Technology and Virtue Theory

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We inquire sometimes about instruments, sometimes about what way they are to be used, and what similarly for the rest-- sometimes through whom, sometimes in what way, and sometimes through which things.

Aristotle, *Nicomachean Ethics*

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Introduction

Technology and knowledge

The topic of this paper is the intersection of technology and knowledge. Put more precisely it is an inquiry into the intersection of modern smart-devices, such as smartphones and tablets, with Aristotelian virtue theory.

The key concept the paper explores is how modern technology fits into a theory of intellectual virtue. To consider technology, it becomes necessary to consider *what* technology is. To explore this topic resources from ancient philosophy are put in contrast with contemporary philosophy of technology. In short it is to give an account of the relationship between man and device.

The introduction will begin with a brief overview of philosophy of technology. Second section will give an overview of a central idea explored in the paper: *The Extended Mind* thesis. In the last section the general structure of the rest of the paper is given.

Introducing Philosophy of technology

I begin with a brief overview of philosophy of technology.

The principle distinguishing feature of technology is that it consists of things that are made. We might call them artifacts, tools, instruments, equipment or devices. The use to which a particular artifact may be applied is limited only by the imagination of its operator. Technology is therefore not limited to *doing* or *producing*. It also plays part in the wider practical concerns of living well. Technology is instrumental in any scientific endeavour. These three areas of distinct application coincide with the first three Intellectual Virtues discussed by Aristotle in the *Nicomachean Ethics* (Book VI).

The key aspect of technology in any era is that it holds a *promise* of something. A ship holds the promise of crossing the sea. Today we recognise that technology as a ideology includes the *promise of progress*. New technologies arise in an *evolutionary* rather than revolutionary

manner. Much like scientific discoveries, instrumental enhancement happen incrementally rather than in leaps. Each step is both creation and destruction. We have created devastating weapons of war and environmental pollution. Setting aside these higher order perspectives: what is technology?

Brute technology

Technology in its most immediate consists of tangible things. Close at hand with self-evident purposes. Such as a spear for hunting or fire for warmth. As we expand our ontology of the technological we recognise objects of increased sophistication. A hammer is but a component resource of constructing a wooden house. A silver chalice is both a means of carrying wine and of sharing it in good company. A hearth is a place of warmth and sharing. Finally we must concede technology is more than those things we hold in our hands.

One example made famous in the *Dialectics of Enlightenment(1944)* by Adorno and Horkheimer draws on the *Odyssey* to deftly illustrate the increased value of technological expertise. In Book IX Odysseus finds himself and crew trapped in the cave of the man-eating cyclops Polyphemus. Odysseus sets a cunning trap. The trap is fundamentally technological on all levels. He instrumentalises the cyclopean bureaucracy of vendetta by declaring his name is *nobody* [*Outis*]. Polyphemus first drowsy from wine offered by Odysseus and then blinded by an improvised spear, shouts for vengeance. In his folly, he has failed to realise his predicament. He calls for the revenge on *nobody*. The conclusion Adorno and Horkheimer will indicate is that human *logos* the natural world; conquers the primitive mind.

This view of technology adds an important dimension. Conceptual knowledge translates into potential action. Forces such as politics, law and bureaucracy, language and science are all extensions within the remit of technology.

Bare technology

Technology will with such a grand scope come to encompass nearly everything concerning human artifice. In the Aristotelian conception of *Techne* that very breadth is found. There are

techniques for house building, navigation, and shoemaking. Just as there are techniques for persuasion, rhetoric and poetry and medicine. Doing so well is to align or embody the correct rationality [*orthos logos*] of some subject. The correct rationality of each distinct field of knowledge being so similar as to fit into the same category of virtue; *Techne*[1].

With technology such an integral aspect of human activity, the next move is to question the metaphysical status of technology. What is the *being of* technology. In the literature there are three common stances: (1) *substantivism, (2) instrumentalism* and (3) *pluralism*[2].

[1] The first of these proposes that technology has a striving being, which drives technological progress. On a metaphysical level technology has faced and bested all rivals and exists as a substantial "force in its own right". Strong voices for this view are Arne Johan Vetlesen, David Skrbina and Jacques Ellul.

[2] The second, instrumentalism proposes a value neutral and anthropocentric analysis of technology. Technology is simply understood as a collection of tools and instruments put to human ends. It is generally an unpopular view amongst philosophers of technology.

[3] The third competing outlook is pluralism. This is a view associated with disciplines outside philosophy. It takes a traditional empirical approach and declares that technology is too diverse and too particular to be accounted of as a single thing. Technology has no *essential being* and is hence value neutral. Where tools and instruments are encountered their account will always be given in a distinct context.

The view expressed in this paper predates but inspired the three listed above. Ancient philosophy suggests that every act of technology is a *creation*. This is is a proposition with metaphysical content. Aristotle unlike Plato will distinguish between natural and human creation. This suggests that technology occurs *in* matter and form. The form is supplied by

[1] That is not to say that technology is an exhaustive of all human activity. Living well, thinking or weighing fundamental moral choices or attending to matters of public policy are inherently practical. Contemplating science or engaging in philosophy, are matters of knowledge and wisdom. These are all distinctly human concerns which do not fall under the aegis of *techne.* Even so, technological instruments (including ways of thinking) will play a role in such undertakings. I return to this in greater detail when presenting Heidegger.
[2] Skrbina *(2016);* Borgmann (1984)

human activity, but to be potentially realised-- it must accord with the laws of the natural world. The essence of technology is a bridge between matter and form.

Better technology

Recorded history is inherently technological. The ideas of men and women before writing are inaccessible. But it seems unwarranted to suggest they had no conception of *techne* before writing. To do so would suggest that the pre-Promethean mankind had no abstract understanding that tools are means by which certain functions are realised. Instead I take the view that technology is as old as mankind. If modern technology is different it is in being technology writ large.

Modernity is saturated with technology to an extent unseen in previous eras. Philosophers of technology wonder whether *modern* technology should be considered distinct from the technology of the past. This has proven difficult and controversial. The invention of the steam engine has been proposed as one such exemplar of a paradigmatic shift. But even such an important hallmark of the industrial era has proven difficult to pin down[3]. Attempting to nominate technological invention from an older era has proven equally unhelpful.

If technology shares essential features with culture it may be put in contrast to nature. If technology is indistinct from nature, then criticism of technology changes . Particularly ideas presented in Vetlesen (2015) and essays by Hans Jonas (2001) cover these questions in some detail. Insight drawn from both these authors make their way into this paper. As the topic concerns man's relation to smartphones, the wider environmental implications are not further developed[4].

[3] Was it the mere invention. The first train. The first ride. The first practical application. First conception of. These are all events which happened many years apart and sometimes on distant continents.
[4] Environment and technology**.** The philosophy of technology plays an increasingly important part the study of environmental ethics or the field of environmental philosophy. The implications of any investigation into technology has consequences for one's view of the natural world.

The puzzle of technology

The puzzle of technology is that it is difficult to distinguish an instrument from the hand that wields it. At the moment of actualisation, hand and instrument are one. When an instrument lays at rest, it carries the potential or promise of action. One key difference is that instruments may be put aside in ways which skill or knowledge cannot. Another is that instruments derive their function from whatever the operator puts it to. This suggests the essence of technology is fluid. It is contingent on the state of the beholder. This view is developed further in the paper.

The Extended Mind thesis

In an article riddled with futurism, philosophers Andy Clark and David Chalmers introduce the *The Extended Mind* thesis. Written in 1998 the general idea is that the mind is not limited by *mere skin and skull*. Instead the brain is actively geared to take advantage of its local environment. The process falls under wider theory of *active externalisation*[5]. The authors claim that the mind is constantly involved in an active *coupling* and *decoupling* to extend cognitive resources.

Cognitive Coupling

The key concept is the forming of cognitive instruments, be they impromptu or not, that create *reliable* cognitive connections. This *coupling* is a special *epistemic action*: one in which the world is altered to aid in cognition. The connection can be considered part of the minds extended sphere of mental interaction-- computational, orectic, and even concerning sense of self. A smartphone fits neatly into this picture. It's connection is reliable and through practice a smartphone can be made to take part in a plethora of tasks.

This considerable externalisation of cognitive ability may not sit right with the views that demand privileged *internalised* mechanism to cognition. I will sketch briefly sketch two counter examples presented in the article: (1) The authors ask us to consider the frequency which human reasoners rely on environmental support to perform certain tasks. They offer a number of examples: the mathematician performing complex arithmetic on a piece of paper,

[5] The thesis itself is a self ascribed *third option* in the classic Theory of Mind debate on Externalism vs Internalism.

the thinker who draws mind maps to organise her thoughts or the child counting to ten on her fingers. *Coupling* in this manner seems a daily affair.

(2) Is the connection *good enough* to qualify as a mental operation? The authors respond with the now famous example of Inga and Otto. Inga is a normal functioning human. Otto on the other hand, suffers from alzheimers. To remedy his memory deficiency, he carries a notebook with him everywhere he goes. He constantly references the book and writes every important thing into it. Three issues are raised: (a) A question of *reliability*; (b) a question of access and *bandwidth*; and finally (c) is it memory if knowledge is gained by *perception* rather than mental activity. The answer compares Otto to Inga.

[a] Otto might be deprived of his book and therefore lose reliable access. However the same can be said of Inga who might suffer a disastrous accident or more mundanely might simply forget. Though heartfelt, the brain would not stop working.

[b] One could argue that Otto has a lower-grade connection to his externalised memory. The authors give a counterexample: Lucy is an unfortunate whom through blind genetic luck or "past misadventures" has a less capable connection to her own memory. Lucy would not stop being a cognitively capable being for this reason.

[c] Finally there is a phenomenological difference in accessing information through a written medium in contrast to recalling it. But does this alter the *belief* Otto entertains of the content? The authors hold that content remains the same, and therefore the causal link is retained.

The key response to both [1] and [2] is that *belief* can be constituted partly by features of the environment. In any case *reliability* comes to the fore. With increased familiarity and habituation, the information is endorsed pre-reflexively. That agents alter their habits of thinking does not change the underlying principle of how the brain actively *couples* with the environment.

The authors suggest that the *portability* of certain instruments make the *coupling* all the stronger. They argue that if one always carried a filofax and pocket calculator, or indeed had them *implanted* in a futuristic cyborg interface; then these items would be readily available within the cognitive system. They would be part of the agent-- part of *The Extended Mind*.

Enter Smartphone

The article, which was written in 1998, states that: "The internet is likely to fail on multiple counts, unless I am unusually computer-reliant, facile with the technology, and trusting, but information in certain files on my computer may qualify."(Chalmers & Clark, 1998, Section 5) How different the world looks today.

Andy Clark has gone on to write extensively on human-machine interface, Artificial Intelligence, and other topics within Philosophy of Mind. Such questions are explored in great detail in *Supersizing the Mind* (2008) and *Natural-born Cyborgs* (2004) Transhumanism is a recurring topic. As is an optimism about technology.

Central is the idea that the human mind is *wired* to connect to the local environment. Therefore technology is a natural extension of the mind. It is in some ways *the* extension, as it is *the* definition of what cognitive operations entail. In this view language plays an important role. Language shapes the way problems are solved, memory is accessed, states of mind, and indeed, what type of cognitive operations the mind can actively extend into the world. Particular attention is given to how learning concepts unlock new ways of reading or revealing the world. (Chalmers & Clark, 1998, Section 3; Clark, 2008, Chapter 3)

The explicit philosophical heritage of *The Extended Mind* thesis is amongst others work done by Heidegger and Wittgenstein. (Clark, 2008) These two philosophers along with Aristotle and John McDowell will be relevant as the paper develops.

Technological Optimism

Both David Chalmers and Andy Clark radiate optimism of technology. Perhaps the most telling example is given by David Chalmers in the first two paragraphs in the foreword of *Supersizing the mind.*

> A month ago, I bought an iPhone. The iPhone has already taken over some of the central functions of my brain. It has replaced part of my memory, storing phone numbers and addresses that I once would have taxed my brain with. It harbors my desires: I call up a memo with the names of my favorite dishes when I need to order at a local restaurant.
>
> I use it to calculate, when I need to figure out bills and tips. It is a tremendous resource in an argument, with Google ever present to help settle disputes. I make plans with it, using its calendar to help determine what I can and can't do in the coming months. I even daydream on the iPhone, idly calling up words and images when my concentration slips.
>
> Friends joke that I should get the iPhone implanted into my brain. But if Andy Clark is right, all this would do is speed up the processing and free up my hands. The iPhone is part of my mind already. (Clark/Chalmers, 2008, p. ix)

Here is the full optimism of technology on display. The iPhone is a receptacle not only of memory and experience, but for desires and calculation. It wins arguments and makes planning easy. And it is hard to deny Chalmers optimism! Smartphones increasingly enter into our lives. Finding information is easy and accurate. All manners of administrative tasks are streamlined. To say nothing of carrying an endless supply of entertaining media for consumption.

Our access to these radically connective pocket computers stands to make profound changes to the structure of our active externalised selves. Our fleshy bits remain the same as our ancestors, but our cognitive systems seem destined to be substantially expanded.

Structure

With the overview of the philosophy of technology and the *coupling* concept from the *The Extended Mind*-thesis, the paper is ready to being in earnest.

There are two concept pairs which will be developed throughout. One is the *Device* and the other *Technological Behaviour*, especially as it concerns Devices. The first is an Aristotelian categorisation of smartphones and smartphone-like tools. The other describes the state of behaviour in which technology is applied.

The first chapter will give an overview of the concept *Device.* The second chapter fits the *species* with the broader *genus* of technology, and provides a metaphysics of technology. The third chapter evaluates the implications of fitting *Devices* into technology. The fourth chapter delves into the past and compares ancient responses to Device-like technology. The fifth chapter develops an Aristotelian response with a more modern frame of reference.

The conclusion will summarise the findings of each chapter.

Chapter list

1. On the Device[6]

In this chapter I will introduce the concept of *Devices* and puzzle about the day to day implications of their use. The definition will move from general to a specific description: a everyday definition to a categorical one. Towards the end of this chapter I define the necessary criteria to distinguish Devices from other tools.

1.1 Devices are a class of tools

Throughout this text I refer to a special class of tool, the *Device*. By this I mean to indicate any instance of *modern carried technology* capable of providing easy interface to the internet in an unobtrusive, lightweight package. A *Device* may be carried and is easily portable. I name of same species any brand of smartphone, tablets or ultra-portable laptops. The important organisational principle is the interface with the modern ecology of software applications. In short carried technology which would accept a common prefix 'smart' . In this section I give an doxastic overview of Devices.

1.2 Smartphone as paradigm

The smartphone is the most interesting piece of technology of our era. Since the 2007 inception of the first series of iPhones, the smartphone is the *Device* which has become the gold standard of modern technology. Computers of all sizes, including desktop and laptop computers, television screens, cars and cameras have come to emulate and adopt the informational infrastructure and interface of the smartphone. In fact, the end user has come to expect it.

The phenomenon of Device usage is ubiquitous. The popular notion is that our lives are increasingly lived through the little screens we carry with us. Older generations lament the loss of connection with nature. Academics study the effect of the changing habits and culture

[6] In the academic discourse of technology as a whole, there are many actors. Doubly so as it relates to the dangers and merits of modern smartphones. As this paper ponders Aristotelian Virtue Theory it does not engage with sociological studies. Even so, to set the stage of the discourse here are some commonly repeated facts concerning smartphones. At the time of writing the iPhone has reached its 12th generation. World-wide around two of every three adults own a mobile-device. Over 70% of all internet traffic is through portable devices. It is generally suggested that the average user checks her phone every 12 minutes or so. More active users, as often as every four minutes. Technological optimism is high. Some philosophers, like David Skrbina (2016), complain that even naysayers approach the question from a technological point of view.

surrounding the use of technology. Growing up today means being socialised into a increasingly interconnected world, made possible by highly flexible and computationally powerful Devices. An increasingly powerful sector of industry continuously produces and sell ever newer models for consumption. Each revolution promising that *this* version is the ultimate extension-- fits the architecture of your mind and the shape of your daily lives perfectly.

1.3 Devices are opaque

According to *The Extended Mind*, a well constructed tool becomes instrumentally attuned to its operator. It answers to the needs in an unobtrusive way. A smartphone offers a special case. Unlike single-purpose mechanical tools where utility merges with the task set for it, Such as in the case of a shovel or bicycle. A smartphone operates on at level where the *motive code* intangibly aligns with the intentionality of its operator. To foreshadow later chapters: the lynchpin of this from the point of view of an analysis of *virtue theory* is that the operator is inclined to behave and conduct procedurally in accordance to *that* certain avenues of action are made available through the device, rather accordance to *with* the perimetral bounds of what the device can accomplish-- which as we shall see is not inconsiderable.

A smartphone is a complex object. The material and formal properties manifest both in the immediate physical and on less visible software level. In some ways the software structure of a Device is elusive. It is both the most visible, it is the means by which interaction is possible, and opaque, the mechanical principles of code and the inner workings of a Device are not transparent to the user.[7]

The software is *the* essential component of the Device. It in many ways highlights the modern puzzle of the smartphone. Lets not forget a smartphone is a dead material thing. Essentially I regularly carry a rock in my pocket. I pull it out and stroke it and it whispers answers to me. But let's not simplify too much. It is a rock, but first it was made it flat and had lightning trapped inside it! In any other era a smartphone would be magical.

[7] If this definition sounds opaque itself, the idea is actually quite simple. Imagine if physical tools functioned ona hidden level. For instance handling a shovel without being able to see the ground. You would feel but not see the dirt move. One could develop an entire phenomenology relating to your body, but still find it hard to understand what was happening when your shovel snagged stones or roots while working. Devices are like that.

1.4 The genius of Devices

The genius of the modern smartphone is not only marketing. The smartphone brought together notepad, map, gps, camera, book, wallet and phone. As its processing powers have increased or become available through parallel computing, or become miniaturised, modern Devices are accepting an ever increasing library of tasks which have traditionally been within the exclusive auspex of specialised tools: text and imaging editing, 3d rendering, physics modelling, and many other tasks. It is telling that these tools are named *applications* or Apps for short. Apps have specific application. They are specific software instruments intended to carry out a particular task made possible through the framework offered by the Devices hardware and connective infrastructure.

Both software and hardware developers have turned their attention to the ever-expanding arsenal of sub-instruments that make up the average smartphone such as, gyrometers, gps, eye sensors, microphones, light sensors, and the increasingly diverse haptic interfaces. The effect of this is that the smartphones computing power has been turned to an ever increasing library of useful and/or pleasant applications: song recognition, training and sport applications, tuning instruments, astronomy tools, polling and quizzing, and any number of plays of facial recognition software.

As a locus of computing power, smartphones have become entertainment systems in their own rights. Any number of modern games, media channels, and video and audio interfaces are available. Sometimes these are interconnected or sometimes competitive, or otherwise social in nature. Indeed as a nexus of the social sphere, modern devices have excelled. A sheer panoply of social applications of various degrees of specificity and anonymity are available. For constructing one's social persona it has become foundational; virtual actuality coexists with physical presentation[8].

[8] This is not a development unique to the smartphone. From the very first time a phone interview was called; virtual presentation trumped actuality. Come to think of it, the same could be said for letter writing. What is new is the speed by which changes are made and the tools to ensure congruence with the real world.

1.5 Devices extend reality

The content of the digital sphere is causally connected to reality. The digital, virtual construct extends into reality. This phenomenon is captured under the label of *Augmented Reality.* In a sense this is a superhuman sensory ability available only to those interfacing, *coupled* to a Device equipped with the correct hardware and software. Augmented Reality projects virtual information onto reality. The Devices interface allows manipulation and access to said virtual symbology. It is phenomenologically not dissimilar to what reading is to the illiterate[9]. Though mediated through a Device, it translates invisible or unintelligible symbols into working knowledge. Notably information can be targeted or customised for the agents preferences. Devices manifest a sundering quality. Devices distinguish and divide how reality is revealed for each individual.

1.6 Devices as a language-game

At the current level of generality attending to a *language-game* of Devices is useful. Listing the various ways in which Devices are applied yields some insight. However it is best not to get trapped by it. Devices belong to the class of tools. In everyday language the meaning of a tool is derived from the task associated with it. A hammer is made for hammer*ing*. What is to engaged with Device*ing?* This commonsense approach is attractive but yields an essentialist answer which distracts from the actual varied application of tools. A hammer is meant for hammering, but is hammering the same if a carpenter and a smith does it? A cobbler may well drive in nails, but both his tools and material are very different. To say nothing of a mountain climber or medieval knight. Attempting a functionalist answer in regards to meaning: perhaps relating meaning to a hammering motion and the driving in of nails is equally perplexing: what then of a modern nail gun? (*Philosophical Investigations, §22-23*)

[9] This could do with further exploration. For the illiterate, reading and writing is inherently mystical. For the uninitiated (1) the reader appears, by quiet ritual and trance, to access a sixth sense. That sense allows discerning hidden meanings from symbols. (2) The writer can capture voice and *reason* in physical objects. The written word has a temporal potential exceeding that of its author. To carve words in stone is to tackle transcendence. (3) As a mystic art, reading and writing has a metaphysical component. It is not possible to know what is written before reading it. However, once read, can it be un-read? The same criticisms and fears are applied by computer illiterate when criticising the use of YouTube or any other modern social media.

1.6.1 Distinguishing instrument and tool

It may be useful to compare my use of the *word* Device to another in everyday language. By Device I mean something that is both a singular and plural in one. A Device is an interconnected, dynamically changing collection of coupled instruments. I will distinguish another set of conceptual pairs: *instrument* and *tool*.

Instrument and tool are not alike. By instrument I mean something intended for a single particular activity; functionally for resolving a single task or problem. By tool I mean a particular thing, such as a hammer, saw or calculator. Each tool may partake in a multitude of instrumental operations. Though actions may be instrumentally generalised, each instrumental expression involves tasks concerning particular objects. The tool label belongs to those things that function with a greater degree of generality. Tools commonly occupy temporally longer periods and attend to tasks of a architectonic or universal horison. A Device is a tool with a multitude of instrumental potential.

1.6.2 Devices are containers

I propose to use the word Device in way corresponding to how 'shelf' is understood. A shelf is used both for storage and display. It may indicate a particular piece of furniture or the particular constituents, the shelves of a particular shelf. A Device correspondingly is a resource for displaying or storing things. Much like a bookshelf may be populated by various objects like books, games, memorabilia, or anything that can safely be stored in a shelf[10].

Unlike shelves, Devices interact with both actual and virtual constituents. Devices are capable of displaying or recalling or computing *information*. The attending attachments and coupled tools make up the whole composition. A smartphone linked to a Bluetooth speaker and linked to a Wikipedia app all answer to the description Device. By my analysis a Device will encompass all technological objects which are part of a portable personal network of *smart* and *cognitively coupled* things. All things that share a family resemblance with smartphone technology, or partake in a direct digital coupling with a such a Device is

[10] The analogy seems particularly fitting, because it it is the authors experience that in any home well furnished with bookshelves, they invariably attract knick-knacks and things that ought better be stored elsewhere.

included. This means that in the case of a smartphone linked to a nearby television screen, all partake in the same status as a Device.

1.7 Fundamental properties of Devices

The central Aristotelian idea is that if the *essential* qualities of two things are identical, they belong to the same or similar genus. Those qualities which are *accidental* can be safely ignored.

The gathering of seemingly distinct elements into a single one is important once the *function* or energetic potential comes under scrutiny. Such an open definition may seem to include all the things a modern Western human carries with her. There is some truth to this. I will now move to more give a more accurate set of criteria for the Device label.

One notable aspect essential to Devices is communication. As a distinct tool a Device is capable of displaying or collecting information made accessible to or through an information network. The transfer of information must be mediated through the Devices own facilities of communication: wire, bluetooth, WiFi, etc[11]. However this would suggest that a disconnected Device stops *being.* It returns to dead matter. Such an answer discounts the potential inherent to Devices. The owner may look for a new one or ways to return its electric charge or otherwise restore the tool-use to her life. It suggests that the essential quality of a Device is exhibited in a particular relation, or state of appreciation residing in the Device bearing operator. This relation may be explored in a few examples of technology.

1.7.1 The walking stick is no Device

Consider a blind man using a walking stick to aid his moving about the world. The walking stick becomes part of the sensory capabilities of the man. Without it, he would find it difficult to move. Recalling the initial description of Devices; a walking stick is by definition portable. It is also likely a product of advanced industrialisation. One difference from Devices is that though perception and sensitivity are extended, the reach is limited. A Device offers the promise of a different class of knowledge. A technical and scientific class of knowledge. A

[11] According to *TEM* tools are cognitive coupled. This suggests that the flesh, skin and skull of the operator belongs to this list.

Device may yield quick and easy response to the question: 'What is the population of Berlin.' The walking stick may not.

1.7.2 Cars are not Devices

The essential qualities of a car is that it permits transportation and facilitates carrying heavy weights[12]. Automobiles are increasingly connected to smartphones. Contemporary vehicles will frequently have their own computing power, sound and navigation systems, for convenience these will often be subordinated to a personal Device.

It is not transgressing into speculation to propose that future cars will have additional aspects controlled by software, such as automatically adjustable seating, selection of music, or even dynamic layout of instruments across a *smart*screen.

Aspects such as seating and music and other quality of life adjustments are *accidental* properties. As a matter of fact Devices increasingly provide navigational aid, an *essential* feature of the cars purpose. The driver is the navigational component through which a route is actualised. The bond is a *coupling.* This bond can be further investigated.

1.7.3 Automobiles may become Devices

A modest future prediction. Assume the promise of *auto*mobility became true; self-driving cars are produced and widely distributed. The vehicle would naturally communicate with the travellers personal information network and the its operator would interact with the vehicle through that of interface. In such a setting the operator, traveller or cargo need not be the same person. In any case this car will exhibit qualities more easily attributed to Devices. In a self-driving car the operator would presumably only interface with the navigational options in an abstract manner. She will set the destination and various accidental preferences. Crucially the operators experience of interacting with the tool will only be mediated through a context sensitive, technical interface: permitted paths, destinations, and modes of travel. The experience of the environment is made through a thick technological interface. The

[12] Indeed a car in many ways reverses the portability criteria assigned to Devices. I will permit this as a drift of definition due to *family resemblance*-- just as a television may partake in Device*ness.*

environment is only appreciated through the Device. The *revealing of the world* is shaped primarily through lense of a the automobiles interface and sensors. This is a manner of advanced *technological behaviour*.

A car is not a Device qua interconnectedness. A car becomes a Device analytically only if it partakes in the single nexus of informational exchange; paradigmatically a smartphone intellectually *coupled* with its operator. The car becomes a Device when the essential manner it is employed intersects with the intellectual virtues; that is the way in which things are known and how knowledge itself is expressed. That is the essence of a car, qua essence of a tool, qua essence of being a tool that reveals in a particular manner, intersects with the *knowledge* and *understanding* horizon of human behaviour. The car is a Device when it alters the way we account of the world-- in a manner of advanced *technological behaviour*.

1.8 Technological Behaviour

By *technological behaviour* I mean action undertaken within the domain suggested by the horizon of possibility intrinsic to the relation to a specific tool. Any action or perception which is only made possible through the intersection of technology. The term may be applied generally to technology. When a drives encounters traffic, she is engaging in a mode of technological behaviour. Her deliberative abilities are concentrated on a reality consisting solely of manmade infrastructure. The vicissitudes of traffic and signs become the loci which grounds her being.

This notion can be particularised to indicate relations to specific tools. When I speak of *Device behaviour* I mean to indicate the mode of perceiving which is only possible with access to a Device. Though similar to driving a car, it is more advanced. *Device behaviour* is unique in an interesting manner. As indicated in the walking stick example, Devices grant easy access to a realm of knowledge inaccessible by simpler tools[13]. When engaged with *Device behaviour* the operator is often engaged with what The Extended Mind thesis may call

[13] Borgman (1984, pp.196-210) develops a technical terminology of 'focal things and practices' as a means to enable *Deictic discourse*. The difficulty of fully analysing what qualifies as a *focal thing (*He suggests running and the hearth) has kept me from employing this technical terminology. *Technical behaviour* is sufficient as a descriptive.

epistemic action (Chalmers & Clark, 1998). It is a reorganisation of the world (her software realm) to aid in some cognitive task.

Technological behaviour is inherently *removed* from the natural world. It is second order behavior, because it relates only to nature that has been *shaped* into other artifacts. Device behaviour is in this manner a third order behaviour. It will generally remove the operator two or more steps from the natural world.

It must be stressed I do not mean to introduce these concepts as a technical terminology. Their definition would be recursive. Instead I intend these as *descriptive*. The proper definitions for these concepts will come in chapter 2 where I discuss Heidegger in some detail.

1.8.1 Devices couple actively

The unique relation of *Device Behaviour* may be highlighted in another example. Imagine a musician playing a piano in tune to what she hears through her earphones and the musical notation displayed on a smartphone screen. This example highlights the *puzzle* and difficulty of Devices. The transfer of information is not distinct from the operator. The rhythm of her fingers is a translation of information gleaned from a screen. Her Device-*coupling* enables the artistic expression: the playing of music. The Device*ness* is not contained in the piano. It is expressed by the operators relation, state-of-being when attending to the tool.

If her playing of the instrument is aligned fully and only with reproducing what is demanded by the software, if her audience expects only the presentation to be a reproduction, then she is missing the important component of the musical experience: the *poetical* expression. In such a case she is partaking in device behaviour.

Smartphones frequently have software solutions made to interface with non-digital equipment. The piano listed above is one such example and fixing a bike with a *how-stuff-works* manual is another.

1.8.2 Devices extend and make other tools obsolete

Devices are unique in another manner. Technological innovation and increasingly efficient miniaturisation has given us *Smart*watches, an exemplar of Device extension. A smartwatch interfaces seamlessly with the parent smartphone. Aside from telling the time it extends the haptic interface of the host and can be configured to display any salient information gathered from the totality of sensors and connections available to the Device. The smartwatch has fully subsumed the functionality of the wristwatch.

Essentially a wristwatch is a tool with a single primary instrumental function, displaying time. It grapples innocently with the horizons of intellectual virtue. Bearers have instrumentalised this capability to partake in a number of related behaviours, language games essentially. Timed competitions, organising travelling, making food, making plans, physical exercise, setting limits, recording cycles and engaging in scientific recording. By referencing the watch the wearer gains access to another shared cultural dimension, time. This dimension carries immense cultural value. We know that time is money and that it is possible to *waste* time.

In its Device form this essential core is enhanced and extended. What is notable of Devices is that these are capable of displaying information of such breadth, accuracy and fidelity to be rendered meaningless, though impressive to an incompetent operator. This is the sphere within which virtue theoretical analysis enters. To mistake one type of knowledge for another is an error of judgement. The Device invites the error in ways which a wristwatch cannot.

1.9 The criteria for Devices

A Device is a class of tools with a distinct expression. That expression is one where the operator interacts with reality through a medium of technology. Technological behaviour closely linked to actualised intellectual virtue-- expressions of knowledge. The virtue which is given priority is a technical and productive one [*Techne*]. For reasons of modernity's penchant to explain everything by efficient or material causality we are blinded. I return to this premise in greater detail in the next chapter.

Devices have a multitude of uses and these occupy the care and attention of their owners. This care is reciprocal in that the Device will maintain connectivity and that the makers of Devices and applications benefit from having many users. Devices have a universality in that they have come to accompany us and inform our daily schedule and tasks.

In summary the criteria which uniquely picks out Devices from other categories of tools is extending and partaking in a type of *technological behaviour.* Specifically a thick technological framework which in which Devices extend or modify *how* knowledge is expressed and understood. The next two chapters will further develop the relation man and Device with an eye towards the Aristotelian typology of Intellectual Virtues.

2. The Essence of Technology

In the previous chapter the concept of the Device as a specific, modern class of tools was developed. The superficial distinguishing features of a Device is its portability, its *smart*ness, and interconnectedness to both an internal and external network. The essential expression of a Device is found in *technological behaviour.* This chapter in turn deals with the higher order typology of tools *as* tools; pointing to a definition of technology itself. One theory of technology compatible with Aristotle is found in Heidegger.

2.1 Technology is a revealing

Heidegger presents in 1954 what is to become the seminal text of the philosophy of technology. *The Question Concerning Technology* was first made available in English in 1977. Within the text, which was based on a series of lectures, the author presents a core insight: *All technology is a revealing*. Modern technology *Enframes* the revealing in a new and unique manner. It is this new enframing which is both dangerous and attractive. The danger posed by technology on this level is not the physical application of lethal weapons or the ramifications of environmental pollution. Heidegger's conclusion is that the danger is a loss of perceptiveness-- the attractiveness of the modern view makes opaque a more natural and direct attunement to the natural world. The essence of modern technology threatens to deaden our free relationship to the world itself. The cure Heidegger suggests is found in art and artistic pursuits.

Where Heidegger turned his view to the interlocking networks of industrialisation that exploited environmental and cultural resources for profit, a concern which remains valid today, I will instead direct my attention to the technological tools that we keep ready-at-hand. I argue that a Device qua tool, takes part in a revealing. However the revealing is of a distinct character. Similar to that of a hammer or power plant, but the account of the essence of Devices will yield other insight: that Devices partake in an enframing, but the property of the things presented fall within the domain of the intellectual and not purely technical--particularly as these relate to the classic virtues *Episteme, Techne and Phronesis.*

2.2 The problem of *the essence of technology*

Heidegger begins questioning technology by asking a simple question: what is the essence of technology. Technology is all around us. Its use is a daily affair. He advices not to become entangled in definitions that may fall victim to linguistic misconceptions. The answer is instead found in Aristotelian manner: Asking *why.* Each *because* answer illuminates the object of inquiry. The essence *of something* is a way of seeing, a *free relationship* that permits the seeker access to the object of exploration in a particular way. Concerning technology he acknowledges the magnitude of such a project:

> The essence of technology is by no means anything technological. Thus we shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly like to do homage, makes us utterly blind to the essence of technology. (Heidegger 1977, pg.4)

The quoted paragraph is rich with meaning. Heidegger warns us that we cannot evade technology. Our thinking, that is the the *way* in which we come to perceive, inexorably aligns with products of human artifice. The products of human artifice, i.e., tools and culture, are not an account of human propensity towards technological mode of being. Technological behaviour is an expression of, but not identical with our capacity *for* such behaviour. To make the puzzle all the more complicated, it is impossible to step outside our *use* of technology, just as little as we cannot step *outside* culture or language to examine it. We

remain rooted in it. The similarities to later Wittgensteinian will be explored further when I approach McDowells conception of Virtue Theory in chapter 5.

It may seem odd to demand that the essence of technology is not technological. But this is because it is by any account impossible to entertain a deictic relationship to technology. This is because *it* (technology) is not a single thing. Technology is a means to and end, and a means to an end implies an object without intrinsic being. Each technological apparatus is an instance of technology, thus artifice, and the *what-it-is-ness* of an artefact is beholden to its user. The being of technology is what-- the answer to each *why*-- its operator will make of it.

2.3 Technology is more than a means and more than culture

What is technology? To give one answer he recruits two common conjectures: "One says: Technology is a means to an end. The other says: Technology is a human activity"(Heidegger 1977, pg.4). This distinction immediately disaffirmed as too simple. Technology transcends purely pragmatic use of artifacts on the grounds that tools always belong to a human activity. Tool-use begets tool-use, tool-use encompasses tool-construction, tool- destruction, tool-alteration and projects with clear ends other than itself (each project). This distinction is important in an Aristotelian regards to intellectual virtues, but also indicates how tools partake in projects to which the end is never intrinsic to that single activity. A pen is a tool for writing, scribbling and drawing, but writing with a pen is never a goal in itself[14]. The conclusion is that tools are more than just ends, they are a way of being human. The echo of Aristotle is present: "It follows that the soul is analogous to the hand; for as the hand is a tool of tools, so thought is the form of forms and sense the form of sensible things." (*DA* III 8 432a)[15] . Heidegger will for these reasons demand both an instrumental and anthropological definition of technology.

[14] Superficially one could say there are reasons for holding on to a pen which have no bearing on it as a tool-for-writing. However keeping a pen as a symbol of status, or as a valued piece of memorabilia all fall within the analysis of it being kept, for the sake of something else. Even though those goals are less tangible.
[15] The point being not that the reason is a discrete *tool-like* instrument, but that reason is a means by which something else is achieved.

2.3.1 Instrumental causality

Heidegger makes the observation that if something has an instrumental property, this is to suggest that it is a means towards a certain *ends*. Ends and means suggest causality. Syllogistically he proposes: "Wherever ends are pursued and means are employed, wherever instrumentality reign, there reigns causality."(Heidegger 1977, pg. 6) For Heidegger there is no better doctrine to answer such analysis than that of the four causes:

> For centuries philosophy has taught there are four causes: (1) the *causa materialis*, the material, the matter out of which, for example, a silver chalice is made; (2) the *cause formalis*, the form , the shape into which the material enters; (3) the *cause finalis*, the end, for example, the sacrificial rite in relation to which the chalice required is determined as to its form and matter; (4) the *causa efficiens*, which brings about the effect that is the finished, actual chalice, in this instance the silversmith. (Heidegger, 1077, pgs. 6-8)

The familiar example spearheads a discussion into the Ancient Greek conception of being-responsible-for, the interconnectedness of causality, that is the extent to which something is understood as indebted to-- belonging to-- a thing [*Aition*]. It is the seeing of the aggregate aspect, the interconnectedness of causalities, to which the *logos* or human dimension belongs. For this reason the silversmith, superficially the *causa efficiens,* is mentioned last. The bringing together of material [*hyle*] in a particular form [*morph*] in accordance to a purpose of the thing obeys a universal logic. This *Telos* resides with the *efficient cause*, for it is concerned with drawing of the boundaries of a things potential being:

> Through this the chalice is circumscribed as a sacrificial vessel. Circumscribing gives bound to the thing. With the bounds the thing does not stop; rather from out of them it begins to be what, after production, it will be (Heidegger, 1977, pg.8)

It is not to say that the silversmith is a merely an antecedent cause. Rather the silversmith partakes in a shared responsibility and indebtedness of bringing the object, silver chalice, forward into appearance. It is this pondering of the silversmith which results in a chalice which in analysis will by necessity of material and form and finality be a particular token of the type silver chalice. The silversmith has a special relationship with the chalice beyond that of the mere efficient. It is an important distinction to which I return to later. The form and finality of a chalice, its intrinsic psyche resides not in its material, but in the human hand that

made it and the human mind that make use of it. The essence of technology therefore reside within the operator.

2.4 The owner owns the bringing-forth

It is suitable to explore the analytic tools made available so far in an example: A silversmith makes a silver chalice. It is intended for some ritual. At a later date a child finds it. The child sees not the ritual, but instead a perfect receptacle for collecting berries. Has the child corrupted the *meaning* of the chalice? No. The child has *essenced* a new purpose into the item. The bringing-forth [*Her-vor-bringen*] has made available a new way of approaching berries, namely as something which could be safely stored in a shiny vessel.

2.5 The essence of technology is revealing

From here the fruitful analysis springs forth. Simply that: The essence of technology is a revealing. The being of a tool is actualised in a marriage of crafting, use of, and the material properties to which it partakes. Technology qua instance of human artifice is a bringing-forth. Be it crude craftsmanship or fine arts, it is a bursting-forth or occasioning-into-being which happens *in* the craftsman or artist just as much as it does the material and formal dimensions. The predicate relationship of the technological essence that belongs to a technological device is the boundaries to which it answers to, in it being a particular categorical thing: this value resides in the act of crafting and the act of using. Each new using is a new crafting.

Within the *hylomorphic* worldview of Aristotle the contrast is found in nature [*physis*]. In the natural world the bringing-forth is intrinsic and internal. Such as a blossom in bloom or a octopus hunting a crab. These are beings that are fulfilling their purpose, their *entelechy.* Human rationality instead *injects* form into nature. It is true if it is in accordance with rationality. Goodness is to uncover or make unconcealed the correct rational structures of the world.

The key Greek term Heidegger employs is *Aletheia*: the state of something being evident. In the Heideggerian terminology it is identical with *unconcealedness*. To engage with

technology is to engage with truth. To engage with the reality of the world. However, this can be approached in many different manners.

2.5.1 Virtue reveals in a unique manner

This existentialist interpretation of technology maps onto the distinct intellectual excellences, *Episteme* and *Techne.* Explicitly referencing Book VI of the *Nicomachean Ethics, Techne* reveals in a manner different from Episteme. "It reveals whatever does not bring itself forth and does not yet lie here before, that which can look and turn out now one way and now another." and from this "Thus what is decisive in *technē* does not lie at all in making and manipulating nor in in the using of means, but rather in the aforementioned revealing" (Heidegger 1977, pg.6). Thus a purely instrumental understanding of technology is insufficient, the anthropological must also be accounted for. He writes:

> Technology is a mode of revealing. Technology comes to presence in the realm where revealing and unconcealment take place, where *alētheia,* truth*, happens.* (Heidegger, 1977, pg.13)

In summary Heidegger performs an exegesis of Ancient Greek concepts and intellectual terminology to arrive at an understanding of technology unmarred or less influenced by the technological behaviour of his own time. His conclusion was that the conceptual pairs *Techne* and *poiesis*, consist in a bringing-forth-- a mode of revealing. There is no Archimedean lever to which technology can be understood and manipulated externally and objectively, because it is a fully internal expression, intrinsic to man. Instead one must investigate phenomenologically, the ways in which technology reveals.

2.5 Technology as mode of revealing

Heidegger stood on the precipice of the modern consumer culture[16]. Increasingly industrialised nations were making leaps and bounds in bringing consumer electronics into all homes. At the same time increasingly powerful corporations (both national and private) were exploiting natural resources at an ever increasing pace. To understand a human mode of

[16] Children of the early 1900s witnessed dramatic and profound advanced: human flight, miniaturised combustion engines (leading to private automobiles), increased *electrification*, rapidly expanding mass production, the rise of mass media: movies and radio, and even nuclear power and early computers. To say nothing of two brutal, world spanning wars. If anything it is a wonder that the field of *philosophy of technology* has so few entries.

being, Heidegger chose to, as Plato did in the *Republic,* to look at the larger interlocking systems of technology. The macrocosm reflecting the microcosm. A choice example of Heidegger was that of the a hydroelectric plant or the interlocking infrastructure by which a modern saw mill provides cellulose to an increasingly hungry paper industry. When Heidegger considers *modern technology* it is with a view towards industries of a certain scale.

With this in mind. The essence of technology understood as the *products of* and *methods with* which a craftsman working by hand will be different from those engaged on an industrial scale. Despite this Heidegger will insist that modern technology is also a revealing.

> Yet the revealing that holds sway throughout modern technology does not unfold into a bringing-forth in the sense of *poesis*. The revealing that rules in modern technology is a challenging [*Herausfordern*], which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such. (Heidegger, 1977, pg.14)

The mode revealing that is the *essence of modern technology* is that of a challenge[17]. A challenge understood as a *setting-in-orde*r, which impresses upon or arranges or *sets [stellt]* upon the natural world, so that it will conform with the perceived need of a being stood within the mode of modern technology.[18] The key principles are that the world is experienced as a resource which can be arranged to suit one's needs; that one's needs are measured and understood, and inspected *only* as resource to potentially facilitate future action. The future action need not yet be determined. As Heidegger notes: "Unlocking, transforming, storing, distribution, and switching about are ways of revealing" (Heidegger 1977, pg16), but this revealing will not come to an end, it is always *for* something else, a stock-taking: "Everywhere everything is ordered to stand by, to be immediately at hand, indeed to stand there just so that it may be on call for further ordering."(Heidegger 1977, pg17) Heidegger accords this mode of seeing as a ubiquitous in modern society. Both the natural world and the world of artifacts are viewed in the same manner. He will define the product revealed in this mode a standing-reserve [*Bestand*]. This standing-reserve is

[17] This is no clinical process. The word challenge or *Herausfordern* in the original implies a greedy demand made by the actor. A trespass of the natural order. A re-ordering of the intrinsic being of the object in question.
[18] This circularity should remind the reader that it is impossible to stand outside technology. The mode of modern technology refers to the perception [*Aisthesis]* in which the world is revealed.

universal and featureless; a sort of morphless fuel that can be applied to any engine of progress. Therein is the danger:

> Thus when man, investigating, observing, ensnares nature as an area of his own conceiving, he has already been claimed by a way of revealing that challenges him to approach nature as an object of research, until even the object disappears into the objectlessness of standing-reserve. (Heidegger, 1977, pg.19)

If technology be a mode of revealing, and the mode of revealing reveals only an aspect [*Ansicht*] that is faceless, then man's approach to *alētheia* has become compromised. That which is revealed is increasingly abstracted from its deictic origin. Heidegger names the mode of revealing by which modern technology functions as *Enframing [*Gesiell*]*. In other words: "Enframing means that way of revealing which holds sway in the essence of modern technology and which is itself nothing technological" (Heidegger 1977, pg.20) Enframing is seeing only the aspects of *things* as they accordingly supply standing-reserve. Why did this point of view come about? Heidegger will attribute the historical origins to modern physics.

2.6 The origin of *modern* technology

A sort of chicken and egg paradox emerges: "Modern physics is the herald of Enframing, a herald whose origin is still unknown."(Heidegger 1977, pg.22) Is modern physics responsible for modern technology or is modern technology responsible for modern physics? Modern physics only makes advances through applications of technological apparatus. Yet the construction of the technological instruments are only possible through a mode of thinking which relies on theories of physics. For Heidegger the culprit is the early modern thinkers' assault of Aristotelian four-causal explanations: that is the reduction of causality to a solely material and efficient accounts. It is not the concern of this paper to give critique of this paradigmatic shift. A discussion of this within the literature which is formative to the ideas presented in this paper be found in essays by Heidegger (1977) and Hans Jonas (2001). The extent to which it is relevant concerns the way in which Enframing is an attractive mode of revealing in a technological age.

2.6.1 Aristotle on physics

To give this context let us start by recalling Aristotle's words in a particular prescient passage:

> Hence a physicist would define an affection of soul differently from a dialectician.[...] The one assigns the material conditions, the other the form or account; for what he states is the account of the fact, though for its actual existence there must be embodiment of it in a material such as is described by the other. (DA I 403a26-30)

The point is that the question of *what* constitutes a soul *[psyche]* will have answers that reflect the mode in which we view the world. Aristotle calls for a First Philosopher, a metaphysician to give the true answer, herein calling for an account of all four causes. Returning to Heidegger, his charge is this: We have all become physicists. Or rather, we have all come to embody the physicists concern solely with *efficient* origin. The problem compounds as: "Through its so doing, the deceptive illusion arises that modern technology is applied physical science." (Heidegger 1977, pg.13) Heidegger has argued consistently that the essence of modern technology lies outside technology-- it is in a mode of being. This view becomes total: "The essence of modern technology start man upon the way of that revealing through which the real everywhere, more or less distinctly, becomes standing-reserve." (Heidegger, 1977, pg24) If only efficient causes may serve as a source of *aletheia*, it implies a deterministic worldview. In a deterministic worldview, where only standing-reserve is revealed through Enframing: the essence of technology is a *Destining* of revealing. It is a *promise of* future resources, and that this standing-reserve is available for future use. The persuasive flattery of technology is its adherence to the stillness of modern physics.

2.6.2 Technology obscures freedom

Heidegger will continue his somber existentialist view of modern technology as a threat to man's intrinsic freedom. He problematizes that if *Enframing*, the essence of modern technology, was to give an account of *essence* the response should be incoherent. The danger of technology as conceived by Heidegger (1977) is a loss of man's authentic relationship to himself as a member of the world. The standing reserve of modern technology is featureless and faceless. The salient aspects of a *thing* are those which contribute to the promise of some

future effort. Thus scrubbed, *things* are devoid of essence, meaning, and will no longer serve as a focus suitable to offer access to a lived-in world[19].

The extent to which this view will hold true will correspond to the degree in which one respects the core tenets, to the extent there are tenets, of latter Existentialist philosophy. I will avoid that topic while appreciating the terminology and illuminating analysis offered by Heidegger. His model takes the macrocosm, institutions (industries and science) and applies that insight on the individual. In a world threatened by ecological violations his insight remains unquestionably valuable. But what then of Devices? Before adding my own modest proposal I will end this section with a thought from Heidegger:

> Above all through our catching sight of what comes to presence in technology, instead of merely starting at the technological. So long as we represent technology as an instrument, we remain held fast in the will to master it. We press on past the essence of technology. (Heidegger 1977, pg.32)

He asks the philosopher to *catch sight of* those aspects which are revealed in technology, rather than looking only at the instrumental product of man's relation to it. He admonishes that if technology is only a tool to be mastered skillfully, one will press past and ignore the *essence of technology*. The essence of technology is the *logical* connection and leap between the current state of affairs and a promised, persuasive future. The next chapter will apply this core insight to the puzzle of Devices.

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[19] The conceptual framework can now be put into an example. Imagine a silversmith lost to a chalice making madness. Everything he sees is confronted as a potential for is craft, for *poiesis.* Upon seeing a stone, he remarks that it may offer silver. Invited to a symposium he declares that wine tastes better in silver cups. Lost to such a singular focus the mad smith is missing the full richness of worldly interactions. He is missing important components of a balanced life: the reflection of *praxis* and intellect-- that show the world (natural and cultural) in its full flavour. He has failed to ask *why* work only in silver.

Consider now the mad industrialist. Everything he sees is enframed as a standing-reserve. The particular stone is ignored, but its origin is challenged. Invited to a party, he sees only hands which could hold his produce. The industrialist is missing access to the natural world. He deals only in abstract; future parties and future hands; Future quarries and future factories. He fails to ask even *why* silver, but *why* create, live or breathe at all.

3. The Essence of Devices

In this chapter I take the conceptual framework from Heidegger and apply it to my own definition of Devices. The central idea is that Devices are enticingly easy to use and provide access to what seems like true knowledge-- a type of virtue. Devices sets upon knowledge, ordering and enumerating it, making it a standing-reserve available for future investment. It does so in a mode of *device behaviour.* The key aspect of the analysis views Devices as a source of knowledge very similar to books. They carry within them a similar power and potentiality and persuasiveness: though effortless and comfortably *ready-at-hand*.

3.1 Devices are a mode of revealing

All humans desire to know and sight is the sense most prized by all. Devices are particularly enticing for that which is revealed is presented through a cultural and linguistic horizon. Devices reveal their enchanting content through a screen.

3.1.1 Devices actualise intellectual virtues

I have earlier suggested that Devices are distinct because they actualise intellectual virtues in a particular manner. The paradigm by which this is achieved is a development and refinement of the technological mode of revealing suggested by Heidegger. Devices subsume all intellectual queries into at best a deliberative [*bouleusis*] set of tasks to be resolved through efficient application of the Device and device-like resources. The ethical implications of this is a loss of Intellectual Virtue in favour of developing a *knack or talent* for deliberation mediated through a tool. This is a sort of skillfulness or mastery of a Device. The point is that this knack does not correspond to Intellectual Virtues.

3.1.3 Devices may be analysed as book-knowledge

To set the stage let me first bracket the multitude of applications of which Devices are put. I will focus on its use as a source of stored information akin to a book. While Device breaks the single book paradigm, revealing itself to be more similar to a hyper*smart* library. The mode of function is that in response to a query, through its plethora of communicative arrangements the Device may display a parade of seemingly relevant information. A device is

in this manner a super-book[20]. *Device behaviour* is an interaction where knowledge is *Enframed*. This makes each particular *fact* a standing-reserve. The tension is that all facts are neutral and nihilated: there is no recognition of hierarchy of difficulty of understanding.

3.2 Craft, crafted and crafting

Techne concerns the productive state. It is a contingent expression of knowledge wherein some thing is transformed by means of the craft in question as manifested by *or through* the craftsperson. Though there are a multitude of crafts, arenas of productive skills, the state by which these are grasped are in Virtue Theory unified. The important historical context is that through Devices, technical deliberation has come to dominate scientific and practical reasoning as first suggested by Heidegger. The key distinction in Heidegger to understand how technical insight has come to dominate is this:

> Thus what is decisive in *techne* does not lie at all i making and manipulating nor in the using of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacturing, that techne is a bringing-forth. (Heidegger, p.13)

The key passage from Aristotle is this:

> Every craft is concerned with coming to be, that is, with crafting things and getting a theoretical grasp on how something may come to be that admits of being and of not being and whose starting-point is in the producer and not the product (NE VI 140a10)

Put together: there is an important distinction between the *craft*, that which is *crafted* and *crafting*. When Heidegger investigates technology, through the lense of Aristotelian Virtue theory, he finds that technology is a product. It is a totality of artefacts. The analysis is fully general; the particular *craft*, be it navigation, house building or medicine, is abstract. The particular craft is itself is therefore irrelevant to the inquiry into the *essence of technology*[21]. An artefact is *crafted.* That which is crafted has no intrinsic essence, no essential quality not granted to it from another. Therefore it alone is not a valid candidate to answer what the

[20] An optimist will be quick to note that this doesn't sound so bad. The internet can be described to contain the totality of all human knowledge. All human knowledge would presumably include virtuous behaviour. This idea will be developed in the next chapter.

[21] This matches a familiar Socratic/Platonic principle: to give an account of something is not merely to list every concept which belongs to it. See the *Theaetetus* for a definite example and the *Hippias Majoris* for a hilarious one.

essence of the crafted thing is. The *crafting*, the poetic endeavour itself is prior to, both temporally and actually to the finished product. It is in the *crafting* that one can ask for intrinsic, virtuous quality. It is in the state of crafting that deliberative means are actualised. From this analysis a number of observations may be drawn[22].

3.2.1 Metaphysical confusion

Firstly: It is the conceit and resulting metaphysical confusion of modernity that the product of, *purely the efficient produce*, is held to be of greater import than the act and state of crafting. This is compounded by the modern state of life wherein the origin and method of produce and commodities are increasingly concealed and alienated from daily experience. Hence both the natural world and the lives of the workforce is increasingly abstracted as anonymous resources that are stood ready for any number of use. The modern world exists on a ladder of increasingly abstracted resources. The act of crafting applies to resources which are harvested, stood as available generic reserve, from elsewhere. Crafting rarely engages with the natural object expressing its own ensoulment. It is the paradigm of the crafted.

3.2.2 Allowing value in the act of crafting

Secondly: Where the *act of crafting* has been made inconsequential there has been a corresponding loss of meaning attributed to *crafting* fine arts as opposed to *crafting* commodities. When the state of *crafting* is of less important than the means by which product is acquired, there is a corresponding loss of virtuous interaction in the Aristotelian sense. This is evident in the irreparable damage done to the environment and the epistemic blindness

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[22] Value as a *crafting* pertains on many levels. On the person, industrial and historic. If a florist make a beautiful bouquet. Is it proper to say that the bouquet is good? In daily language this poses no problem. In virtue theory the value of the work resides in the *crafting*. It responds to the three properties of virtuous action proposed by Aristotle: (1) That it is habitual;(2) that is chosen freely and (3) *with* or *according* to correct knowledge.

The distinct of craft, crafting and crafted can just as well apply to the industrial scale. A Factory produces, *en masse* products according to a design At such a level there are many acts of *crafting* that will yield a good product. If this architectonic horison is well thought out, the end result will be good. In this example there is an intersection of praxis, what is done, and poiesis, the act of making it. A factory is much like a city state; it requires a community of good actions.

A historical perspective poses no problems. If an archeologist a fabulous artefact, can she know it is a good one, even if the state, knowledge and habituation wherein the *crafting* took place is unknown? Artefacts of this kind may be valued for more than their craftsmanship. They can be valued for how they represent, essentially how we represent our attachment to the past. Daily language has no problem declaring such an artefact good, even if the full extent of an objects excellence may be unavailable. This represents a shift in instrumental value; *crafting* well has a different horison distinct from that which the tool may have been originally intended.

which modern commodities are presented to sate public demands. When *crafting excellently* is unimportant, all that matters is economic efficiency and expediency. This applies to the domain of revealing in which Devices function.

3.2.3 Knowledge as a commodity

The paradigm of the crafted maps onto the knowledge-horizon offered by Devices. The sort of commodity, crafted product available through interfacing with a Device, has an air of technicality and correctness to it. Consider a mathematical challenge. The domain of mathematics belongs to *Episteme*. In responding to a mathematical enquiry, by means of a calculator, to what extent is Virtue relevant and where would this fit within an Aristotelian theory?

3.3 Use of a Device is to deliberate

To answer the mathematical challenge by means of a Device is an instrumental operation. Doing so skillfully expresses familiarity with the operating system, the syntactic interface by which queries are made. As a technical operation the correct and easy way would be an act of deliberation [*bouleusis*](NE III 3). Deliberation as a technical term concerns a form of inquiry [*zêtêsis*]. As the etymological origin of the Latin term may suggest, it is a weighing the pros and cons to find the happy medium of action. The etymological origin of the greek term is closely linked to that of a wish actualised [*boulêsis*]. For deliberation to qualify as such it must offer a potential course of action that is achievable by the agent in question.

3.3.1 Deliberation is a type of *planning*

In keeping with the telos-centric manner of thinking, deliberation corresponds to a sort of *planning*. Aristotle is quick to remind the reader that whether the deliberative process is rapid or drawn out bears no witness to the quality of the deliberation. And while quickness of wit may appear similar to deliberation, it remains different, because being ready witted is a sort of guesswork and guesswork is informed by luck or belief alone. Certainly good deliberation correspond with a sort of correctness *in* deliberation. Good deliberation is the type of activity the *phronimos* may be engaged in, but Aristotle is careful to note that it is possible to arrive at the a correct conclusion through a false deduction. (NE VI 9)

Put syllogistically it is to arrive at the correct conclusion, but not appreciating the means by which it should be accomplished. It is to say syntactically in an implied *practical syllogism* to have the wrong or confused middle term (NE VI 9 142b22-25).

The point being made is that deliberation is a *means to ends* mode of thinking. The end itself is not under investigation, only the means to accomplish it. Planning is in this sense a rationally-organised wish. It is a wish [*boulêsis*], which is grounded in realistic constraints of the agent and expresses a healthy habituation [*ethos*] in its agent. Deliberating well is a sign of intellectual capacity and potential. Even so it is not identical with intellectual virtues. It is virtue that makes the deliberate choice correct. (NE VI 12 144a20)

3.3.2 Deliberating with a pocket calculator

Returning to the use of a calculator. It is clear that the deliberative process may involve the use of instrumentalised tools.[23] Sometimes the use of this or that instrument may be called into question. However it appears difficult to stand away from the instrument itself.

> We inquire sometimes about instruments, sometimes about what way they are to be used, and what similarly for the rest-- sometimes through whom sometimes in what way, and sometimes through which things. (NE III 3, 1112b30)

Likewise the deliberative process may be mediated by our interaction with other persons. "For what comes about through our friends comes about through ourselves in a way, since the starting-point is in us." (NE III 3, 1112a26) The reason why this presents a difficulty is that in our daily lives Devices have come to be such a integrated aspect of our personalities and mental faculties. The suggestion is that our thinking has come to be dominated by an *accordance to* the potential actions suggested by the instrument: a paradigm of the device and this is the paradigm of the created. A paradigm concerned only with products and commodities: such as the answer to the *product* of a mathematical challenge.

[23] *Instrumentalised tool* is here understood as defined in chapter 1. It is a tool which is utilised in a particular manner. I may instrumentalise a calculator as a mathematical aid or as a cutting board. There is in itself no right or wrongness to either action.

What then of our Device mediated mathematician. Is this an act of good deliberation? Even assuming that the agent is fully coupled to, has a free, efficient and open relation to the content of the Device, she is not demonstrating possession of understanding [*Nous*] -- in regards to the mathematical. The starting-points of the mathematical is not where she turns to gain answers. Hence the puzzle. According to Aristotle one does not deliberate what may not admit of being otherwise (NE VI 1140b35). Mathematics is an epistemic domain. By transferring a question of epistemic knowledge, the answer to a mathematical inquiry, to the *technical* the agent will be committing a categorical mistake. She is deliberating where she ought to be making a scientific inquiry or attending to her understanding.

Allowing for *The Extended Mind* thesis which proposes that cognitive tasks may be externalised does not solve the problem. The thesis may allow *beliefs* to be externalised, but beliefs are contingent and fluid things. Virtue theory puts strict demands on the universality of scientific knowledge

3.3.3 The value of tools is protean

Within such an analysis it is a notable feature of tools that the value, goodness and worth expressed by the tool in question is fluid. The value corresponds to the worth its operator is assigning to the tool as it is engaged with one particular instrumental expression. A hammer is generally meant for tasks associated with carpentry, but it *can* be an equally good paperweight or back scratcher. The difficulty of worth is compounded by symbolic value attributed to tools and that value is commonly attributed to the *promise of* future utility afforded by tools. A hammer is a fine gift to a person whom may be engaged in carpentry in the future; scientific books, even if unread, deliver the promise of future knowledge. The fluidity of value, the symbolism of value, and *promise* of future worth explored in chapters 4 and 5. This feature of tools extends to Devices. The Device offers the promise of future calculation. The brand and model of the Devices also bears social import, in certain contexts cash value or brand loyalty are paramount. Standing outside looking in, a particular Device reveal a multitude of aspects of both the operator and the world she engages.

3.3.4 Tools are both inconspicuous and influential

Returning to the the mathematician armed with a pocket calculator. At this point it should be unsurprising why such a categorical error may occur. The fluid nature of tools, that the tool becomes inconspicuous when ready-at-hand [*zuhanden*] and when it should come under investigation the tool is constantly shifting in its *value-for*-something is precisely because the *virtue* of the tool resides not in the tool, but in the manner which the operator applies it in technical, *poetic* endeavour (Heidegger,2008)[24]. If tools have an essence, it is in the extent that they become extensions of the operators practical cognitive, deliberative processes. The calculator is part of her extended mind, but to view expressions of *epistemic* virtue in the same manner as *phronesis* or *techne* is the conceit of modernity. To compound the issue, Devices are dissimilar to hammers in another major way.

3.4 Devices speak to us

Devices are *smart* in a linguistic manner. A Device is *coupled* through a deeply committed and intellectually symbiotic relationship. The act of language prompts the possibility of a different type of bond between man and tool. There are absurdities herein:

3.4.1 One cannot befriend a Device

Perhaps the puzzle may be resolved by adopting a different relationship, not as agent to artefact, but as agent to *friend*. This bears the suggestions that just as contemplating the choice of friends and actions of our friends, the starting-points of virtue residing in their actions in us, we should allow that the *starting-points* of the Device reside in ourselves. This opens the explosive question: *Is the Device our friend*? At face value this is but another absurdity:

> Neither is there friendship toward a horse or an ox, or towards a slave insofar as he is slave, since there is nothing in common between the parties. For a slave is an *ensouled instrument,* an *instrument a soulless slave*. (NE VIII 11 1161b36)

[24] *Being and Time [SZ](2008):15:97-106,* deals extensively with coming to presence with the world. For reasons of brevity I have avoided delving to deep into that book, finding that Heidegger(1977) is sufficient for the present analysis. That said Being and Time introduced nomenclature compatible with the later text. Equipment is 'in-order-to' [*etwas um-zu*], and equipment always belongs within a totality of related *things*. Heidegger will use this insight to speak of the primitive being of Dasein: that the disclosing of the world is ultimately *time (*thrownness and change) and not static *ontic* analysis [*analúō*].

Aristotle will not allow friendship to dogs or slaves so why should one entertain friendship to a hammer. A Device is clearly not a participant of society, it is instead the tool by which society is engaged with. Above the quoted section he writes that a craftsman is not friends of his tool. Even so the relationship may be approached from a different angle.

Is it possible to be friends with a god? Consider for a moment Siri, the voice assistant present on all iPhones (Other operative systems have their own equivalents). *She* has both face and voice. And she is equipped with a special property. So long as her code remains intact, her essence is changeless and eternal.She can respond to nearly any query. Some with great factual proficiency. Perhaps in some simple manner she would be considered a god. Again we are tackling absurdity. There is no justice, no commonality between men and god[25].

3.4.2 The Device does not partake in *Episteme*

One could ask whether the Device engaged in *Episteme?* This results in new absurdities. Firstly the Device is not a rational intellect, and even though whiteness and straightness may be the same for both fish and fowl, the artefact can only be a contingent expression of the virtue of its operator. It does not have a mind of its own, neither in the sense of being a fully realised Aristotelian rational creature capable of achieving and articulating intrinsic understanding nor that of an animal engaging in only lower animal or vegetative soul.[26] The soul [*psyke]* of a device is linked irrevocably to its operator.

3.4.3 Devices are epi-expressions of intellectual virtue

This leaves the Device in a the position of being a epi-expression of intellectual virtue. This accounts for the Devices analytic role as a super-book. The correctness of the logic and argument expressed by a written manual implies that the author of the information engaged with, actualised and adequately articulated *Episteme.* The argument may be that the Device

[25] Basides:while Odysseus found a fine ally in Athena, let us not forget that her first meeting with Telemachus she lied.

[26] At this point it is tempting divert the discussion to ponder the implications of fully general artificial intelligence. It is not unreasonable to ask if a Device in some way is capable of demonstrating scientific knowledge. After all computer systems articulate and engage with information along a strictly logical syntax. Doing so would subtly be shifting the goal posts of the definition: A Device is a produce of artifice which couples uniquely with the intellectual capabilities of its operator. Attributing self thinking is beyond the scope and definition and the topic of this paper.

equipped mathematician is *borrowing* or depending on or *standing upon* the *epistemic* work done by other thinkers. This is unproblematic so long as the mathematician is not confusing the domain of knowledge engaged in. She may even be advancing her understanding of other *epistemic* fields of inquiry, though I suspect being willfully blind, leaving uninvestigated, a core premise of one's thinking would sit poorly with philosophers of all eras. This line of thinking is explored in greater detail in chapter 4.

3.5 Devices may partake in Virtuous action

The short answer is outsourcing her calculative ability to a Device is perfectly permissible. Aristotle notes that the questions of arithmetic are simple, presumably so deductively stable to be accessible by just about anyone. He writes on the topic of politics and Wisdom [*Sofia*]*:*

> Indeed, we might also investigate why it is that a child can become a mathematician but not a theoretically-wise person or a natural scientist. Or isn't that the objects in mathematics are given through abstraction, while the starting points in theoretical wisdom or natural science come from experience, so that the young lack conviction there but only talk the talk, whereas in mathematics it is quite clear to them what each the objects is? (NE VI 1142)

Mathematical propositions are easy to answer. They do not require experience. This does not end the potential problems. Our Device using mathematician may again run afoul. She may be attempting to use her calculator to solve what appears to be an equation to her untrained and poorly habilituated sensibilities when it is in fact a question of judgement, of deliberation and hence rooted in experience. This may seem a borderline case, but consider how the modern era is unique in superficially enumerating values and creating point-scales in ways which previous generations would deem unthinkable. Cultural expressions, such as books rated 1-10. Wines rated 0-100. Music and movies rated on dice. Add numbers together and suddenly a new aggregate appear, giving a description of reality-- but what are their starting points?[27]

[27] This is expressed through any number of rating sites: imdb.com, metacritic.com, amazon.com, foursquare.com or simply google. To mention but a tiny subsection. Many of these will aggregate the cash-for-value to create a number fully expressing Heideggerian Standing-reserve.

3.5.1 Device Behaviour and value judgements

This circle completes when arbitrary values registered by a Device become the sole valid measure of value. Consider: We walk so that we may be healthy. We walk so that we will score 10 000 steps a day. So that we will burn so and so many calories. So that my daily score, as compared to a greater community, will not drop beneath a certain level. Certainly the effects of walking are good and healthy but is this the *ethos* of health? If we are to take Aristotelian Virtue Ethics seriously, these examples highlight how super-books, even when furnished with convincing numbers, are not starting-points for good deliberation.

3.5.2 Device Behaviour may aid in learning and understanding

Which is not to say that relevant epistemic knowledge may not play a part in practical or poetic enterprises. After all an architect constructing a house may very well apply known mathematical propositions or make conjectures using known material strengths to ensure that the finished product will stand the test of time. The point being that this is not an exercise of epistemic knowledge, it is the actualisation of a productive craft.

3.5.3 Deliberation does not belong in Episteme

It is also noteworthy that the relationship of applicable knowledge is not reversible. Craft knowledge and practical wisdom will never enter into theoretical syllogisms. This is precisely because that which is practical and productive will deal with contingent matters, that which will at best hold for the most part. The productive and practical also concerns a very human domain, lower on the food chain, that that of the universal.

For as Aristotle notes quite: profoundly “For it would be strange to think-- if anyone does-- that politics or practical wisdom is most excellent, unless the best thing in the universe is a human being.” (NE VI 7 1141a20) An assertion of *better things* and higher order of beings may sound quaint today. We live in the age of the anthropocene: mankind has come to dominate and define every realm within reach. Whether it is correct to confer a higher, eternal metaphysical order to the scientific and logical and lawlike or simply attribute these as human exertions (perhaps no less essential) goes straight to the heart of the philosophy of the 20th century. That question will not be settled here.

3.5.4 Devices engage directly with virtue

Use of a Device will intersect with intuiting and inferring the structure of reality within Aristotelian virtue theory in a particular manner. Aristotle would claim that scientific understanding is isomorphic to reality, though the process of gaining that insight requires understanding developed first by contrasting and analysing the doxastic claims on a topic. Assertoric demonstration of scientific understanding are like any technical demonstration: the worth, truth is the extent to which the assertion is *understood [Nous]* by the speaker and listeners. The intrinsic worth of a Device lies in how an operator and witness relates it to the action-in-progress. If use of the Device is presumed to be scientific knowledge, on the claim that the Device may access the totality of human endeavours, it is wrong. If the relation to the Device, the deliberative process to which the tool is utilised is done *with* the correct starting point, it may play a part in revealing the world in a free manner. **(***Posterior Analytics Book I*)

The starting points to which a Device may enter into an intellectual capacity will differ depending on the action being undertaken. As an expression of *Techne*, an artifact enabling possible creative and productive avenues, or as a component to which rational wisdom, *Phronesis* is expressed the relation is that of revealing. If it is aligned with rationality of people, politics, or the rationality of reality [*episteme*] it is true and good. It is as a component of scientific knowledge that the revealing offered by the Device differs. Use of a Device is subject to deliberation and contingent on the myriad of use to which it could be put. Scientific knowledge, in contrast, purports to universality. A Device may be a useful tool for *reminding* or as an aid in demonstrating scientific assertions-- all of which may be approached in a contingent manner. The actual scientific *insight* expressed in *Episteme* and *Nous* combined*,* does not reside in the Device.

3.6 Devices invite cleverness

The use of a calculator as a tool is in itself not an immoral or a vulgar display. Instead it should prompt us to see the rhetorical force of modern technology. Rhetoric, in an Aristotelian sense a *Technical* skill, is precisely a persuasive power. Appealing to the knowledge displayed through a Device is persuasive. To do so in a virtuous manner demands

a certain attitude, state in the speaker: the object of knowledge must be understood or aligned with the character virtues. Appealing to a Device is a *clever* move. It is a move to which Devices qua super-book is extremely well suited. In short: Devices invite cleverness.

3.6.1 Cleverness is disguised as deliberation

Devices as tool purport to be time saving and effective. These qualities may be directed towards productive tasks or filling an available moment with entertainment. The portable, handy, and interconnected nature of the Device make it a uniquely fitted to this task. A Device is a bag of tricks and shortcuts. Each new development cycle is precisely directed, with the full vigor of capitalism, to think up new ways of capturing the imagination, attention, and productive faculties of its audience. Interestingly, being clever is closely aligned to being a good deliberator.

> There is, then, a capacity called *cleverness*, and this is the sort of thing that, when it comes to the things that further hitting a proposed target, is able to do these and to hit upon them. [...] That is why both practically-wise people and unscrupulous ones are said to be clever. Practical wisdom, however, is not the capacity of cleverness but does not exist without this capacity. (NE VI 1144a23-27)

It is telling that the greek term *cleverness* [*deinos*] carries a myriad of meanings. In the philosophical texts of the period the term is usually reserved for sophistry and terrible beasts. In various context the word comes to mean fearsome, astounding, dangerous, marvelous and mighty, wondrous and strange, able and skillful, shameful and cowardly. If applied to the technology we all carry in our pockets the relation seems particularly apt. If our understanding of technology is purely instrumental, then we reside within the paradigm of the crafted: the results are paramount and the means are measured only in efficiency. Being clever is pleasing and efficient-- why learn something when there is a perfectly good instrument that handles it in a seemingly autonomous manner.[28]

[28] The English word *smart* and the Greek *deinos* share an interesting quality. Like cleverness, smartness has an edge to it. The etymological origin of smart is from Old High German *smerzan,* or Dutch *Smerten.* The word means pain or biting. As the use of the word evolves in meaning. By the 1300s it includes notions such as quickness, sharpness, vigorous activity or cleverness. To be smart is to *cut with words* or dress *smartly.* By the late 70s it adops the meaning of good sense and intelligence. In technology it is expressed in *smart* bombs or indeed *smart*phones.

3.6.2 Deliberation and cleverness distinguished

The distinction between deliberation and cleverness is in the sense of *planning* contrasted to *instinct*. Cleverness has an intuitive immediacy to it, it is a pre-reflexive state of being which the consequent is all that matters. The antecedent state registers only as something unwanted, the antecedent premises are factored only as a shallow contextual landscape in which certain practices take place. For deliberation, whether quick or slow, the antecedent premises are paramount: they are precisely the starting points to which an action will flourish: the consequent is a deductive product. If the antecedent state is good, supplied by the (character) virtue, the deduction will be in accordance with practical rationality.

3.6.3 Modern technology thrives in cleverness

Modern technology thrives in the mold of cleverness. The Heideggerian, faceless standing-reserve is precisely a morphless *resource* to which cleverness, only concerned with ends, will draws most hungrily. If Devices have made standing-reserve of knowledge and human resources, *technological behaviour* is a mode of being to which cleverness is perfectly suited.

3.6.4 Devices invite ritual

The average owner of a Device will approach it not as a computer scientist or systems developer. Instead the device is a bag of tricks, a standing-reserve of anonymised energy and abstract potential, which is instrumentalised and directed into action through particular motions. Discrete and distinct applications are collected and unleashed to sate needs and wants with little understanding of the digital landscape in which these opererate. Just as the Heideggerian hammer recedes from inconspicuousness only upon breaking, so does the owners relation to the Device manifest in malfunction. Computer illiteracy reigns. Repairs are ad hoc, haphazard, or strikingly ritualistic. The use of a Device is a knack.

Borgman (1984) speaks convincingly on this topic when he ponders *The Device paradigm.* His paradigm is not to be confused with my term. Instead it highlights how tools and equipment have come to replace experience of the natural world. This mirrors the move from *poesis* to *Enframing* which concerns Heidegger(1997). Microcomputers will become every

‘friendlier’ he writes. But in the end they too will take part in distancing the operator from the *truth* of the natural world. Knowledge of their construction, maintenance will be limited only to experts.

3.6 Responses from technological optimists

To this adherents to technological optimism may pose two counter arguments: It is unreasonable in the modern era to expect every person to be fully competent in the construction and repair of every tool she possesses. After all Aristotle wrote over 2000 years in the past and was familiar with only the simplest of tools. Indeed, his social class put him in a position where interaction with the common means of production was discouraged. Cars permeate modern society, and has done so successfully for a century, but traffic does not appear to come screeching to a halt merely because each operator is not a trained and practiced mechanic.

3.6.1 Is cleverness better than nothing?

In the absence of scientific expertise, is not cleverness better than nothing? A Device is a marvelous source of data. With a modicum of skill it is possible to find explanations and arguments for any number of phenomena. Learn to access the correct sources and the Device-knowledge allows a sort of competence in a multitude of fields. The optimist may argue that we as society have grown beyond the need to memorise mathematical formulas and tables: our fully *coupled* Devices can carry the burden of memory.

3.6.2 Answers in Aristotle

The answer to both of these contentions is to remember the context to which the claims were initially made. Appealing to the purely pragmatic result of our technologically saturated society is precisely to argue only from a paradigm of the crafted, of the apparent wealth promised by technology. By instead shifting our attention to the values expressed by the operator as she is acting according to scientific knowledge, practical or productive wisdom, the *starting points* of her understanding come to our attention. Criticism of the paradigm of the crafted is that the humans involved become commodities and produce to be measured as faceless standing-reserve. Considered along an intellectual horizon, the value of technology is

only as much as it is dynamic; moves and aligns and directs our *souls* to some purpose or another. On such a view truth is unimportant. Only the *potential* expressed in *technological behaviour* has value. This suggests that the essence of technology, the essence of Devices has a component which can be analysed as a potentiality and power [*dynamis]*, as a persuasive force.

3.7 Technology is persuasive

Heidegger devotes considerable attention to what I will call the action-alibi of technology. That is through interaction with technology the world is revealed as accessible to us, through certain action, responses and moods. The world gains a technological horizon. The metaphysical puzzle to which we are now situated to answer is: wherein *is* this directedness contained. One solution is to substantiate and make essential technology itself. For if (modern) technology is heralded by Enframing it should seem that there is a logical telos to which mankind finds itself enslaved. He writes "But man does not have control over un-concealment itself, in which at any given time the real shows itself or withdraws" (Heidegger, p.18), and that once exposed to the essence of technology even the greatest of minds are guided by it: "The thinker [Plato] only responded to what addressed itself to him" (Heidegger, p.18). It is to say that infectious nature of a technological mode of being is inevitable.

3.7.1 The paradox of responsibility

It will be helpful to at this juncture to remember that in Heidegger's fourfold analysis of the silver chalice, the silversmith was paradoxically not a *causa efficiens.* This demarcation is necessary to highlight the fact that the silversmith is not a *force of nature* akin to one physical object striking another in physical space; in an aitiology the silversmith shares a co-responsibility of the bringing-forth with a unity of craft and the material (herein all the four causes). Herein the echo of Aristotelian doctrine which in the Physics suggests that a shipwright on instancing, or as Heidegger would put it *occasioning*, the shipbuilders art partakes in and actualises something essential. The *techne* of this act of manufacture has a logic to it; to do so well in a manner applicable to all crafts is a demonstration of the virtue *Techne.* (*Physics*, Book II 3)

3.7.2 Devices *direct* the owner

Being in possession of technological artefacts *Destinies* the operator to view the world in a certain manner. This need not compromise the freedom of will. The artefact can be said to compel the operator into a certain category of revealing (destruction, manipulation, improvement, etc). For Heidegger the distinction is that modern technology compels man to Enframe, while bringing-forth, in the manner of a silversmith, is one of *poesis*. In this one could be reminded of the Wittgensteinian duckrabbit. There are aspects to a thing which are mutually exclusive. Heidegger writes: "But at the same time Enframing, in away characteristic of a destining, blocks poiesis. (Heidegger pp.29-30)". It is difficult to again grant face and figure that which has been nihilated, turned into standing-reserve. Enframing, unlike poesis, makes the demand that the world be revealed in single causality: the causality of manufactured product and industry.

As we analyse and utilise technology Heidegger (1977) asks his readership to *what is revealed* and *how the technology presences*, rather than the immediate consequences of *occasioning* a piece of technology. To utilise a tool virtuously is to deliberate, rather than being clever.

3.8 The telos of technology echos language

If there is a causality to technology it is reminiscent of language. The same ambiguities may arise when witnessing technological expressions in an unfamiliar context. In coming to presence with technology, it is not to list categorical specifications of the instrument: it is to list the manners wherein a tool can be successfully and easily applied. It can be explored through the method of *language-games.* From this arises the conclusions that tools are as if words made corporeal. It is for this reason the analysis of rhetoric is fitting for an analysis of technology. This sort of thinking is also in line with *The Extended Mind* thesis. Language is a tool by which the world is grasped. Outsourcing 'words' to physical objects is not only permissible, it is expected. Tool use is the natural state of active cognitive externalisation.

3.8.1 Devices are also persuasive

The essence of Devices is a revealing. That which is revealed is not fully featureless, it has a suggestive persuasiveness; given by the shifting context in which technology is utilised. It is to say that possession of a Device suggests certain courses of action.

3.8.2 Technology remains without intrinsic essence

This technological determinism should *not* imply that technology in itself expresses an internal motive force, a psyche. Devices remain contingent artifacts. Technology, though saturating modern society, cannot be said to autonomously propagate. Technology, though fertile, cannot be said to sow its own fields and grow on its own accord. A chair left vacant does not transform into a sofa. An IKEA factory is beholden only to abstract supply and demand, consumption of commodities, rather than direct interaction with the natural world. Instead the *psyche* of technology has a persuasive force made manifest in each instance of technology. A hammer suggests hammering. Glasses suggest in their inconspicuous manner seeing clearly. As Aristotle writes in *On the Soul*:

> Suppose that a tool, e.g an axe, were a *natural* body, then being an axe would have been its essence, and so its soul; if this disappeared from it, it would have ceased to be an axe, except in name. As it is, it is an axe; for it is not of a body of that sort that what it is to be, i.e. its account, is a soul, but of a natural body of a particular kind, viz. One having in itself the power of setting itself in movement and arresting itself. (*DA* Book II 1 412b15-20)

If the axe had a soul it would be for cutting. It is incapable of *self moving;* it has no inner entelechy to express. It takes a person to see that counterfactual essence of the axe.

3.8.3 The rhetorical force of Devices is explicit

The rhetorical force of Devices is explicit because of the linguistic interaction to the operators. Not only to other operators of Devices, but to the tool itself. Whereas in previous decades, interaction with computer systems was limited to syntactically strict written code; increasingly the linguistic interface is expanded to accept voice and gestures. The standards of interaction have lost formality, gained in intuitive measures. Our interaction with Devices has become casual and cognitively *coupled* and part of our daily lives. When the mapping software of the Device suggests choosing one approach in favour of another: we are

persuaded. Devices *couple* as reliable to our cognitive horizons as the concepts we learn and language we speak.

Merging this insight with *The Extended Mind* thesis: Devices are the somatic components of cognitive expressions. The payoff of carefully distinguishing tools and instruments in the first chapter mirrors how a word may gain new contexts for meaningful discourse-- instrumental use. The same word, tool, may be applied to a multitude of (instrumental) tasks. Some words have strong emotions or ideals attached to them, just as particular devices embody ritual and memory. Some words are forbidden others are common. Devices are unusual in that they bring a multitude of *tool games* together in a uniquely portable and reliably *coupled* package. Devices are a loci of *The Extended Mind*[29].

3.8.4 Language and tool come together

That tool and language come together with such great force in Devices is a different *setting-in-order* than that found in heavy machinery. While Devices reveal the natural world in their own manner, the virtual landscape opens new horizons for storing and accessing resources. The resources is chiefly human. Human knowledge and humanity itself. Witness the ease which text, voice and video are stored and recalled. Witness the increasingly encompassing social media constructs which collect and categorise interested parties. Witness the ease which communications is made possible to other Device owners.

3.9 The promise of technology is standing-reserve

It is the promise of modern technology that toil of living should be ameliorated; machinery, has lifted the burdens of manual labour; farming, the threat of starvation; mass media, the pain of boredom. It is the promise of Devices that learning and memory can be contained within a thing. A carried thing, actively coupled with our external minds.

3.9.1 Persons and knowledge as a standing-reserve

[29] As mentioned before Devices are an embodiment of capitalist drive and scientific progress. They are beholden to a modern narrative of progress. Applying the linguistic analogy the absurdity of the constant progress is understood. How odd should it be that every year a new *revolution of word* should come about. That each cycle a choice word would be replaced with a new and better one.

If there is an Enframing of the contemporary era it is that intellectual resources can be standardised and supplied on demand. The Heideggerian fear that in understanding the world only as resources, the thinker will herself become a resource to be harnessed:

> As soon as what is unconcealed no longer concerns man even as object, but does so, rather, exclusively as standing-reserve, and man in the midst of objectlessness is nothing but the orderer of the standing-reserve, then he comes to the very brink of a precipitous fall; that is, he comes to the point where he himself will have to be taken as standing-reserve. (Heidegger 1977,pp.26-27)

If there is a new development in technology it is the ease by which knowledge is stored and recalled. Devices *couple* in such an easy manner that the illusion of knowledge-on-demand; knowledge-at-hand; to such an extent that all epistemic expressions are accessible through a single format and method, at the same effort or cost. It remains an illusion for the reasons demonstrated in this chapter: that just as knowledge of the natural world is not as a shallow standing-reserve, intellectual pursuits are not merely regurgitating trivia: be it in productive, practical or scientific domains. Good judgement in regards to all these subjects comes with experience. Because experience aids in deliberation.

In *The Question concerning technology* Heidegger recruits ancient philosophy to give an account of technology. The concluding remarks is to recapture *poeisis* or the bringing-forth deliberation of the craftsman. His approach plants the seeds of two precarious dichotomies; that of *modern* technology standing apart from pre-industrial technology and that of that modern technology has having an enduring essence, a what*ness* that makes or grants it an independence in being. I have in this chapter attempted to settle both.

I turn to two examples of ancient criticism of super-books to give one settlement to these superficial problems: (1) Socrates and Plato were familiar with how written works captured knowledge in a novel way. It seems that the epistemic problem of Devices is as old as technology. (2) Tools as vessels of *action*-alibi, understood as a persuasive force, the Ancients were very well aware of how written words *directed the souls* [psychagôgia] of the readers and listeners.

4. Ancient Devices

In this chapter I investigate Plato as a philosopher of technology. With the conclusions of the previous chapter in mind, it is time to consider ancient solutions to the puzzle of Device-like tools. Modern Devices share many qualities with books. A special feature of Devices is *Enframing* epistemic and practical tasks in a technical manner. Even *meta*technical questions are made available on screen. I have called this mode of revealing: *Device Behaviour.*

4.1 Writing is advanced technology

In their investigation of everything, the ancients looked to the most advanced technology present in their own time: they found it in writing and grammar. The preserved Platonic corpus suggests the idea of technical manuals is a familiar one. It suggests that arts, such as mathematics, medicine and rhetorics were made available in written form.

Speaking prosaically one could say that Plato sought to align rhetoric with the nuclear holocaust or climate change of his own eras: sophistry and political chaos. All the evils and the viciousness and stupidity of men, given material expression and origin. Such an interpretation is of course hyperbolic and fanciful. But there are elements which point to the revelations promised *through* and *by* technology.

This chapter takes as a starting point an article by Øyvind Rabbås: "Writing, Memory, and Wisdom: The Critique of Writing in the Phaedrus" (2010). In it he addresses the Platonic critique of writing and rhetoric as presented in the *Phaedrus.* Writing is a *technology* with a persuasive force. The previous chapter sought to demonstrate that *Devices Enfram*e knowledge. *Device Behaviour* is therefore susceptible to the same critique.

Rhetoric is a way of directing the soul by means of speech. The relevant type of speech should convey a message of some normative significance. I propose that *Device Behaviour* may be understood in the same manner. Hence the power [*dynamis]* of technology is a matter of *instruction* in the sense of *teaching* as well as in the sense of *guidance.*

Rabbås offers an illuminating division of the Greek concepts. Suggesting that in translation to modern language there are no good alternatives. The pedagogical terms to "teach" and to "learn" that are related to epistemic terms to "explain" and "understand" in such a manner that "to teach is to explain in order to make someone understand, and to learn is to come to understand as a result of receiving an explanation." (Rabbås, 2010, pp.29-30)[30]

This is suggestive of Device Behaviour from a normative point of view. Good Device interaction is the same as good writing. It explains and teaches the one who understands, that is learning, in a free and easy manner. When it does not align with these concepts it occludes or promotes falsehood.

That the moment of understanding and learning have such great overlap is a interesting also from the perspective of the teacher. Even as the teacher explains, she may come to understanding something herself. *Mutatis Mutandis* concerning the written and Devices. The difficulty of the written is amongst other things that it is hard to distinguish between good writing and bad, without already being in possession of understanding!

4.2 Two sources

The two example texts I will draw on are the *Phaedrus* and the *Ion.* In both of these texts an appeal is made to knowledge garnered from seemingly *technological* sources: static *textualised* reserves of insight[31].

4.2.1 The Phaedrus

The Phaedrus has been richly discussed in the philosophical literature. Here I will give it only the briefest of introductions. There are three characters: the young Phaedrus, Socrates, and *in absentia* the speechwriter Lysias. The topics discussed are love [*eros*], the art of rhetoric and the value of the written word [*grammata*]. The text is commonly considered to have two distinct divisions. The first where the motivations and psychology of the lover and

[30] Also *Physics (Book III 3)*: The road to Thebes is two things.
[31] By *textualisation* I mean to imply that other technological expressions; video, song and dance, shoveling snow and playing computer games, can all be analysed from a *textualised* point of view.

loved is considered and the second where an assessment of good and bad writing is made. The dialogue criticises both of the style and content of writing and of the written word itself.

4.2.2 The Ion

The Ion is perhaps less prominent in Platonic scholarship and some have doubted its veracity. The style is simpler and more direct, but the ideas presented echo those found elsewhere: particularly in the *Gorgias*, *Phaedrus*, and *Symposium*. For this reason it is commonly attributed to the early stages of Plato's philosophy. Ion is a rhapsode and an expert on Homer.. A rhapsode was a particular type of entertainer and educator: an expert at reciting poetry. Bear in mind that the poets were the moralists and teachers of virtuous and cultured society. Chief among them, Homer, the Encyclopedia Britannica of the Greek world[32]. In the dialogue his expertise is confronted by Socrates The topic of the dialogue is: what *art* is there in rhapsody.

4.3 Phaedrus

This reading of the Phaedrus pays particular attention to the technological. That is both the particular instances of technology and the more general attitude towards the technological; the way in which technology *reveals* or shapes the discourse. The initial part of the dialogue is both a discussion on pederastic love and an important case study for the arguments that will be made in the latter half of the dialogue. There are three speeches. I will not discuss the substance of each speech in detail, instead focusing on what these reveal from a methodological and technological standpoint.

4.3.1 Socrates meets Phaedrus

Phaedrus has just come from Lysias, where he has just listened to and transcribed an inspired speech on the topic of love. Invigorated and enthused he coaxes Socrates to join him in discussion. They decide to find a quiet spot beneath a tree at a nearby riverbank. It is here one of the more famous statements from Socrates is given: "Now the country places and the trees won't teach me anything, and the people in the city do."(230D). Cities are man-made. Cities radiate the technological. It is a paradoxical statement because the dialogue takes place

[32] Often compared to the Medieval veneration of the Abrahamic Bible and Virgil's *Aeneid*. Or contemporary American idolization of their constitution.

outside the city walls. Even in such odd circumstance, the philosopher begs Phaedrus repeat Lysias speech. (230D-E)

Phaedrus coyly suggests that he is unworthy and unable to recall from memory the composition of the cleverest writer of all of Athens. Herein is the first entry of carried technology. Phaedrus has a transcription of it. It is notable that ideas and enquiries can be enabled by an artifact. Phaedrus has written access to the speech. Without a scroll, good or bad, Phaedrus could not repeat what Lysias said. Phaedrus has not fully internalised the essence of love, as stated by Lysias, but stands prepared to believe in Lysias rendition. Once revealed, the scroll *demands* reading to which young Phaedrus entertains.

4.3.2 Socrates and Phaedrus are gripped in divine frenzy

Phaedrus gives a heartfelt rendition. Socrates burst outs that "I followed your train and joined you in the divine frenzy "(234D). The written word carried a strong persuasive force. Socrates finds his soul moved. And Phaedrus likewise, exclaiming that Lysias discourse lacks nothing and to which nothing could be added. (235B) This is very much the optimism and promise of the technological: that through Device behaviour, true *knowledge* manifests. Socrates was moved. Inspired even. However his personal daemon does not allow silence.

4.3.3 Socrates responds twice to the written

As Phaedrus is allied to Lysias, Socrates finds a recruit of his own: "a Greek philosopher once said..."(235C)[33]. He now delivers the second speech of the dialogue. In it he contests the conclusion Lysias reached. On finishing his young companion exults Socrates efforts. It should seem that wise old Socrates, has improved on Athens finest. Socrates is not satisfied. He is quick to disown the speech he just made and will respond with another, a palinode.

Here I suggest remaining alert that the speech was given as a *frenzied* response to a product of technology. It is both narrow and shallow. Socrates criticises his own words for painting a negative, zero-sum picture of love. Socrates reminds us that love ought to be wonderful and godlike. Good in all regards. Finally Socrates delivers an even more

[33] Perhaps too much should not be made of this. It is after all a common ploy by Socrates to claim to speak for another.

impassioned and exulting speech of love. Clearly there is nothing wrong with being grasped by frenzied passion for some topic. After all philosophers love truth.

4.3.4 Knowledge is derived from reality

The third speech of the dialogue is framed by an interesting claim. Socrates states two important principles concerning knowledge. The first being that:

> For human beings must understand a general conception formed by collecting into a unity by means of reason the many perceptions of the senses; and this is a recollection of those things which our soul once beheld, when it journeyed with God, and lifting its vision above the things which we now say exist, rose up into real being. (249C)

That knowledge is abstracted from the senses could just as well have been written by Aristotle, the second part suggesting an act of recollection [*anamnêsis*] fits well within the familiar Platonic corpus. For both philosophers the truth of a thing is the extent to which it corresponds with *re*ality.

4.3.5 Language is subject to underdetermination

The second important principle is that language has a fluidity to it. Speech acts are particularly susceptible to underdetermination. Access to reality can be confused by *believing* in faulty or lazy reasoning. Socrates demonstrates this with a question. In which case is it easier to deceive another? Is it when things are doubtful or when things are sure. It is clearly the former. Hence a sophist will make many small steps rather than proceeding with leaps and bounds[34].

4.4 Theuth invents writing

The text has now equipped the reader with examples from which to derive a more general insight into the nature of the written. Socrates will do so in a famous parable: The king of Egypt, Ammon is approached by his chief advisor Theuth (or Thoth) who has come to display his catalogue of inventions. Here are such fabulous things as numbers and arithmetic, geometry and astronomy, information of draughts and dice, and most importantly of letters

[34] This has a direct relevance to Devices. Consider that Heideggerian *Standing-reserve* is the ultimate expression of *doubtful things*. It is a fully abstract material from which anything can be made. Applied through Device Behaviour, knowledge like *Standing-reserve* can be transformed into anything. In short a mind which only and always understands things as abstracts removed from their source of truth is easy to trick.

[*grammata*]. Theuth will describe the use of and the benefits and drawbacks of each technology. When the turn comes to writing he proudly declares: "this invention, O king, will make the Egyptians wiser and will improve their memories; for it is a*n elixir of memory and wisdom* that I have discovered."(274D) As statements go it may as well have been given by the technocrats of our own era. The parallel to the powers of promised by Devices should be obvious. Notice also that writing alone is held to be *without* drawbacks. It is a fully positive. His king sees things differently:

> Most ingenious Theuth, one man has the ability to beget arts, but the ability to judge their usefulness or harmfulness to their users belongs to another; and now you, who are the father of letters, have been led by your affection to ascribe to them a power the opposite of that which they really possess.
>
> For this invention will produce forgetfulness in the minds of those who learn to use it, because they will not practice their memory. Their trust in writing, produced by external characters which are not part of themselves, will discourage the use of their own memory within them.
>
> You have invented an elixir not of memory, but of reminding; and you offer your pupils the appearance of wisdom, not true wisdom, for they will read many things without instruction and will therefore seem to know many things, when they are for the most part ignorant and hard to get along with, since they are not wise, but only appear wise. (275D[35])

The King expresses many concerns. Chief among them is the *externality* of written information. Written information is different, distinct and discrete from the agent presenting it. Before delving into a full theoretical intersection of concepts: this is a good place to reexamine how the first part of the dialogue demonstrated the arguments made.

4.4.1 Written sources lack for nothing

Phaedrus comes to Socrates all flush with inspiration. He has come quickly and has not internalised the arguments made by Lysias. He carries the argument beneath his cloak in a scroll form. Reading from the text Phaedrus proves it unnecessary to memorise otherwise convincing arguments and he believes that "He [Lysias] has omitted none of the points that belong to the subject, so that nobody could ever speak about it more exhaustively or worthily than he has done."(235B) Like the father of letters he has absolute faith in technology. He is close to being difficult to get along with!

[35] The division into three sections is my own.

4.4.2 Socrates responded to dead words

When Socrates responds to Phaedrus his words answer only Lysias *dead* words. It is not the living ideas of Lysias that are answered. Writing [*graphia*], Socrates says has a strange quality very much like a painting [*zôgraphia*]. Because it seems as if alive. Yet were one to ask it a question, a painting can not respond. "And every word, once written, is bandied about, alike among those who understand and those who have no interest in it" and "it knows not to whom to speak or not speak; when ill-treated or unjustly reviled it always needs its father to help it; for it has no power to protect or help itself." (275E)

The written speech of Lysias is dead. The words now fail to carry the rich contextual and pragmatic meaning in which they first were pronounced. Though a speech may seem alive; if the listener is unaided, she runs the risk of confusing herself. Or becoming the victim of vicious manipulation. Indeed for Socrates to give a truer and better account, he must step away from the static dead words. Instead he speaks on the same topic but vividly changes the contextual landscape to another. Lysias speech belonged to the city. Socrates steps outside it and draws on the inspiration of the landscape and its fantastic spirits and beasts.

Indeed, the unchanging nature of writing is part of that from which it derives its gravity: "Words by their firm fixity, give the appearance of importance, clarity and completeness that together gives it an authority it doesn't merit." (Rabbås, 2010, p.35) Again another reason to appeal to the living natural world, outside city walls to draw inspiration.

Words belong to their context. According to the prophecy of Ammon, the written word serves best as a instrument of reminding someone who knows the matter about which they are writing. (275D) Were Phaedrus was a simpler man, whom believed that in writing and technology had a life *of its own*. That a tool had an essence beyond that of *revealing*. He may very well have inflated his own self image and in turn become difficult to get along with. Fortunately he listens to Socrates.

4.4.3 Writing produces forgetfulness

King Ammon criticises writing for undermining human memory by producing forgetfulness [lêthê]. Writing he says can best serve as a reminder for someone already competent. Writing is then at best an image [*eidôlon*] or indicator of a correct account. This happens on a seemingly causal level where one whose soul has properly been prepared is ready to associate certain images with the appropriate consequent picture[36].

Wisdom and technical knowledge in some discipline involves memory. The notion Rabbås suggests as a bridge is *experience.* Wisdom has components which may be analysed as distinct *images* with correlating causal ends. This is why accumulating wisdom is a time consuming affair; it takes time to acquire experience, it takes practice to learn to associate correct response to some state of affairs. (Rabbås, 2010, pp. 38-39; p.42)

"It is within this scope that "writing may encourage the idea in me that I actually remember more than I in fact do: what I read is not something *I* have experienced, but others." (Rabbås, 2010, p.39) Adding the illuminating interpretation that this is not for being f*alse memories* that written- (and Device-) memories fail us; it is because they do not provide the necessary epistemic resources to constitute properly soul directing image-concepts.

Central to the analysis of Device *flattery* is that "possession of a technological medium that helps keeping records of facts may encourage precisely that misunderstanding, and hence undermine genuine memory and expertise."(Rabbås, 2010, p.39). The footnote attached to this quote cites the internet as just such a modern source of vast information. Access to such a store in no way ensures knowledge: "What does a particular piece of information *mean*?" (Rabbås, 2010, footnote #8) The next footnote tackles another familiar example: the pocket calculator.

> "It enables us to *produce* the solutions to problems of calculation but does it put us in a position to *know* these solutions? That depends on what we mean by knowing here. If it means that we should also be able to *justify* the solutions, to *explain* why they are indeed the right ones, then surely not -- indeed, it seems to be increasingly recognized that the widespread of the calculator weakens students mathematical understanding." (Rabbbås, 2010, footnote #9)

[36] That each picture is a discrete fact is a notion uncommonly congenial to the picture theory of language proposed by the early Wittgenstein. (*Tractatus*, §2.12). Each eidôlon is a fully formed logical picture. The relation such an image has to the world is limited to the world of the speaker. McDowell in the later chapter, the *thesis of uncodifiability* meshes well with the Tractatus later assertion that Ethics and esthetics lies beyond language: (*Tractatus*, §6.421)

Devices easily fit within the synthetic merge of concept: calculator, internet and written knowledge.

4.5 The tension between The Extended Mind and Plato

There is a tension between the modern Thesis of the Extended Mind and the Platonic metaphysical position. The modern position suggests that tools are actively instrumentalised by the mind in a way which is both natural and good. It is *a* good because it is energy efficient and pragmatically effective. Such criticism is to underestimate Plato. His position is simply that the excellence of an external substance is not the excellence of the internal spirit.

Hence in the *Laches* when discussing the education of young men in the art of war, it begins by considering the merits of training to fight in armour. The dialogue quickly abandons evaluating the particular panoply of hoplites in favour of investigating *to which* end such training is undertaken. The virtue of *a* skill and the tools which belong to *that* skill, are subservient to the *Techne* of its employment. Hence tools are not bad qua being instances of technology. They are bad if used for vicious ends.

Extra care should be taken when considering technical manuals that ascribe or claim *epistemic* insight. Plato reminds us that these are suited only for reminding [*hypomnêsis*] and are easily mistaken as true extensions of individual knowledge. The written word *can* be an aid in learning, leading to Platonic recollection [*anamnesis*]. Presumably the author was in possession of such living knowledge; the trick is to pass that knowledge in a style much like the exchange that happens in dialogue. (275D)(Rabbås, 2010, p.35)

Technical manuals belonging to a master artisan are less of a danger. The master reads these texts in a different state. She is seeking to be reminded of something. Or to spark mind to some new understanding.

4.5.1 The Ring of Gyges invited viciousness

The suggestive force of external tools is as potent as the spoken word. But static words are not alive. They only partake in life and excellence once some potential action is actualised. The Ring of Gyges as it appears in the *Republic* is a fantastic tool which allows its bearer to become invisible. The nefarious potential is self evident. Glaucon suggests that morality is a social construct: the reach of justice is only as long as the fear of social sanctions. Socrates response absolves the ring itself from viciousness by reaffirming that a bad person would be enslaved to his appetites. Only by remaining in control of his rational faculties, rather than becoming indebted to external hunger-- only sated by an external tool-- is happiness, wisdom and justice possible. (*Republic*, 360b-d, 612b)

4.5.2 Giving an account of a hammer

The tension of the external tools can be illustrated with some simple examples: Speaking now in the manner of Aristotelian science: if I should use a hammer for hammering, and then declare that the essence of a hammer is to hammer. I am making a mistake of category. If however as a demonstration of gravity, I was to declare that the *soul* of a hammer, qua material properties, the form and finality of a hammer is to be affected and grasped by that force-- I would be in the right. Through the material properties of a hammer are not accidental to the purposes to which it is put, the reason *for* these being such, is a goal which resides in the operator-- not the tool.

Appealing to the historical context does not change the premise. Though the original maker of the first hammer may have intended it for some particular instrumental purpose, claiming that *this* is the essence of the hammer is missing the point. The action-purpose of the hammer does not reside in the tool. Cut the hammer in two and hammering does not seep out[37].

To ascribe the excellence of a hammer as the direct extension of one's own personal virtue is equally faulty. The hammer is contingent on the art to which its operator puts it. Excellent tools in the hands of an inferior craftsman will not transform the craftsman. The same holds

[37] Which is not to say that studying the *long chain of hammering* (from one carpenter to another) or the material properties of hammers found in an Archeological manner is without value! Investigating starting points [*Arche*] are ways in which the ideology and understanding-of-the-world of the owners of tools are revealed. A particular tool reveals to us the way in which the owner inhabited his or her own time.

for more modern tools; a car is a powerful extension of its users ability to move, doing so aimlessly, wastefully, or viciously suggests poor character. Industrialisation and mechanisation has created increasingly autonomous tools, sometimes self-*re*organising and self-learning. Possession of such tools reveals in the manners suggested in chapter 2: *challenging* nature, or within a purely cultural landscape, what I have termed *technological behaviour*.

4.5.3 The principle applies to Devices

The same principle applies to Devices. The essence of a device is not its connectivity and ability to display text and images. The way in which a Device reveals is contingent upon the specifications to which it is built and the ingenuity to which its operators put it. Though it *can* be applied to demonstrate gravity, such as by dropping it or as an aide in displaying scientific *doxa*. For these demonstrations to be successful as Plato would have it, the dynamic and fluctuating life-spark of knowledge must reside in teacher and pupil, in speaker and listener. The *Phaedrus* argues strongly against: "the idea that technical manuals alone are sufficient to transmit a *technê* from teacher to student, as well as to support the competent practice of it." (Rabbås, 2010, p.32). The relevant aspects must present themselves in their shared discourse.

4.5.4 Techne is a complex

Finally artistry has a holistic horison. "Technê is a power (*dynamis)*, a complex set of abilities that are both rational and practical." (Rabbås, 2010 .p.33) It involves more than mere propositional knowledge. It is not enough to assert as true that nails hold a house together. To be a master housebuilder, one must also know how to wield the hammer. "*Technê* is a holistic structure: you can't have technical expertise on some isolated part of the entire discipline."(Rabbås, 2010 .p.33) Indeed it is the ability to demarcate one art from another and to articulate the starting-points of some discipline that is a clear indication of *technical* prowess.

4.5.5 Replies from naturalism

Adherents to a strict naturalistic interpretation of *The Extended Mind* could reply that the Platonic metaphysics of external and internality are dated. Tools are cognitively metabolised in the same manner food is. Food becomes part of the makeup of the creature that takes it in. In the same manner there are good and bad tools. The challenge is then to recognise syllogisms similar to the classic Aristotelian formula: to prefer health inducing lighter meats. (NE 1141b10) Technological optimists point to how our natural bodies are increasingly being instrumentalised to deal with perceived deficiencies or diseases. The study of biology increasingly suggests altering the fundamental building blocks, DNA modification will become household and common. Cannot the same model apply to mental and cognitive affairs? In other words: A good external landscape *is* part of a good internal horizon.

4.5.6 Responses from antiquity

To this the Platonic-Aristotelian response is to return the discussion to the *what-is-ness* of Virtue. Though the tools are able to affect our bodies and minds on an ever more intricate level; our understanding of psychological mechanisms become increasingly honed, it is the method by which such discoveries are made and maintained which concerns Virtue Theory. If lighter meats are healthy: how is this syllogisms demonstrated; what are the starting-points of this observation; is *this* particular substance an instance of light meat; what does this mean for our political realities. The Platonic corpus seems to suggest that philosophical *aporia* is a good. It is through *living* active method of continuous good enquiry that *eudaimonia* is found [38].

4.5.7 Loss of technology means loss of *eudaimonia*

The same naturalistic interpretation may propose that a lack or loss of technological access corresponds to a loss of eudaimonic potential. This seems intuitive. When your Device runs out of power a certain pain is felt. This is to miss the forest for the trees. Aristotle notes that just as the diseased craves health, and the poor craves wealth, there are values which are intrinsic and more stable to humanity as a whole. It is in the being conscious of the fact that

[38] This should come as no surprise. The Platonic and Aristotelian corpus is rife with arguments against various offshoots of philosophical naturalism.

some things are accidental and transient and some have the appearance of permanence and how they differ that the correct demonstration of eudaimonia resides. (NE 1095a25)

4.6 The dangers of writing

Devices and other *modern* technology is in the Platonic landscape potentially vessel for both sophistic and sophisticated *flattery*. To believe that access to propositional knowledge through a screen as the good life, is according to Plato to fall victim to a form of *flattery*. To carry the world's greatest library in one's pockets, and then believe the world is revealed in a true manner, is to greatly overestimate one's own worth. To demand all responses be given within this faulty mode-of-revealing, is to make oneself difficult to get along with.

The conclusion is that it is not the written that is a threat qua writing and grammar. Nor that the written is threatening for it being external. It is for not seeing the external for what it is in relation to oneself, and for failing to apply writing in such a manner that the written is *metabolised* in a generational manner. This requires *understanding* by both the reader and the writer. Sometimes these roles will overlap, but when they do not extra care must be taken. Written words are static, but their inspirational-- enthusiastic dimension of *logos* of speech resides a potential for flourishing:

> Yes, Phaedrus, so it is; but, in my opinion, serious discourse about them is far nobler, when one employs the dialectic method and plants and sows into a fitting soul intelligent words which are able to help themselves and him who planted them, which are not fruitless, but yield seed from which there spring up in other minds other words capable of continuing the process for ever, and which make their possessor happy, to the farthest possible limit of human happiness. (276e-278a)

Farming as a metaphor offers an interesting parallel which may be drawn between Plato and Rabbås and Heidegger. Plato proposed that "speaking is like planting and sowing" (277E-277A) to which Rabbås adds:

> Successful planting and gardening presuppose certain qualities both in the farmer and the soil in which he plants or sows: the soul must be of the right kind, receptive and fertile, so that the seeds can become properly rooted and grow, and the farmer must be patient and let the seeds take the time they need to be rooted and grow. (Rabbås, 2010, p.37)

When Heidegger considers the work of a peasant farmer it is unlike that of modern mechanised agriculture. The primeval farm is not a challenge [*Herausfordern*] of nature. The farmer instead cultivates and cherishes his land. Letting its natural energies flourish under his care. (Heidegger, 1977, p.14-15) When human praxis and episteme are made standing-reserve they are challenged; driven to transform. It suggests a that the *flattery* of Devices has ominous undertones, where hastiness and sheer pragmatic concerns undermines eudaimonic life.

4.6.1 The epistemology of being persuaded

As to the modern *techne-logical* question pertaining to Devices the same must hold. Devices are superbooks with an increasing capacity to present materials in seemingly dynamic manner. This is both a danger, for it holds the sheen of flattery, but also of great potential: Devices are unparalleled vessels for attending to individual needs; to display information according to the needs of an individual[39]. If there is a *light-meat* syllogism pertaining to technological behaviour, it may be to adapt ones methods of learning, ones manner of discourse, to one that is fully compatible with that of Device learning.

In the Phaedrus much is made of the technology of writing, but it would be more appropriate to elucidate the nature of persuasion.

> "Moreover, the critique [*of writing*] also leaves open the possibility that the critique may apply to forms of discourse that are not strictly speaking written, but that are like the written word in a relevant sense, and therefore exposed to the same potential dangers." (Rabbås, 2010, p.31)

The sort of *textualization* of non-written knowledge is investigated further as I consider the *Ion*. Here also the analysis of Phaedrus is useful. Rabbås proposes that there is one decisively dangerous outcome:

> It is quite possible for someone uttering words to be uttering *mere words.* In fact, nothing is easier and, what's worse, nothing is more deceitful. For mere words are easy to remember, especially if one masters various mnemonic techniques. And the one who remembers many words and is clever at uttering them will appear wise, even though he isn't. He will appear to possess the wisdom that is

[39] This may happen in three ways: (1) information can be dynamically fitted to the intellectual level of the user. (2) information can be presented in a tree like structure, where branches can be accessed on will to elucidate difficult subjects or provide in depth information on demand. (3) Written and spoken language can be translated *in situ.*

> properly expressed by these words, and that once was so expressed - even though he lacks this wisdom. (Rabbås, 2010, p40)

This description fits Ion only too well.

4.7 Ion

Ion of Ephesus is a rhapsode. His expertise is to perform and interpret Homer. He has just arrived to Athens to partake in the Panathenaea, a great annual festival in honour of Athena. Ion is talented. He was recently declared victor of another musical festival in Epidarus. Socrates is intrigued and will in his manner question the nature of a rhapsodes art. It certainly valued in society, because as Socrates remarks, Ion is clad in fine clothes and surrounds himself with beautiful and important people-- including the prince of poetry itself, Homer. (530b)

4.7.1 *Textualization* of poetry

Though Homer is today associated with written sources, in the ancient era it was the role of poets to recite from memory. A poet would undergo an intense regime of mnemonic training that leveraged both somatic, rhythmic and rhyming structures to aid recall[40]. A good recitation would bring the tale to life, inflame the soul of both speaker and audience.

4.7.2 Ion has internalised Homer

The dialogue is a particularly interesting resource because it has two lines of argument that have bearing on topic of Devices. Firstly, unlike the written speech carried by and considered in *Phaedrus*, Ion has internalised Homer. The Iliad and Odyssey have become memorised extensions of the poets intellect. Ion will make the claim that everything can be interpreted through the Homeric horizon. Secondly, the poet has *cognitively coupled* with the Homeric material. I propose that the internalisation of Homer is analogous to that which a modern person may, as suggested by *TEM,* approach, interpret and understand knowledge made available through a Device; through *device behaviour*.

[40] The effect of it impressed Plato so greatly that he paid considerable attention to the it in the *Republic.*

Ion will use various mnemetic methods to recall Homer; his coupling to this *external source* is of the highest grade of bandwidth. This is a case of similarity and not identity. I hold that attitude by which an operator accesses knowledge made available through screen and interface is sufficiently isomorphic to that expressed by ancient poets. Even if the actualisation of accessing memory versus the extended mind is different, the ethical implications are the same[41]. Ion will appeal to the great trove of information he carries within to respond to any query.

4.7.3 Ion has great memory

There is a another point of comparison between Ion's knowledge and Devices-knowledge. Namely that Ion has great memory and ability to recall. Precisely the qualities which Devices exemplify. The amusing contrast to his memory is his inability to follow the ironic vein of Socrates arguments.

Ion carries with him a great store of *something*, has the ability to recall and entertain that *something*. What is that *thing* asks Socrates. The essential question being *what is the rhapsodes art*. He could just as well have asked what is the art and skill expressed in *device behaviour*.

It is commonly proposed by technologists is that our Devices make us smarter, more knowledgeable and wiser. If smartphone can display both Homer and Wikipedia, and our minds are naturally inclined to *couple* to it, then we carry with us a direct source to true knowledge. Devices saturate society and each development cycle promises improvement. In the same manner Socrates procedes, I move to investigate our relation to Devices.

4.7.4 Ion is gripped by enthusiasm

Devices are a revealing. That which is revealed has a suggestive power. In the Ion that suggestive power is given a name, enthusiasm. The word suggests in Ancient Greek to be possessed by the passion of a God. Latinised this is synonymous with inspiration. The idea

[41] In doing so I open myself to the same source of criticism leveraged against *TEM* in the Inga and Oscar example. Accessing a notebook is not identical to accessing memory. That isn't the point. The point is that the actors *belief* in regards to the veracity the knowledge is the same.

has already been encountered in the *Phaedrus*. On the first reading of Lysias' speech, we recall that Socrates was gripped by the power of the written.

Socrates begins his inquiry by questioning what the domain of a rhapsodes knowledge is. It clearly concerns recitation, but there is also a component of understanding and interpretation. Ion claims to be the most gifted expert on Homer in the Greek world. Socrates wonders that as an expert on Homer, does his expertise carry on to other poets? Ion claims to have no interest in them, stating that not only is Homer himself is quite enough (531a). He will "pay no attention when somebody discusses any other poet, and is unable to offer any remark at all of any value" (532c). Only waking when the topic turns to Homer again. But why trust only Homer? And is it not the case that two poets may agree on something: How then, wonders Socrates, is Ion able to determine that Homer is more trustworthy and better in style?

4.7.5 Demarcating arts

Socrates will solve this riddle by dividing the problem in two. First, is the expert interpreter of a poet better at resolving questions pertaining to a specific skill. Secondly, what does it means to be an expert interpreter of a subject matter.

In the first case Socrates will elicit the agreement that a diviner is better suited to answer questions pertaining to divination than a rhapsode reciting a master poet. Even when it comes to speaking publicly, such as on the topic of arithmetic, the expert of that field is better suited to determine if something was poorly or well said. In an earlier chapter I gave the example of a person performing mathematical operations by means of a Device. If such a person was unaware of the foundations of mathematics, even if she knew perfectly well *how* to recite the true result from a screen, she would be ill suited to articulate the *why* something is the case. The same holds for the rhapsode. Homer may have spoken truly, but Ion is not equipped to determine if something is true or false.

In the second case , Socrates makes the observation that an expert in a field of knowledge is able to not only articulate answers pertaining to particular questions within a field of knowledge, but able to distinguish one subject of knowledge from another. Returning to the

Device bearing mathematician: her fault was more fundamentally confusing her ability to perform mathematical operations by means of a Device and believing that the same type of *Device Behaviour* could produce answers pertaining to any other field of knowledge. Her inability to distinguish one category of knowledge from another, *Techne* from *Episteme* and *Phronesis,* rendered her unable to distinguish one subject of knowledge from another: these having become generic *standing-reserve*.

If she does so accurately, but without being able to articulate *why* or do so with consistence: she as well as a rhapsode may clever individuals. She would not be expressing an art [*techne*].

Socrates adds the unsubtle insult that "anyone can see that you are unable to speak on Homer with art and knowledge. For if you could do it with art, you could speak on all the other poets as well." (532d) Ion begs Socrates to continue, seemingly oblivious to the irony: he enjoys hearing wise men speak[42]. He agrees that he may be without without Techne. Even so he notes that:

> I cannot gainsay you on that, Socrates: but of one thing I am conscious in myself—that I excel all men in speaking on Homer and have plenty to say, and everyone else says that I do it well; but on the others I am not a good speaker. (533c)

The lack of generality of Ions ability is puzzling. Ion has extreme access to particular facts and has a celebrated ability to articulate them in a convincing manner. To solve it Socrates will introduce a familiar concept: The gift by which Ion possess of speaking excellently about Homer is not an art. It is an inspiration; a divinity is moving Ion. (533d)

4.7.6 The metaphor of magnetism

The divinity which moves Ion is given explanation by the metaphor of magnetism. From one central lodestone radiates divine inspiration. This point of attraction reaches out to other compatible objects, which again reach out to new objects, creating a chain of inspiration. The energy passes from the muses, through the poets to writer, actors, rhapsode and ending in the

[42] There are interesting parallels to today. The modern audience has a voracious appetite for popular science. Podcasts, audiobooks, and TED talks where *wise* men and women have become a sort of *info*tainment. Buzzwords aside, the Ion diague suggests this is hardy a new invention

audience. Those touched are moved by its frenzied, manic force. Poets do not speak by any rules of art. They are simply inspired to act as the Muse impels them and that only. A further proof of this is how the rhapsode himself is, when interpreting the divine, gripped in its frenzy. (533D-534E) When asked why Ion has so much to say about Homer, Socrates finds the crushing conclusion: "And when you ask me the reason why you can speak at large on Homer but not on the rest, I tell you it is because your skill in praising Homer comes not by art, but by divine dispensation. "(536D)

4.7.7 Devices are also magnetic

In the modern case of Devices a similar analysis could be made. Setting aside entertainment, modern technologists may suggest that ownership and interaction with a Device is sufficient grounds to claim possession of scientific or practical or technical knowledge. To be moved by this, is to be moved by the same type of inspired madness. To say that the possessors of a Device, or Homeric recitation, is ideally position to find relevant information is merely to shift the goalpost.[43] Unless it qualifies as a *poetic* or *practical* rationality: it does not qualify as virtuous.

Socrates will asks Ion to indicate those areas of Homer of which he knows best. With an optimism modern technocrats would envy, Ion declares "I assure you, Socrates, on all without a single exception."(536E) Socrates is unimpressed. Citing passages from Homer and pairing them with related arts, Ion is finally forced to admit that in neither of these cases his knowledge is superior to that of an expert. In fact, he commits the most grievous Socratic sin: knowing nothing, but failing to understand it!

Finally Socrates asks which section of Homer it is that is the fundament of the rhapsodes art. Ion cannot point to one. It cannot be all of them, that has just been demonstrated. So Ion settles for persuasion. "Those things, I imagine, that it befits a man to say, and the sort of thing that a woman should say; the sort for a slave and the sort for a freeman; and the sort for

[43]Dogmatic *scientism* may suggests all truth reside absolutely in the scientific method. But such a view is often unburdened by the scientific education to defend it. Instead an appeal is made to the abstract success of science as a whole. With a instance of modern technology close at hand. Such an argument may seem convincing. This is an example of doxastic belief in science, rather than the actualisation of it. Devices are perfectly suited to propagate such a belief.

a subject or for a ruler." (540B) This does not convince Socrates. Knowing what ought to be said, but not about any subject of techne, is not knowing anything. At best it is to *appear* knowledgeable.

In the dialogues final exchange Ion proves his ignorance by demonstrating his childish understanding of politics when he accepts that a military general [strategoi] and a rhapsode share skills. In fact, the rhapsodes art exceeds that of a general. Because a rhapsode may be a general, but a general may not be a rhapsode. It is obvious why Ion argues so. To be a general is to command attention. It is a office of status suitable for one hungry for recognition. Yet disastrous if filled by an incompetent.[44] (541A)

Socrates will have no more. Ion must declare the rhapsodes art to either be deliberate dishonesty or ignorant inspiration. To which the latter is chosen.

4.7.8 Rhapsodes deal with books

Ion does not fare well. This is perhaps unsurprising given that to the domain of the rhapsode belongs the realm of imagination and opinion. The strict limits of poetry in accordance to the needs of philosophy and virtue becoming one of the important battlegrounds for the later *Republic*. The disdain for the rhapsody is also found elsewhere. In Xenophon's Memorabilia, Socrates remarks that given the great number of books in Euthydemus possession that the youth may wish to become a Rhapsode, Euthydemus quickly disaffirms it: "Rhapsodists have a very exact acquaintance with epic poetry, I know, of course; but they are empty-pated creatures enough themselves." (Xenophon's Memorabilia, Book 4, chapter 2, Section 10) A description which fits Ion perhaps too well[45].

[44]Homer is a poet of heroism and war. A parallel could be drawn when it is suggested that playing certain modern video games confer military skill at arms. It does not, though it may certainly instill that belief in the gamer or society inured to such an idea.

[45] The entire exchange is telling. Socrates remarks that Euthydemus has acquired a great trove of knowledge. He is wondering to what vocation the youth is planning to apply it. The answer is politics. As the chapter develops Socrates tests Euthydemus. Socrates finds suspect the notion that knowledge cannot be ordered into categorical lists suitable for storage in a library. List-like knowledge of Justice and injustice are too simple to avoid inconsistencies. Socrates suggests a Delphic principle for knowledge: knowledge starts with the self.

4.7.9 Poetry is not science

As to Aristotle. While he is sceptical about deriving scientific knowledge from poetry: "Metaphors are poetical and so that expression of his [*Empedocles*] may satisfy the requirements of a poem, but as to knoweldge of nature it is unsatisfactory."(Meteorology, II, 3 357a25), he will frequently reference Homer in anthropological studies or to indicate historical events or places. In the *Poetics*, Homer is venerated as a great source of inspiration and inventor of the Greek epic style. In the *Rhetoric*, Aristotle maintains a more positive view of the *art of persuasion*. It is the *Rhetoric* that technology comes together as a single world: the art of arguments, the study of harnessing the persuasive force of speech-acts. Language correctly applied reveals and articulates reality. As reality and thought assume the similar form, truth is unveiled. It seems intuitive that doing so skillfully makes the translation from one form (reality) to another (thought) easier. We can now appreciate the *wisdom of Devices*.

4.8 Devices channel inspiration

Looking first to the *Phaedrus* the criticism leveled against Ion was equally applicable. Though superficially the Phaedrus dealt with *external* knowledge, Ion is the embodiment of ignorance. He is himself a mere consumer. Happy to remain gripped only in the inspirational qualities of the works he has memorised. In the eyes of others, a mere vessel, exciting like an animated book. If he is in possession of knowledge on some subjects in virtue of his ability as a Homeric rhapsode it is accidental, because he has not reflected upon it. He has no art, because he cannot distinguish what he knows from what he does not. The Homeric lore is in Ion is as static and unmoving as a painting. Pretty, but not living. His words can be used to justify any action.

This is a powerful criticism, because enabling dialogue is precisely the quality demanded of good writing in the *Phaedrus*. This relates to the virtuous use of Devices in a straightforward manner. There should be no sanction against using a Device as an aid for memory, of recollection. But there is a danger in engaging with contents displayed uncritically or with a inflated-- *flattered*-- sense of possession. This repeats the criticism offered by Heidegger. Though modern technology may suggest it, not everything may be grasped as the same type of *standing-reserve.*

4.8.1 Technological enthusiasm

Technological enthusiasm is the unspoken component missing from Heidegger's analysis. This is not unexpected, because his starting-points aim at describing the architectonic relation of industrialised man and the natural world. Shifting the view from the macroscopic perspective to the individual: to the technological panoply carried by each individual and the action-alibi, the dynamic force, the inspirational appeal of each complex of tools is evident. Each such complex of tools, revealing in a manner contingent on the inspirational chain its possessor attributes to it[46].

The analysis should not suggest a dichotomy between inspiration and truth. The solution to a query or conclusion to inquiry may often as Aristotle suggests arise in a state which is found pleasurable. That this state of discovery not be confused *with* pleasure is the important distinction pressed in the Ethics. (NE II 3) The quality of inspiration found in the internal logic of our language, be it articulated through words or tool related actions, is not an evil as such, but instead serves an important explanatory function to which end the agent grasps her world.

[46] Heidegger (2008) has a more sophisticated way of tackling the problem. In "The question concerning Technology*"* this comes to a telocentric *destinying*. I have chosen to focus on the *persuasiveness* and attractiveness of being guided by the apparent 'in-order-to' that is suggested by the 'manipulability' of equipment. In my vocabulary: 'in-order-to' is instrumental application. Equipment is tool. The totality of these partake in the *language-game* of tools.

5. Virtue, Reason and Devices

In this final chapter I align and contrast the insight of previous chapters with a more fundamental question: What sort of reason or account, what sort of *logos* is it that is expressed in virtue. Is this *logos* commensurable to that which is derived from Devices?

To explore this topic I turn to a paper by John McDowell. His central thesis is to align virtue with a type of sensitivity. In many ways this is going full circle. The distinctly Wittgensteinian insight herein is similar to that expressed by proponents of *The Extended Mind thesis.* While seemingly reaffirming *TEM* I also highlight points of friction between it and the classic view of virtue-- allowing the ancients a moderating influence to that of full technological optimism.

The starting point for this chapter is John McDowell's essay "Virtue and Reason"(1979) which presents an intellectual, language-logic reading of Aristotelian Virtue Ethics. McDowell was in turn strongly moved by the arguments presented in Wittgenstein's posthumous work *Philosophical Investigations* (1953).

In this paper McDowell connects each virtue strongly to a special sensitivity to contexts salient to the virtue in question. The Unity of virtue as a whole is a unity of sensitivity, perceptiveness of perceiving. Simply perceiving in a disposition in which good*ness* is actualised.

5.1 Tools extend human reason

First a reminder of the arguments presented in this paper. Namely that tools, specifically Devices may be analysed as language-like extensions of human ability. Syllogistically this can be put that: just like fins and gills are natural organs of fish, language and reason are natural organs of humans. Tools belong to languages. Hence tools are natural to humans.

This suggests that just like fins and gills allow certain actions in a watery environment. Tools allow certain actions in that environment to which they belong. Where fins and artifacts differ, is that one arose from natural forces and is bound by natural boundaries. Whereas the other belongs to artifacts, and all artifacts arose from rational intelligences; intelligence

injecting form into matter. Though tools in general are of higher genus than fins and gills, logically, if we should take one particular species of artifact, such as a hammer-- the same truth should hold. The hammer is a natural extension of human rationality and the hammer allows certain actions in a *hammery* environment.

That a hammer can be removed from the *hammery* environment, and appropriated for some other end-- or that what qualifies as a hammery environment can be extended, should not confuse us[47]. After all: fish do not stop being *of* fish-substance for being skinned and boiled. Suffering such a categorical change would make the fish appear differently to an observer. It will also disrupt its natural life. A hammer has no such *natural* life to make an appeal, precisely for being an artifact-- an object with a fluid efficient telos. Just like expressions in language.

5.1.1 Tool-use is similar to language

Put strongly this implies that tools belong to language. Each distinct use of a tool can be analysed as a *language-game*, which in turn responds to a *family resemblance* to the whole genus of tools. Such a reading can be strongly inferred from the classic Wittgensteinian example of the builders. The builders share a simple vocabulary, where each *type* expression extends to a *set* of tokens. Each particular can be indexed to the set of moves allowed by the shared language. Just like words may be reused and fit into a manifold set of scenarios, so do bricks. Just as the same word may pass through many mouths, so may hammers pass through many hands.

One reason to approve of such a view is that it is useful. When we uncover ancient artifacts and question their use, we are as trapped as the fly in the bottle; our query is one of orientation-- finding the coordinates that give indication to how a tool was meant to be and actually was put to use. (*Philosophical Investigations,* §309) This is equally appropriate with *The Extended Mind* where an archaeological challenge is to discover in which ways an artifact could take part in the extended cognitive landscape of its owners.

[47] Such as similar hammers being used in blacksmithing, or even the same hammer being appropriated for such a task.

5.1.2 Tools have limited universal vocabulary

An opposition to this view may be to note that there exists a purely theoretical dimension to language where physical tools have no access. To which the response would be simply, that though theoretical wisdom belongs to a realm concerned only with universals, in articulating a demonstration of such knowledge, to spark the Understanding of onlookers, a philosopher may just as well gesture with words or artifacts. She may deliberate through, with or about the tools at her disposal. Language may extend the horizons of understanding, but language is not identical with the starting points of virtue, neither *Nous* nor character virtue. Nor the equivalent, if any such should uniquely exist for *Techne.*

5.1.3 Tool-use is knowledge continued by other means

It may seem that knowledge complexity is in the favour of language, but consider how little is expressed in saying "a needle is for sewing", compared to the intricate knowledge and practiced expertise necessary for actually sewing excellently.

As has been stated earlier an artifact has no soul. It has neither efficient nor final cause inherent to its design. As such, like a single word plucked from its context, there is a problem of underdetermination. An etymological analysis of a concept has no greater chance of success than reducing a tool to its original substances. The meaning of each will become evident in use[48].

5.1.4 Tools belong to language

Another point of opposition is that to equivocate speech-acts and tool-acts is that voice and reason are one and the same. The word *logos* has traditionally indicated such diverse concepts as speech, argument, account, logic, reason, ratio, discourse, course of reasoning, and many more, could give grounds to such a conclusion. Aristotle points out in the *Politics* that animals may partake in giving *voice* what is painful and pleasant, but it belongs to reason to articulate and consider the universals.

[48] I have on multiple occasions suggested the use of *language-game* and family resemblance to analyse the meaning of tools as language-like extensions. There are resources in Platonic texts to provide an alternative. In the *Cratylus* the dialogue touches on two modes: (1) *etymological studies*-- exploring the historical origins of each word. (2) And through a *onomatopoetikon*-model. Words mean what they sound like. Both [1] and [2] end with confusion.

> But speech [*logos*] serves to make plain what is advantageous and harmful and so also what is just and unjust. For it is a peculiarity of humans, in contrast to the other animals, to have perception of good and bad, just and unjust, and the like. (*Politics*, 1253)

Is it really appropriate to grant a dimension of universality to our use of particular tools? Yes. Neither tools nor linguistic expressions contain within themselves the essence of their being; they are functional extensions of human ability. Tools as much as a language partake in a revealing of universal horison. When a tool, such as a scientific instrument is used to to make measurements, these factor into the scientific knowledge by which we understand the world. Besides, since Aristotle's day tool- and language-use has been attributed to an increased portfolio of animals. The cleverness of tool-use match the cleverness of language. They are of the same family that music also shares.

The stakes investigated in this paper as a whole is the intersection of technology and Virtue Theory. More precisely the intersection of modern Devices and *Episteme*, *Techne* and *Phronesis*. In McDowell the resources to connect virtue with language-like expressions. Tool use is language-like and hence responds to the same analysis. The reading of McDowell will proceed with an eye towards Devices.

5.2 Devices and reason

McDowell introduces an important distinction early on. He writes that if the question is "How should one live" then the answer to it is "necessarily approached *via* the notion of a virtuous person." (McDowell, §1, p.141) This view shifts the perspective of the *right conduct* from the inside out. The contrast to this are ethical theories where the nature of virtue, where virtue is a disposition to behave in a amicable manner, is defined through the justifications as the set of principles to which actions are measured-- from the outside in. This conceptual shift is central to many of the ideas presented in this paper.

Firstly it is remarkable that when investigating the relationship, man and Device, other ethical systems will approach such a question from an objective standpoint of the Device as a distinct benefit or impediment to good living[49].

Secondly understanding that Virtue is approached from the inside out reaffirms the proposal that the essential *being* of technology is not contained within the Device. The essence of technology is a revealing which takes place within the cognitive horizons of a rational being, viz., a human being.

Thirdly it provides a powerful heuristic by which virtuous conduct should be measured. Like Aristotle, McDowell calls for us to *find* the virtuous superman from whose conduct an objective standard, made appropriate for each individual, may be approached.

5.3 Virtue is a sensitivity

To develop his own view he starts with the Socratic thesis: that virtue is knowledge. This Socratic knowledge is perfectly general and applicable to any situation to which an agent may find herself. Knowledge is then the disposition towards acting correctly, arriving at the right conclusions and conducting oneself in a rational manner.

To this McDowell will suggest the Aristotelian definition of stricter virtue, that this (1) "reliability is not outcome of a blind, non-rational habit or instinct" and that the behaviour is (2) something of which the agent is aware and that (3) the sensitivity to situations which

[49] That is give answer to why aligning the question of technology as one concerning Virtue Ethics (VE): In *Kantian deontology*, technology will always appear as a means to and end. It is an instrument of the will of an autonomous human agent. In analysis technological devices will appear only as obfuscating the freedom of choice or as suggesting an admonishable instrumentalised behaviour towards other ethical subjects, i.e, other autonomous agents. The technological device itself is subsumed in the question of freedom and good will within the universalised maxims according to the Categorical Imperative. The intersection of the technological device will therefore suggest a negative affective quality.

In the case of *consequentialism* there are resources to analyse the hedonistic effects of mass-introducing devices to societies. The question will cease concerning the *essence* of a device and instead only concern the impact of it on a economic and ecological scale. While useful for that discussion, I will argue that the consequence of introducing increasingly interconnected devices into human affairs affects the both the intellectual and public reach of individual humans in a manner which exceeds the concerns of material efficiency and pleasure. After all a society overflowing with purely pleasure centered stimuli may be superficially pleasant, but will it offer the pinnacle of human development? The intersection of technological devices into human life exceeds that of purely pleasure driven reasons and devices may both enhance, extend and augment our logical faculties as well as obscure them.

trigger virtuous responses is reliable and steady aspect of a agent's pattern of behaviour. It is from these assertions that the first move is made to identify virtue with a type of *perceptual capacity*. (McDowell, §2, p142; NE VI 13)

This perceptual capacity need not be articulated by the agent possessing it, but the reasons for instancing virtue on relevant occasions must be grasped by the agent in accordance with 1-3-- that is the thing which *must* manifestly be done. The *reasons* for conducting an action must be internal to the agent:

> It would disqualify an action from counting as a manifestation of kindness [Virtue] if its agent needed some extraneous incentive to compliance with the requirement-- say, the rewards of a good reputation. (McDowell, §2, p.143)

This does not immediately disqualify technological behaviour. After all technology is identified as an extension of the agent's reach. It would only be a matter of disqualification if technology was a vessel for some other incentive-- such as public recognition or monetary gain.

Each particular virtue is identified with a specialised sensitivity to the requirements imposed, by the agent's own character. This is generalised along a Socratic *unity of virtues* to suggest that "Possession of the virtue must involve not only sensitivity to facts about others' feelings as reasons for acting in certain ways, but also sensitivity to facts about rights as reasons for acting in certain ways. "(McDowell,§2, p.143) and this totality of sensitivity obtains a state of affairs where the particular virtues are not a "batch of independent sensitivities", instead these are particulars which can be inductively be generalised into a manifestation of a single sensitivity: "An ability to recognise requirements which situations impose on one's behaviour" adding that it is this *complex sensitivity* that is the root of the correct moral outlook. (McDowell, §2, p.143)

5.4 Continence and incontinence obscure virtue

Possession of identical sensitivity to a state of affairs is not sufficient to provoke the same response in two distinct actors.

This is a well known issue with the Socratic thesis. It prompts the supposition that such an agent acts in ignorance. However assuming the sensitivity was identical, it creates a further paradox of volition. To account for *Akratic* and *Enkratic* behaviour Aristotle, through the hand of McDowell appeals to an additional concept. A momentary weakness of will is an *extra* component afflicting, clouding or unfocusing, the capacity for judgement in one particular instance. To be thus afflicted is not to perform at full potential. It is as damaging as vicious behaviour in the sense that it is harmful, but may also be an experience on the path of calibrating one's moral behaviour. (NE VII 3)

Adding Devices to this mix reminds us powerfully of the immense access to entertaining distractions. All the world's playwrights are at one's fingertips. Any number of friends and family may respond. As an instrument of distraction, the mind could scarcely find a better source!

Resolving the ontological status of Akratic and Enkratic behaviour suggests that something *orectic*, appetitive is needed. McDowell writes "How one's will is disposed is a fact about oneself; whereas a genuinely cognitive faculty discloses to one how one's will."(McDowell, §3,p.147) This is a novel solution to which he will return upon further developing his argument. Taken at face value, as it relates to the ideas presented elsewhere in this paper: It suggests that the *dynamic* force, alibi-of-action expressed by a technological implement is not analytically compatible with purely orectic states. The *rhetorical force* of a Device, the means by which it moves the soul, cannot be reduced to a simply appetitive concern.

Checking this remark, one can see it proposes a body-mind problem not present in Aristotelian psychology. Being is *hylemorphic*; form and matter combined. But it should seem that the affective concepts that have bearing on *weakness of will are* things which can be stated propositionally: objects to which useful predication can be made. Ice cream is

delicious and YouTube is entertaining, both are familiar sources of distraction. The interaction of these qualitative concerns will be returned to below.

5.5 The Practical syllogism as a model

The syllogism as a means of formulating knowledge, that is to give a coherent and rational account of some subject matter. It is the stateable propositional content of an assertoric sentence.

Aristotle is notoriously sparse in providing examples, but across his work a picture is given of a comprehensive system in which there exists two categories of syllogism, each corresponding to the two branches of the tree of knowledge: Those things concerning universal truths and which deal those with contingent facts.

McDowell is concerned with *practical* ethics, whereas this paper has mainly dealt with how theoretical knowledge can be subsumed within *praxis* or *poetic* expressions. Even so the conceptual framework remains the same. A syllogism consists of a major premise, a minor premise, connected by a middle term to form a deductive conclusion.

In the case of the practical syllogism, McDowell is keen to assign universally applicable knowledge, in the sense of virtue, to the content of the major premise. The minor premise concerns the actual situation to which the agent responds. The major premise contains strictly cognitive content but also a dimension of desiderous outcomes; it falls to interpret this through the minor premise, together with the deductively active middle term, to offer the particular rational motive force by which a situation is resolved. (McDowell, §4)

This schematic framework has alluded to in earlier chapters. In practical syllogisms the major premiss is set by well habituated, reasoned and stable *character virtues.* The act of deliberating how an outcome may be achieved given a certain situation falls to intellectual virtue *Phronesis.* We are already in a position to fit in the insight of the discourse developed in this paper to make sense of the structural implications.

Technology is a revealing. The cognitive strength of a revelation, the alibi-of-action, or rhetorical force of a tool, is the extent to which it is fitted into a major premiss. Why are Devices such enticing cognitive extensions and why do they cause an agent to rationalise poorly? For a multitude of reasons. It is because the agent is (1) habituated poorly; (2) is thinking with invalid or inappropriate premisses; or (3) is suffering a weakness of will.

[1] Firstly to lazily defer to an instrument or Heideggerian standing-reserve to resolve or discover moral or scientific course of thinking is an instance of poorly rationalised habit [*ethos*].

[2] Secondly fitting accidental or non-essential objects into an act of reasoning; or making a categorical error of *which type of reasoning* is relevant are instances of poor judgement; deliberation.

[3] Thirdly, the *Akratic* and *Enkratic* which remain unchanged from earlier analysis. Though it is notable that both Aristotle and McDowell preclude or avoid discussing a weakness of will when the major premiss is already wrongheaded. Perhaps this is resolved that through a principle of charity, suggesting that an action that is clouded or impeded by *pathos* has in it some glimpse of virtuous behaviour, though unpursued.

5.5 The Principle of uncodifiability

There is another arm of this argument which provides another potential criticism of technology. It is through the *principle of uncodifability*. McDowell makes the claim that:

> If one attempted to reduce one's conception of virtue requires to a set of rules, then however subtle and thoughtful one was in drawing up the code, cases would inevitably turn up in which a mechanical application of the rules would strike one as wrong-- and not necessarily because one had changed one's mind; rather, one's mind on the matter was not susceptible of capture in any universal formula. (McDowell, §4, p.148)

The central idea is that such a project is doomed from the outset. Because the mind is not ontologically suited to maintain a purely static and mechanical evaluations of rule-like

structures. McDowell will point to the work of the latter Wittgenstein of the *Philosophical Investigations.* Using the well known criticism against rule following. The choice example is that the ability to adhere to and self-monitor the simple mathematical instruction 'Add 2' to create a sequence of numbers.

The argumentation is for a pragmatic, and radical contextual to a *theory of language.* A theory of meaning. McDowell will go on to use concepts from the same source: 'Form of Life' and 'whirl of organism', to give an explanation not only why following rules is satisfactory, but also why linguistic expressions of this sort have such a dynamic force.

When engaged in a 'form of life', a concept whose meaning in Wittgenstein suggests the contextually sensitive conceptual framework to which someone ascribes meaning to what is currently experienced. *(Philosophical Investigations*, §241) It can be described as a 'whirl of organism', because the form of life will shift with the context to which a person finds herself. It is subjective in the sense that it is hers to own, but intersubjective because 'forms of life' may be shared, interlock and be distributed to linguistically sensitive agents. When a certain action or statement appears meaningful-- this is its dynamic power. When something appears meaningless, it is a psychological defense mechanism to avoid this "vertigo of existence" by grasping for what is believed to be the grounded rules of reality. (McDowell*, §4* ,pp.149-151)

That access to reality has a relativistic and subjective component is not a challenge to objective knowledge: "This casts *no doubt* on the possibility of putting explanations of particular moves, in the extended of a number series, in a syllogistic form." the rationale being that:

> In a syllogistic form: universal knowledge of how to extend the series interacts with particular knowledge of where one is in it, to produce a non-accidentally correct judgement as to what the next number is. (McDowell, §4,p151)

In this technical operation the account is verified through the compellingness of a *proof.* Proof which can be verified in an empirical, scientific approach. As to the extent to which each agent engages with meaning, McDowell writes that "The truth is that it is only because

of own involvement in our 'whirl of organism' that we can understand the words we produce as conferring that special compellingness on the judgement explained" (McDowell, §4, p.151). In short it is through our capacity to engage in 'forms of life', the seeing of salient aspects, that we can entertain a notion shared, communicable meaning which has a dynamic force on the soul.

The final verdict is that major premises of practical syllogisms belong to the category of 'form of life'. That the 'form of life' is not an assertoric sentence or *rule like* construct does not detract from the deductive nature of syllogisms in general. It *counts as doing the same thing*: "that there must be formulable universal principle suited to serve as a major premiss in syllogistic explanations"(McDowell, §4, p.151). That the universal principle is *internal* to the agent, that is she must immerse herself in just such a 'form of life' in order to live according and with the correct rationality is sound Aristotelian thinking. Again the moral point of view is not according to an external objective reality, but *generating* the functionally objective truth from inside out.

The next logical question is to ask how such a state comes about. Forms of life have a dynamism, a suggestiveness. McDowell asks the reader to consider how the sparseness of teaching necessary for a pupil to apply newly learnt principles in new and novel ways. Indeed this impressed Wittgenstein greatly (*Philosophical Investigations*, §210) and Plato considered how learning grammar and letters would allow a student to write any word (*Theathetus,202F-204A*).

Inevitable conclusion is that the student must make some leap of *divination*. Some leap of appreciation before the underlying logical framework to which certain causal connections seem inevitable. Where these align with reality, and that the mind seems attuned to accept and sort these favourably, these are preferred. The act of grasping the *orthological* must be understood as socially mediated, where the cultural environment-- the common doings and sayings of ones teachers-- all feed into a grasping mind[50][51].

[50] It is interesting that the use of the word *divination* could easily have been interchanged with Heidegger's *Destinying*. A dangerous destinitying being the *causa finalis* suggested by a form of life surrounded by modern technology, what I've called the paradigm of the crafted.

The summary of McDowell's ideas so far is that virtue is a type of sensitivity, and that the principles expressed in perceiving rest on a *thesis of uncodifiability*.

> The thesis of uncodifiability means that the envisaged major premiss, in a virtue syllogism, cannot be definitely written down. Any attempt to capture it in words will recapitulate the character of the teaching whereby it might be instilled: generalizations will be appropriate at best, and examples will need to be taken with the sort of 'and so on' which appeals to the cooperation of a hearer who has cottoned on. (McDowell, §5, p156)

Though particular examples may fit within such a genus of perceiving, it is for McDowell impossible to give a full account of it. Such a view is congenial to that found in the *Nicomachean Ethics*. Character virtues are are described as a range, where there is a non-mathematical center suitable only to each individual. Virtue as a unified concept is fully general in that it is applicable to every *and* any context. Practical syllogisms are the schematic approach by which moral ethics can be given an account, but through the thesis of uncodifiability, they are not *the* actual instance of thought. (McDowell, §5)

Regardless to the extent to which the reader is convinced by Wittgenstein's theories of meaning and language, there are powerful concepts compatible with ideas presented earlier in the paper. Returning from Virtue in general to Virtue as it has been conceived to concern Devices.

5.6 Devices align with reason

Considering the aversion to rules and Devices: There are resources to make a similar claim in Aristotle and Plato. In the case of the former, he will note that ethical generalisation hold only for the most part (NE I 3) in the case of the latter, I refer to the earlier chapter that considered the Platonic proscription against book-knowledge and writing. The type of static knowledge polemicized against in the dialogues *Ion* and *Phaedrus*, is precisely that which Devices excell at providing. The ideally ordered mind of Plato is a mind engaged in inquiry.

[51] Andy Clark makes a similar illuminating example. A child is reared amongst what to her must seem like mind readers. Adults, well attuned to cultural expectations-- and with fully developed brains-- predict and interact effortlessly with their social realities. When they make missteps their hardening to the *vertigo of life* immediately redirects them to some universal or rule-like mode of response. (Clark, 2008)

This is the highest, most noble form of being. When passive recitation is favoured before engaged rationality, it is to the detriment of critical thinking skills and renders the mind dulled.

Such sanctions are further reinforced by how books should ideally interact with the reading student. In the *Phaedrus,* Plato strongly asserts that inasmuch books direct the soul, they should do so in a manner by which the student learns not single static solutions, but instead inquiry itself. This is the danger of cleverness, *deinos*, to which I wrote in chapter 3. Complex computer systems invite the user to adopt the path of least resistance-- especially as interface elements are increasingly hidden-- in the name of accessibility and ease of use. Instead of learning the motive principles of technology, the end user is invited to learn the tricks of it. Such a mind may be an attractive and persuasive one, but if so it is in the same way as the confectionist in *Gorgias*.

Turning to the concepts offered by McDowell there are two conducive questions to draw conclusion from: (1) tools are a sensitivity; (2) tools subject to *the thesis of uncodifiability.*

[1] Sensitivity. The sensitivity proposed by McDowell is not a matter of extending the range of or fidelity of a particular sense organ. It is a sensitivity to the features of the world as they partake in the form of life the operator engages. This sensitivity is intrinsic to the operator. As noted in countless examples the potentiality of action, *dunamis* of holding, owning or carrying a tool cannot be denied. Tools partake in sensitivity.

[2] Uncodifiability. Tools are ostensibly specialized. With that said, it is difficult to fully account for *why* or *how* it is that some tools can stand in for another. If I should reach for a hammer, but find none, I may look for a another tool which manifest sufficient *hammerness* to get the job done. Where is that *hammerness* contained? The essence resides in my recognition of the abstract physical properties. The meaning of a tool, that is the way a particular tool is actualised seems as protean as language. Tools are like a physical vocabulary[52].

[52] Is it possible to forget how a tool *tools*? Anyone who has forgotten a word knows the feeling of grasping and finding nothing. If the same is not possible for tools it should suggest this may destroy the idea of a 'physical

6. Conclusion

In the conclusion I will do five things: (1) First I will provide a summary of the findings from each chapter. (2) I will consider how *The Extended Mind* thesis has held up to Virtue Theoretical Discourse. (3) I will discuss the importance of setting *boundaries* in skilled behaviour. (4) I will outlines Heidegger's appeal to high arts, higher form of *poiesis.* And finally (5) I will give an evaluation of the concept *modern* technology.

6.1 Summary

The outset was to give sufficient criteria to distinguish Devices from other tools. Devices were found to be compound. Portable. Smart. And future focused. The next move was to fit that definition within a broader *genus.* Then apply those aspects to the subclasses. Devices are technology which means they partake in a *revealing*.

As *modern* tools, Devices reveal the world in a mode of *Enframing.* This in turn renders each aspect a matter of *standing-reserve*. Which can be taken stock of and transformed into various forms. One particular revealing Devices excel at relates to displaying knowledge and persons and events. These elements are also transformed into *standing-reserve*; to be traded, shown and bargained for.

When knowledge becomes *standing-reserve* it is susceptible to analysis as a persuasive force [*dynamis*]. Which in turn is susceptible to analysis of rhetorics. Turning knowledge into standing-reserve has a corrupting effect on memory. The persuasiveness of *external* knowledge convinces the owner she is in possession of experience[53]. If she argues persistently and exclusively from this state, as is the case of *Ion*, she will look foolish.

vocabulary.' Firstly I will note that the average vocabulary counts in the tens of thousands, and range from very specialised words to common ones. A toolkit will yield far fewer varieties. Second though I should suspect there are immense studies in psychology that will also show that hammering is stored in a different section of the brain. I wonder if they tried hammering as a mnemonic technique.

[53] *The Extended Mind* thesis explicitly notes beliefs may be the product of active externalisation. (*coupling)*

Tool-use understood as a descriptive family of related concepts: *technological behavior* opens Devices to another logical and rational and functionalist point of analysis. Tool-use partakes in tool-games, closely related to language-games. The exact relation between different types of tools is fluid, because tools have a fluid *telos*. However the mind seeks stability in the whirl-of-living, and will therefore try to impose order. Because there is none--tools have no ordered *psyche*-- the result will inevitable fail: which creates logical contradictions and new bouts of *vertigo*.

The overall danger presented in this paper is that if the *Theory of the Extended Mind* is true, that the cognitive couplings that are made to Devices should be of a type which promote active inquiry of the type suggested by Plato in the *Phaedrus*. The opposite being the static and uninvestigated, yet impressively encyclopedic in its own way, which is ridiculed in *Ion.*

6.2 State of *The Extended Mind* thesis

The paper set out to examine the intersection between Virtue Theory and smartphones. A key conceptual framework was *The Extended Mind* thesis.

The Extended Mind mirrors Virtue Theory in an interesting manner. Both are theories which *thrust from the inside out*. In the same manne the mind *couples* with the local environment to create instruments, in *Techne,* the Aristotelian *form* is thrust into *matter* to create a being. That being has a motion and life to it within the logical bounds of its properties. This makes Virtue Theory amiable to *The Extended Mind.*

Heidegger and McDowell/Wittgenstein provided another interesting counter points. Heidegger is seminal within philosophy of technology and Wittgenstein is commonly referenced in the rebirth of Virtue Ethics in the 1950s. Both have provided conceptual frameworks which are explicitly compatible with certain aspects of *The Extended Mind*.

Where there is a point of friction it is that *The Extended Mind* thesis views technology as value neutral in regards to morals. Only energy efficiency, in terms of expanse and potency is measured. This single dimension of value comes under tension with some of the conclusions

found above. *Cleverness* is precisely an energy effective, if short term, solution to a problem. A resolution to this problem is to look back at how character virtues exist on a non-mathematical greyscale. The fulcrum of virtue is non-centered and individual. Cleverness gets you so far, but long term survival is best facilitated by long term strategies. I suspect there are more metaphysical similarities to draw on, but that is outside the scope of this paper.

With that said. This paper has strongly asserted that technology has no intrinsic essence. David Chalmers, the co-author of *The Extended Mind* thesis is a celebrated apologist of panpsychism. So is David Skrbina (2016). Andy Clark on the other hand, whom this paper has concentrated more on, seems to be a of a different persuasion. From what I can tell, his writing on the rise of intelligence and the properties of mental actions seem to suggest a view that consciousness is an emergent property.

Perhaps the most important finding is that despite the value of technology being neutral, it is possible to make value judgements. These value judgements come from the inside, reaching out. Virtue Theory can provide a robust and relevant platform from which to evaluate actions pertaining to technology within the framework of *The Extended Mind* thesis.

6.3 Virtue and boundaries

Once *practical* concern which has been made explicitly by many of the philosophers discussed in this paper is the setting of boundaries.

Heidegger explicitly affirms that it is in a state of *poiesis* the craftsperson will set the boundaries of the product. The final cause, though protean, is precisely such a being. Any produce of *Techne* is intended for something. Even if that something was routine or practice. It is once *poiesis* gives way to *Enframing* that the action becomes unfree and unbound. Because the *standing-reserve* is such aspectless fuel.

Socrates of course had the maddening habit of demanding and testing and midwifing definition. Defining *essential* boundaries between concepts is repeated in much of the

Platonic corpus. In this paper the *Ion* is the best example. Ion the rhapsode is unable to define and demarcate the limit of his art. Hence he has no art.

Aristotle created a whole typology of knowledge. He dedicated his entire life to categorise all matters of beings. In Book VI of the Ethics he also stressed the distinction between acting according to [*kata*] and with *[meta]* the correct knowledge. This distinction allowed him to separate *natural* virtuous behaviour from *full* virtue. The first being a talent or simply good habituation without having internalised the correct reason. Habituation is the lesser form:

> So, just as in the case of the part that forms beliefs there are two forms of condition (cleverness and practical wisdom), so also in the part responsible for character there are two (natural virtue and full virtue), and of these, full virtue does not come into being without practical wisdom. (NE VI 13 114b12-15)

In part this explains how Socrates was partially right when he said *wisdom* is virtue. As it relates to Devices and technological behaviour is that *deliberation* is the preferred mode of perceiving. This is because the practically wise [*phronimos*] is in the state of mind to constantly better herself and to take in *reality* how it really is. Not allowing for shortcuts or *cunning* (devious) shortcuts. When using a Device to solve a problem. Do so with a plan.

Wittgenstein in the *Tractatus* created strict limits to sound logical language and nonsense. Wittgenstein of the *Philosophical Investigations* argues strongly that to understand linguistic expression is to *use* it with proficiency. (*§146,§199*). This pertains to technology in the manner discussed in chapter 5. To know *how* to use a piece of technology, means to be able to assert or articulate some intended effect. As words are never stood alone, there is a holistic horizon to using both words and technology.

This pertains to skillfully applying technology in a simple manner. It suggests that by learning the principles by which Devices function; essentially learning the basics of code and computer systems design, the operator becomes familiar to the limits of what a Device can and cannot do. By knowing the perimeter bounds of a Device, one is less likely to be confused by malfunctions. By knowing the working principles of the Device, it is possible to enter into a *dialogue* with its interface. Gaining awareness of how the Device smartly *couples*

with the owners intentionality is a good way of seeing *divine inspiration* for what it is: flattery.

6.4 Heidegger and high art

Heidegger suggests that the rescue from the dangers of technology are found in the fine arts. The fine arts belong to *Techne* and *poiêsis*. He writes than *poiesis* and *Enframing* are distinct but similar and exclusive:

> Because the essence of technology is nothing technological, essential reflection upon technology and decisive confrontation with it must happen in a realm that is, one the one hand, akin to the essence of technology and, on the other, fundamentally different from it. Such a realm is art. (Heidegger 1977, p. 35)

Art has the power to shock the witness into a crisis of existence. To see the natural world for what it truly is. The Heideggerian technology is silent. Even in its promise, the exact mechanisms of what it does, how it does, what it can do, is faceless. Art partakes in the same silence. Peer into it and the possibility and freedom and vertigo of life surges forth.

As for technology itself. Beyond being *the* symbol of our era. Devices exist within a state of *technological behaviour.* This paper has concentrated on *epistemic actions* with Device in hand, but there are a plethora of other instrumental actions possible. Smartphones come with cameras and powerful processors. These are potent tools for any artist[54].

By reclaiming poesis Heidegger (1977) suggests that "as this destining, the coming to presence of technology gives man entry into That which, of himself, he can neither invent nor in any way make." and poesis is, unlike standing-reserve which is blindly cunning, concerned with making unconcealed rather than setting upon the world for future energy.

[54] In a world dominated by a high-turnover of artistic experiences that are stored as *standing-reserve* there are sites which operate counter to that. Microblogs like Vine, Twitter and Snapchat, have a built in obsolescence and a strict limits to their format.

6.5 Modern Technology

This text refers to *modern* technology. I have attempted to demonstrate that modern technology is not distinct from the technology of any other era. In chapter 4 we saw how Devices and books could be analysed by the same tools. That the technologists of our own era spoke the same words as those of the ancient world.

I write in the introduction that if there is a difference, it is that *modernity* is technology writ large. By this I mean that if there is a difference, it is in how technology is spread wider and more penetrating. This has led to technological behaviour*: Enframing,* on a larger scale. It has changed us for its persuasiveness, but *it* has remained the same. Because technology has no essence. There was never anything to change.

Heidegger states that "In truth, however, precisely nowhere does man today any longer encounter himself, i.e., his essence."(Heidegger 1977, p27) This he writes because of the totality of how technology reveals today. *Enframing* is a different promise, a different *destining,* and of different persuasive force than that technology which is approached from a mode of *poiesis.* Even the human element is subsumed into a *standing-reserve*. But even technology contains the promise of reversal: "What is dangerous is not technology. There is no *demonry* of technology, but rather there is the mystery of its essence." (Heidegger, 1977 p.28*)*

Plato would no doubt be horrified by the modern age. The digital age is a virtual age. The virtual world is an imitation world: a shadow of a shade of reality. Aristotle, intellectually synthetic, but politically conservative. I imagine would walk first quietly through the sprawling cacophony of modernity: perhaps he would remark how wonderful it is that we see farther and clearer than ever. And how terrible it is that our eyes remained locked at a tiny bright screen nestled in the palms of our hands.

End[55]

[55] Acknowledgements in short: From the institutional to the individual. The University of Oslo, with all its persons and institutions that have been good to me. My mother, father and brother-- whom have always been optimistic. Øyvind Rabbås for sage council. And last but not least, Ingrid, for bravely sailing the seas of philosophy with me.

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