Augé 1995:83;89).

It seems then that the terminal user embodies the space of non-place in the sense that the user is identified by a password that does not hold a symbolic connotation with a place and a people, as with the *shibboleth*, but is instead converted numerically and approved or disapproved automatically by an algorithm depending on the user's identification of him or herself. Identity therefore becomes abstracted to the password as reflexive of the self. Having given proof of identity the user accedes to a relative anonymity which becomes the shared identity of users over the Internet, engendering "the passive joys of identity-loss, and the more active pleasure of role-playing" (Augé 1995:83). Only after this identity-loss does the adoption of an ego-ideal under a pseudonym become a user fantasy. And historically it is curious that platforms such as Facebook have had the effect that users use their *real* names and that their profiles represent their ego-

ideals as accurately as possible – after dutifully filling out the "about me" section – turning role-playing into a kind of self-valorisation.

In maintaining similitude, self-valorisation engenders a likeness factor: first, of the similitude between the user and their *real* identity; and secondly, of the user with user. The amalgamation of the user with their real identity suspends the anonymous space of the Internet for the ego-ideal that must then remain consistent with the daily interaction between others to reflect a consistency between online and offline behaviour. Transfixed in the space of transmission the user therefore maintains similitude by keeping a reputation as an identificatory act. This manifests in social networking profiles which become portfolios of the user's reputation. It is as such that social media technologies become known as reputation technologies (Bertino & Matei 2015:11; Stiegler 2013b:20).

But social media networks also inscribe the user's contacts as "addressees and carriers of one's 'reputation', by way of the *network effect of networks*" (Stiegler 2013b:20). The reputation of a user is affected by the network effect that also correlates to the amount of "likes", "followers", "re-tweets" or "hits" that a user has (or gains). It is through the network effect that similitude (likeness) is intensified and becomes economised, simultaneous to which social media networks become indicators for opinion and processes of ideation as clusters intensify through the network effect. The production of data over social media networks makes it analysable as the formalisation of the relational flows between users takes place. The grammatisation of social networks also constitute a new pharmacology as social relations can be exploited to the detriment of social bonds, but it can also lead to a reflexive *philia* or individuation through "a better understanding of the social as a *set of relational rules*, and even be able to make it more dense, to strengthen, as it were, the modalities of the exercise of *philia*" (Stiegler 2013b:23).

But would this reflexive *philia* then presuppose something like the terminal user that inhabits non-place and seems to be in transit between public and private, between state and non-state

actors, between profile and portfolio? What would it imply given the global historical implications of the concept of *philia* that is set in a topography of relational rules? And how would it become possible to open a *space* where relational rules can be thought anew?

Given these questions it will be considered in the concluding chapter what friendship in the digital epoch could entail, and what could be considered as a space through which new relational rules can be invented, or thought.

5

Friendship in the Digital Epoch

In conclusion, it has been shown in the previous chapters how *philia*, the social bond, is constituted by the technical object. The technical object serves a mediating function and has passed historically through various epochs which can be simplified into the following: orality, literacy and digitalisation. Each of these epochs engender different forms of technics which amounts to a set of practices that correspond to the modality of the technical object and dynamically affects the formation of socio-cultural groups. The technical object stores and transmits the tertiary retentions of territorially diversified socio-cultural groupings that in turn affect the protentions that condition the apparatus of attention which can apprehend and take care of the other.

Following the preceding analysis the question of *philia* can be posed in terms of the *who*, *what* and *where*. In chapter 2 it has been shown that the *what* anticipates the *who*, but, despite being overdetermined by the technical object, that the *what* also relates to and is preceded by a *where*. It is in this tripartite relation that ethnic groups at first come into existence, each with their own systems of care through which *philia* is constituted. But technical inventions always at first alter the *what*, leading either to the adaptation or adoption of a technical system implied with an invention. The adoption of a technical invention can only take place if a new system of care is developed to correspond to the invention as it affects and causes an infidelity in the *who*. In the digital epoch it has to be presumed that the *what* is globalised, but that there remains the question of the proximities *where* the *who* is affected by the global mnemotechnical system of the digital epoch. It means that digital technologies will be appropriated differently and as such necessitate systems of care in correspondence to the particularities of a *where*.

After industrial expansion the *where* becomes significantly complicated by the world-system of production and consumption, so much so that it has led to what is becoming known as the "anthropocene": the *geological age* of the human. The anthropocene coincides with digitalisation and constitutes a bifurcation of the *where*. In the first instance it is the terraformation of the earth by human beings that has consequently engendered the necessity to take care of what has become a toxic environment that threatens the survival of life on earth. Secondly, the global political economy of the world-system is challenged by digital technology which has strengthened networks outside of institutionalised narratives giving rise to a *noosphere* that has affected established modes of social and political organisation, causing an infidelity in local and international governance structures. The *where* can therefore be posed as a question of the *transductive* relation between the geophysical plane, the socio-political plane and the noopolitical plane.

The digital epoch engenders a *philia* which has to be understood in terms of the digitalisation of the tripartite relation of *who*, *what* and *where* that links all continents and all people with a globalised *mnemotechnical* system in real-time. It also implies a capitalist economy run by corporations that dominate the social and political organisation of the world-system, a global system that has manifested historically to arrange a topography of *philia* between and within nation-states. That is, as a topography that consists of a structural infidelity engendered by a history of conquest and exploitation that has led to the industrial world-system in the twenty-first century. To establish *philia* in the digital epoch it requires that a new fidelity be established on the macro-political scale. But digitalisation also draws significant consequences for *philia* in interpersonal relations, which become locally subjected to the global processes at play in the digital organisation of society. The possible consequences for friendship (*philothés*) must therefore be considered in this relation to the digitalisation of *philia*.

It was shown in Chapter 2 that a tension exists between *philia* and *philothés* that is conditioned by the *what* which affects the potential of friendship. The *what* is the materialised condition of the *who* and projects the *philia* of the *transindividual* relation. But contrary to *philia*, which is

already operative in the *what*, an act of friendship can resist the projected condition of the *what* by suspending it to open the possibility for the invention of a new *philia*, as an alteration of the *what* that could open a transitional space through which the *who* can individuate with an idealised object of desire, such as justice. It is these idealised objects of desire that Freud referred to as "*das Ding*", a transitional object that can open a transitional space through which a fidelity can be established.

§ 5.1 Transitional space: play and the object of desire

Friendship is grounded by a *philia* through which trust of the other is established. A friendship cannot *exist* without trust which gives intimacy to a friendship. But intimacy in friendship is sublimated, which is a necessary condition to elevate a friendship in relation to an object of desire that can be projected to the plane of *consistence*. Friendship, as a collective relation to an elevated object of desire, is thus a noetic activity and can intensify the transindividual process to transcend the ordinary-everydayness of being in the world. True friendship thus exists in the *we* that becomes exceptional to the norm, in the opening of a space that resists what is already given between one another, to project within this space another possibility that has not yet been anticipated. But for the *we* to become exceptional to the norm, friendship requires *agon* to elevate the *transindividual* relation. But friendship is also intuitive and spontaneous, meaning it cannot itself be anticipated; that friendship is a suspended relation of play.

For Donald Winnicott (1971:56) "it is play that is universal, and that belongs to health: playing facilitates growth and therefore health; playing leads into group relationships". It is through the psychotherapeutic observations of children that Winnicott came to his conclusions about play, showing that it is fundamental for children to learn to play with others so that they can learn to trust others. As such it is also fundamental to friendship which must maintain a relation to play for a friendship to grow further. But play itself is intuitive and as an intuition precedes rationalisation, meaning that it cannot be a calculated activity that must conform to given rules.

This is clear for the cultural historian, Johan Huizinga, for whom play is something that precedes culture and is even something that is done by animals without the intervention of humans. "The incidence of play is not associated with any particular stage of civilization or view of the universe" (Huizinga 1949:3). Play is something that is done for itself and does not have a purpose in mind, but also initiates a tension and an uncertainty as two of the general characteristics of play:

The element of tension […] plays a particularly important part. Tension means uncertainty, chanciness; a striving to decide the issue and so end it" (Huizinga 1949:10).

It seems then that the tension in play that strives towards ending it is the relation to the transitional object which opens the transitional space. But since transitional objects can be symbolic, and therefore be formalised in a process of cultural signification, the tension in play must also be thought in relation to technics, meaning that there are also cultural practices that foster play. This can again be seen with the advent of writing that led to a rationalised space for play through the *agon*, a fundamental component of the *polis* in Ancient Greece. According to the historian Jakob Burckhardt (1998:168), the "Panhellenic *agon* developed" as a neutral ground for contest between competitors from different *poleis*, even if the *poleis* had been at war during the contest. The *agon* elevated contests to be in honour of the gods and "was uniquely decisive in breaking down enmity between tribes" (Burckhardt 1998:168). The *agon* thus developed as a space for "contest between claimants in every sphere, in love, the games, tribunals, the judiciaries, politics, and even in thought, which finds its condition not only in the friend but in the claimant and rival" (Deleuze & Guattari 1994:4).

Through the advent of writing and in its proximity the development of the *polis*, the *agon* can be considered as a rationalised space for play that was integral to the organisation of societies of equals that sought to elevate *transindividual* relations through rivalry within the *polis* and between *poleis*. Although the rivalry between free men in the *polis* falls within the particular

androcentric conception of *philia* that includes only a very few men as equals [Chapter 2], it is nevertheless testament to the *agon* as a transitional space that posited the rule of a generalised friendship, even amongst rivals, that allowed for the collective striving towards objects of desire. It is within the collective striving towards objects of desire that philosophy develops, according to Deleuze and Guattari (1994:3-12), as the singular activity of concept creation. The *agon*, in other words, is a collective productive space that, in principle, is free of the set normativities of *philia*, and as such becomes a potential space that can channel desire to objects that *consist* (i.e. concepts) beyond the *existing* social bond.

It has to be considered then what has happened to the *agon* with the advent of the Internet; if it can be understood as a new space for play and for contest, as a space for amorous striving and rivalry towards objects of desire? The Internet as a peer-to-peer technology presupposes a conceptualisation similar to the *isonomia* of alphabetic writing, but as a rule of equality that is mediated digitally. Structurally, digital technology implies the industrial organisation of society and therefore also operates as an industrial medium of communication. But whereas the formalised *agon* in the modality of writing implied an organology particular to writing, the organology of the digital epoch will imply another modality through which the *agon* is formalised. It would firstly be necessary to consider the transformation of the technical object to the industrial technical object after the Industrial Revolution, through which the *socius* becomes inscribed on the body of capital (Deleuze & Guattari 1984), and after which contest becomes in service of economic gain. As Burckhardt (1998:184) observes:

"Men of today are far more likely to want to win financial success than rapid recognition of their talents, and they know perfectly well why the success they seek is of a material kind; life requires it".

The industrial organisation of society thus transforms competition into an economic function. This is also equivalent to saying that the *transindividual* relation is transformed by

industrialisation so that capital becomes the transitional object (a *pharmakon*) which opens the transitional space of the *agon*, meaning that the *agon* becomes an industrialised economic space. As such, the *agon* in the digital epoch must be thought in this fundamental relation to the industrial organisation of society. It is not that contest or play is any less of a possibility, but that these activities become subjected to the pharmacology of capital and is economised further by digital technologies which grammatise the *transindividual* relation. This is exemplified in Web 2.0 which converts the industrial production of content by users into capital.

If the Internet has opened a new transitional space for play and contest, then it has to be considered how the play between users is being economised with Web 2.0, and to what extent digital technologies intervene in play by way of interrupting tension and uncertainty through automation so that users produce specific content that can be economised. It has to be considered whether the industrialised *agon* is transformed by the user's production of content that is converted into capital, or whether the conversion of content into capital transforms the user's production of content. It thus becomes a question whether the potential space of the Internet is producing long-circuits of transindividuation through Web 2.0, or whether it will continually unfold as an extension of the systematic organisation of consumption (i.e. through the prosumer) in which *transindividual* relations become desublimated. For Stiegler (2013a:64):

"the systematic organisation of consumption presupposes *abandonment*; it presupposes abandoning objects, institutions, relations, places and everything that is possible for markets to control, all of which must therefore be abandoned by the symbolic dimension, that is, desymbolised".

The symbolic dimension manifests through long-circuits of transindividuation, such as the long-circuits of culture that consists of symbols and signs that transmit the meaning of belonging to a *we*. It is the symbolic dimension that gives significance to objects that *consist*, as transitional objects through which the noetic life individuates. Through objects that consist, the long-circuits

of cultures form systems of care in relation to "*das Ding*" – the object of all desires. It can therefore be said that the ancient "Panhellenic agon" is fundamentally different to the economised *agon* of industrial society in the sense that to compete in honour of the gods carries more symbolic weight than to compete for financial gain. In the desymbolisation of the *agon* it is ultimately the *transindividual* relation as a psychic experience which is denigrated, as it no longer intensifies the process of individuation that can transcend the ordinary-everydayness through objects that *consist*, but reduces the *transindividual* to a relation of *subsistence* – to the intensification of need.

Desymbolisation can also be regarded as desublimation, through which the psychic experience is given material reward for the satiation of desires. As a result of the solicitation of psychic energy for the stimulation of consumption, the desymbolisation of the symbolic dimension depletes the circuits of desire that inscribe noetic activity with symbolic *consistence*. It is within this desublimatory space that social media can become reputation technologies: where more friends, likes, followers, retweets and what not grants the user more honour. And where the organisation of consumption has engendered a *concern* with lifestyles and the *cool* ego-ideals that correspond to them as a lifestyle-ethics of consumption[17]: the good consumer.

According to Stiegler (2013a:94), the organisation of consumption, which is built on the opposition between production and consumption has engendered a third limit of capitalism (§ 3.5) which is confronted with the systemic destruction of the environment, of minds and of social relations. In becoming economised, the capitalist *agon* has thus been structured on the finite resources of raw materials and psychic energy that must adapt to the technical tendency of the industrial technical object, which tends towards entropy. As such contest as capital gain has engendered a permanent destruction that is accelerated by the capacities that come with industrial machination. This is pronounced in the destruction that has led to the anthropocene.

17 At the time of writing, an ad campaign by a popular convenience store purports that "caring is cool" through an international pop-star as the campaign's mouthpiece. It is emblematic of the tendency to appeal to consumers that their purchases have ethical implications, and that the consumption of the right products can overcome whatever moral void. Albeit that there are ethical considerations that ought to be factored into the purchasing of products, caring cannot be "cool", nor can it manifest by buying products from a convenience store.

Confronted by this entropic destruction, is the *agon* still a viable concept for the question of friendship?

§ 5.2 Resistance: against the cosmic arrow of entropy

The digital epoch will remain subjected to the entropic tendency of the industrial technical object, but it becomes a matter of understanding in what way digitalisation further generates entropy. For Stiegler (2015:78), "the digital and economic system induces entropy through the imposition of calculation". It is in the subjection of all data to the automated calculability of algorithms that digital technologies generate Big Data, which induces entropy by excluding the "unpredictable, improbable and singular" from calculation – characteristics that typically "escape calculation by nature", such as the idiosyncrasies of human beings (Stiegler 2015:78).

Through social media, entropy can thus be induced in the *transindividual* relation by automating information flows between peers according to the strategic programming of algorithms, which for the most part conform to advertising strategies and business models via Web 2.0. Here it is perhaps Google's algorithms that have been most influential in the structuring of information flows over the Internet since Web 2.0, having also pioneered what Frederic Kaplan (2014:60) has termed an economy of expression. This takes place through outpacing what the user would like to express in an online search by autocompleting the words for the user, and in the process to autocomplete with a bias towards keywords that fit Google's advertising model (Kaplan 2014). Before the prosumer can produce content (tertiary retentions), an automated intervention takes place that economises the way in which content can be produced, so that it could fit a particular business model or strategy. In this way automata that are managed by private organisations according to their own private interests are outpacing users (Stiegler 2015:78). But it mostly draws consequences for the *transindividual* relation that is subjected to the imposition of these automata. For example, according to Kaplan (2014:60):

"Even if Google's autocompletion may not be explicitly biased toward more economically valuable expressions, it nevertheless tends to transform natural language into more regular, economically exploitable linguistic subsets".

The digital epoch therefore imposes a new threshold on processes of *transindividuation* through automation at the speed of electronic mediation, which can lead to a rapid impoverishment of social relations. With regard to Web 2.0 it thus becomes a question of how social media transforms the way in which users begin to relate to each other. That is, through a platform's parameters that are impartial to the idiosyncrasies expressed in the interpersonal dynamics between users, to what extent do users begin to relate to one another in the standardised way of an online platform? In other words, in what way do users learn to trust one another through the parameters that are set by online platforms, and how is this translated from the digital interface to the empirical space of the face-to-face encounter?

If digitalisation constitutes a transductive relation between the geophysical, socio-political, and noopolitical (or perhaps noological?) planes, then the entropic tendency of digital technology must be thought within this tripartite relation. It can also be considered as a question of how entropy is engendered between the *who*, *what* and the *where*. Nevertheless it seems that, if Newton's First Law of Motion became axiomatic of reason in modernity, then it must perhaps be considered that the Second Law of Thermodynamics has become axiomatic of reason for the industrialised society which culminates in the digital epoch. Since the digital algorithm automates calculation, all calculability, as rational knowledge constituted by linear relationships, becomes inscribed in digital technology. This means that the principle of including the First Law of Motion in reason, what Heidegger refers to as the "mathematical project" of modern science (§ 4.1.2), becomes embedded in digital technology through the automation of linear relationships.

The cosmic arrow of entropy is the linear relationship showing that all matter tends towards thermodynamic equilibrium, death. But it is here where biological life can be distinguished from the entropy of matter, in the sense that biological life resists entropy by reversing and harnessing energy to sustain itself through a process which has been termed negentropy. But as it has also been shown, hominisation is itself a negentropic process which takes place through epiphylogenesis, culminating in the cultural milieu that distinguishes man from animal. It is within this context that Stiegler adopts Simondon's thermodynamic theory of individuation, linking psychosocial and technical individuation in a negentropic relation.

It is therefore through resistance, negentropy, that individuation takes place. But resistance takes place on two planes, on the plane of *existence* which can be regarded as the biological resistance of death. That is, as resistance to exist and not be reduced to subsist. But then there is also resistance on the plane of *consistence* which does not reduce *existence* to a struggle with *subsistence*, but instead gives significance to existence by placing it in relation to infinities, to objects of desire that are the symbols, ideas and concepts that makes life worth living for human beings. It is thus through resistance that friendship consists: as resistance to the immediacy of sexual urges, to the immediacy of aggressive urges that want to do violence to another, as resistance that directs energy towards idealised objects of desire through which the experience of being alive can become sublime.

§ 5.3 Conclusion

It is through resistance that friendship can open a transitional space, where play can take place, where contest becomes possible and ultimately through which individuation and the intensification of the transindividual experience becomes possible. It is in the opening of this transitional space that new fidelities, as new forms of *philia*, can be established. This has become all the more necessary for a world that has been shaken by the advent of digital technologies. Although digital technologies provide new possibilities for the formation of friendships, through

which transitional spaces can be opened between friends who share the same ideas over the entire globe to constitute the *noosphere*, digital technology must always be considered as a *pharmakon* "which becomes a poison when it provokes dependence – heteronomy, that is, loss of autonomy […] But there is no autonomy other than as the adoption of heteronomy, that is, of a *pharmakon*, so that dependence opens a milieu – that milieu that Winnicott called transitional space" (Stiegler 2013a:25).

The digital epoch is pervaded by the *pharmakon* of digital technologies which above all seem to be highly addictive, inscribing users for life – a *terminal* addiction. But it is also pharmacological in the sense that the manufacturing of digital technologies will continue to destroy the environment, and as such the dependence that digital technology engenders is not limited to the psychic life of the user and the transindividual relations between users, but also engenders a dependence on limited resources which are depleted at an exponential rate. A new normativity of the digital epoch therefore has to be established that can transform the dependence that digital technology generates in the geophysical, socio-political and noological planes. If the adoption of digital technology entails the adoption of a heteronomy that opens a transitional space, then it has to be considered, however, what grounds the transitional space – since it no longer implies a relationship between a self and an other only. Here one might consider Jean-Luc Nancy's (2008:10) proposal of another kind of *nomos* that he refers to as *exonomy*:

"This word would evoke a law that would not be the law of the same or of the other, but one that would be unappropriable by either the same or the other. Just as *exogamy* goes outside of kinship, *exonomy* moves out of the binary familiarity of the self and the other".

It is within the context of exonomy that the question of friendship can be asked in the digital epoch, whereby friendship goes beyond a familiar relationship between the self and the other. That is, to include what has been excluded in preceding epochs, to wrestle with the unfathomable *noise* that is echoing within the atmospheric boundaries of a singular entity, the Earth – a

cosmological exception. It is only in the exceptional circumstance of being vitally bound to the Earth that the task of friendship is in becoming exceptional.

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