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Heidegger and the question concerning technology

Hyett, Richard Anthony Charles

HEIDEGGER AND THE QUESTION CONCERNING

TECHNOLOGY

RICHARD ANTHONY CHARLES HYETT

M. LITT.

UNIVERSITY OF DURHAM

DEPARTMENT OF PHILOSOPHY

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ABSTRACT

A view of technology as a particular and partial way in which the world is revealed to us rather than as merely a means of producing or manufacturing. 'Being-the-world, ready to hand, present at hand, equipment, signs, conspicuousness, disturbance, region are key concepts in Being and Time which are relevant to an understanding of technology. An examination of Heidegger's explicit writing on technology and an examination of concepts as the 'standing-reserve' (*Bestand*), the framework (*Gestell*) and the 'fourfold'. These concepts are examined with reference to more modern everyday encounters with machines, switches, devices and grids. What are the different characterisations of technology? Other ideas test include the viability of describing technology as a distinctly 'modern' phenomena. Is there such a thing as a technological concept of time and if so what are its main features?

The second half of the dissertation examines ways in which we may come to regard technology as less than all pervasive, how do we might minimise its claim on us. How should we best handle, cope, reform, understanding technology given the problems technology confront us with. Heidegger's suggestions for alternate and less partial modes of revealing are described, modes of revealing such as 'Practices', 'The Work of Art' and' Language' and 'the Thing'.

i

CONTENTS

Section 2 How we come to view technology as less than all encompassing.

DECLARATION

Introduction

Important Questions Concerning Technology

Is there such a thing as 'technology'? This is a fairly common question in philosophy seminars on the topic. It can serve the useful philosophical purpose of making us more careful as to how we use the term. However if it leads us to the conclusion that there is in fact no such thing as technology, then perhaps we will be leaving the realm of common sense behind. One popular view of technology is that it provides us with an arsenal of means by which we may achieve certain ends. This view is I believe correct, but at the same time it presents only a partial view. If technology is regarded solely in this manner we will not get at its essence. The desire to get to the heart of something is perhaps what has made this enquiry a philosophical one. The attempt by Heidegger to grapple with the essence of technology provides illuminating and penetrating insights whose significance is likely to grow rather than diminish.

Technology raises many questions, some of which are listed below. Questions are important when they refuse to go away, when they return again and again, when attempts to answer them only feed the hunger for more and more explanation. The impulse to write this paper stems for the most part from the need to answer, or at least grapple with a series of questions. Any struggle to understand the world is linked to an attempt to feel at home in the world. Ideas which exert a hold on us, do so often because they help us feel at home in the world though an improved understanding of that world. For the writer the most appealing and immediately captivating of all was Heidegger's concepts was the notion of the 'standing-reserve'. It was the appeal of this idea which provided the main intellectual motivation for pursuing his writings and this enquiry further.

The paper falls into two sections, section one attempts to describe technology, section two suggests ways of coping with technology. Each section try's to explore a number of questions.

Section 1 The all encompassing nature of technology

- What relevance do key concepts from 'Being and Time' such as Being-in-the-world, ready-to-hand, present at hand, equipment, signs, region, have for technology?
- Does our understanding of something come first and foremost from using something rather than theorising about it?
- When can we be said to be in harmony with some thing or object like a tool and when can we be said to be not? How does the movement between harmony and disharmony occur?
- Which concepts used explicitly by Heidegger to explain technology have coherence? Concepts such as the 'standing-reserve' (*Bestand*) , the framework (*Gestell*) , the 'fourfold'.
- How is the world revealed to us by technology in our everyday encounters with machines, devices, switches,?
- What does technology do to our perception distance and of time, in particular to the way in which we regard the past, present and future?
- Is technology a distinctively new or modern phenomenon?
- Does technology drive a wedge between man and nature?

o   Are things built in defiance of nature or to accommodate it, in ignorance of the limits of things or finely judging them?

o   How do we cope with increasing volumes of information?

Technology encourages us to regard things as on call, summoned up at will, utterly available, manipulable and permanently present for use. This in turn encourages us to forget where things come from, how they came to be, the innate ability of things to withdraw, to become absent, to cease to be. It encourages us to forget the fragility and mystery of things. Heidegger's concept of *Bestand* or 'standing-reserve' is simply the notion that everywhere everything is ordered to stand by, to be immediately at hand, to stand there just so that it may be on call for further ordering. Whatever is ordered about in this way has its own standing, the standing-reserve. Such a conception is not too dissimilar to that which Heidegger calls 'ready-to-hand'. Similarities and differences are explored in the paper.

In his early work Heidegger defined inauthenticity as the denial of ones own limits. Later he decided that inauthenticity results not from lack of personal resoluteness, but is instead a cultural phenomenon resulting from the 'destiny of Being'. Because beings are now destined to present themselves only as objects for use, we cannot avoid treating them as commodities. We are drawn to force things, including the environment that sustains us, beyond their limits. The distinction is not one between growing things and things which do not grow, or between the natural and man made, rather he is asking, whether today there are still things at all, or whether we have come to regard everything as 'on call'.

Hand in hand with this view is a tendency to regard boundaries or limits to things as obstacles to be overcome. A limit far from being something to be observed and respected becomes a hindrance to progress. Technology seems to encourage us to push things to their very limit, to discover just how far we can go before something breaks down, becomes useless. Yet there is paradox here, a paradox which is a central concern of this paper. To push something to its limits, breeds a knowledge or an awareness of where those limits are, knowledge hither to unknown, a knowledge of where to stop, that to go beyond a certain point is to render something useless. Having ascertained the limit we tend to use that knowledge to prolong the utility of the thing we are using ,so that the thing may continue to be a means to our ends. If there is a limit to what technology can do for us this is perhaps it. One of the greatest influences on Heidegger was the German poet Holderlin. One of the phrases he is most fond of quoting was from the poem *Patmos* 'But where danger is also grows the saving power'.

Our relationship with the earth with other human beings is increasingly mediated by technology in some form, be it a tool, a machine, or a device. Our perceptions and senses are all governed to some degree and at some point by machines. As industrialisation continues to spread across the globe, so more and more people have technological tools at their disposal. Potentially technology seems to offer practical solutions to almost every problem including the population explosion. There are not many people who would claim that technology will slow down. Technology in modern times is very much linked to power, to that which is growing rapidly, to that which is seemingly inescapable. The seemingly inexorable progress of technology and the collapse of

distance and time is often linked with the growth of population as being the two most significant trends of our age.

It is important then that we should understand how to use technology. When something is of no use to us, we fall into a state of disharmony with it. Further explanations of how a thing was made, what processes and techniques it embodies, what materials it uses are often not necessary for our successful utilisation of it. We use so much technology in our every day lives that it would be impossible for us to learn how all things were made. Consequently when technology goes wrong we are usually powerless to find a solutions short of replacement, where replacement is an option.

Technology does not render us powerless when we have command of it. To spend a significant proportion of time attempting to master one area in which technology is advanced is to have a skill which is worth something. Provided one chooses wisely it is a reasonable assumption that other people must follow in your foot steps, and that by learning certain skills you place myself in a favourable position be being ahead of the field. Technology goes hand in hand with newness, with innovation in this sense it represents the future. In exploring technology one is making an investment in something that will never go away. Others will have to follow if they are too accomplish tasks, fulfil demands made of them. Technology represents the way forward, irrespective of what we think of the direction in which it is going. Technology represents an improvement, narrowly construed in terms of speed, quality or efficiency, though not always all three.

Heidegger does not mention technology explicitly in 'Being and Time'. However application and use are terms which are usually associated with technology and in 'Being and Time' considerable time and emphasis is given to stressing the role that use plays in our understanding of the world. The first chapter looks at concepts such as :- 'Being in the World'; 'present at hand' (*Vorhanden*) the being of objects; 'ready-to-hand' (*Zuhanden*) the being of tools; *Dasein* the being of humans; 'equipment'; and .'region'.

In 'Being and Time' instrumental activity is the basic way of being in the world. Apart from the activity of producing and making and manipulating the sole alternative is to treat things abstractly. Objects which are problematical provoke questioning and enquiry, the result of which may be 'use', it may be that they are consigned to oblivion. Those objects or tools 'ready-to-hand' are available and provide the means by which Dasein may carry out his purposes. The prominence in terms of the fundamentally assigned to the 'ready-to-hand' in 'Being and Time' seems paint a picture of man as technologist.

It is not clear whether 'Being and Time' promotes technology or opposes it. The tendency of technology to turn everything into the 'standing-reserve' is encouraged or anticipated by the understanding of the being of the 'ready-to-hand' of equipment. 'Being and Time' sets out to rescue beings from objectivity and representation by returning to a pre-philosophical and ahistorical understanding of equipment. How entities are revealed to us, how we encounter entities in our concerned dealings with the world. The ready-to-handiness of equipment as not only the most fundamental or primordial way that human beings encounter entities, but also as the way that we first encounter everything and has been so since the start of human history.

These claims for the ready-to-hand, the claim of primordiality and ahistoricality are not without problems. By gazing at objects and enquiring of them, in other words by regarding them as present at hand, we turn them into objects for use. Equipment, we just know how to use all along. If man or Dasein is first a tool user then it is paradoxical that it is object gazing which often leads to the emergence of tools. The objective gaze does result in problems being solved, even if this just gives rise to more problems. If man has always been first and foremost a user of tools and objects, then why is technology a distinctively modern phenomena as Heidegger clearly thinks it is?

When we think of the ready-to-hand we are inclined to think in terms of purpose, ease of use, familiarity, the sign like and equipmental nature of things. There is no mystery when something is ready-to-hand. Was Heidegger right to give priority in terms of understanding, to ease of use, over the feeling of consternation and perplexity which can be provoked by objects, particularly those we cannot use? A feeling which invites abstraction and dissection. 'Being and Time' far from paving the way for the 'standing-reserve' offers faint glimmerings of how the technological view may reveal itself as partial, particularly those sections which outline how are understanding of the world may be disturbed, how we may experience a dislocation of expectation. Concepts use to explain this are:- *'Obstinacy Disturbance and Conspicuousness'*.

Heidegger's earlier emphasis that we are grounded and oriented in the world by the tools we use, on the ascription of primordiality and prominence to the ready-to-hand, to man as a person engaged fundamentally in practices as a way of coping with and hence understanding the world seems inconsistent with the later Heidegger who ascribes more importance and emphasis to non utilitarian activities, to letting things be rather than manipulating them, to an emphasis on man the listener, the one who waits, the participant as mortal in 'the four fold', the man who lets beings be. In other words to a view of the world in which things have a life of their own, which man may engage with but not manipulate.

The key concepts of *Bestand* and *Gestell* recur frequently in essays such as 'Building Dwelling Thinking', 'The Question Concerning Technology', 'Modern Science, Metaphysics, and Mathematics', 'On the Essence of Truth', 'The Origin of A Work of Art', 'The Thing'. Technology is an often recurring theme containing views on how technology has emerged and how it is best characterised. These concepts and technology in general are not mentioned in 'Being and Time' though there are many points of contact.

'The Question Concerning Technology' is Heidegger's key essay on technology. In it he begins by affirming the correctness of the definition of technology as a neutral instrument, and a human activity. He then provides an interpretation of what an instrument is and does much to undercut many shallow conventional understandings of instrumentality. With simple examples he explores in a novel way what it is to *give* and to *take*, to *store* and *retrieve*, ideas which lie at the heart not just of technology but of our everyday being in the world. This back to basics approach, the invitation to encourage us to rethink the meanings of words which we tend to take for granted, is one of the more rewarding products of any reading of Heidegger.

Heidegger encourages us to move away from a perception of technology as a neutral tool and a human activity. Technology involves a way of ordering things and technology is a mode of revealing, it is a way in which things come to presence. Technology should not be conceived simply in terms of machines and devices, to do so it to miss its pervasive all encompassing nature. Despite this Heidegger rejects any claim that science and technologies enjoy a sovereignty over all ways of uncovering beings. He fears that we should come to see technology as the only way of making beings manifest. Many of his later essays seek to stress the partiality of the technological viewpoint.

From *Clearing* to *fourfold*. Technology conceived as a tool, a way of ordering, a way of seeing things, a mode of revealing. Man or Dasein slowly moving away from creator, master and manipulator to being a participant, from being at the centre to the periphery, from being a creator to an observer of the way in which things appear to us, are revealed to us. It is not clear who or what is doing the revealing but it does not seem to be human. In his earlier writings Heidegger suggested that it was human Dasein which constituted the clearing in which things could manifest themselves or be manifested. Something of this idea remains, Being continues to need man. Later however he wrote that things did not appear because we disclose them, instead things call forth a world in which they can reveal themselves, a world of *gods* and *mortals, earth* and *sky*.

Any philosophical enquiry must show to what extent the apparent organisation of technology manifests basic features. Technology as comprising a recognisable pattern which structures and constrains the fabric of modern life. The rise and rule of this pattern constitute the most consequential event of the modern period. The contention that the objects of technology have brought about a novel restructuring of time and space and that technology is distinctively modern will be questioned at length. The extent to which the objects that we most commonly associate with technology display certain features in our encounters with them will be explored with respect to machines, devices, switches, systems and grids.

Section 2 : How we come to view technology as less than all encompassing
o   How should we best cope with technology?
o   To what extent can rhythms and cycles put parameters on the past, present and future?
o   How plausible are Heidegger's suggestions for alternate and less partial modes of revealing?
o   What role does the 'dislocation of expectation' have for understanding technology?
o   Can language orientate us?

Heideggers proposals for coping with technology are discussed in the second section of the paper. The stratum of latent, familiar yet hidden relations with the world Heidegger calls everydayness. Being-in-the-world is structured by a background of practices. These practices cannot be translated into a set of beliefs, they are not subsumable under a theory. The pivotal phenomena is skill. Skill is not explainable as rule application. Practices provide the basis for understanding technology.

Coping with technology will come about through activities rather than correct application or use of tools of technology. To concentrate on use takes us back to a view of instrumentality which is true but only partially so.

Heidegger grounds his thinking in practise, in what people do rather than merely in what they say they do. He attempts to describe what goes on in our everyday skilful coping with things and with people in a shared world. These common coping skills contain a familiarity with the world which orientates and guides us. The simple skills he describes, are for example hammering, walking in a room, using car signals. Part of the impact of technology is to require that we learn a whole host of new and simple skills and that it is a mastery of these new skills which is required to maintain a position in which we do not need guides or maps.

By focusing on the objects we create, the work we do, the surfaces and textures of everyday life, Albert Borgman in 'Technology and the Character of Contemporary Life' is able to set out the concrete ways in which we may immerse ourselves in different practices and things. He refers to activities such as fly-fishing, hiking, gardening, running and preparing the big meal of the day. In each case there is both the 'thing' in Heidegger's sense and an associated practise that nurtures the thing in question. The thing and practise serve as a focus for the world of the practitioner. A focus which engages the practitioner in depth rather producing a sense of distraction so characteristic of 'technological 'leisure. Practices are meaningful communal activity offering a alternative or a middle way between solipsistic withdrawal and being part of a herd. Take the example of man or Dasein in the workshop, it is true that the workshop is for the sake of something, that he views his surroundings in intentional terms, yet other aspect the workshop as a world and a location of regions stresses the orienting aspect of the workshop rather than that of utility.

On the one hand a view of time in which each gesture involves absorption in the present, full concentration on each movement and gesture, on what is happening now, with no distracting glance to the future or the past. A single-mindedness of view, a full absorption and concentration on each movement with the present towering over the future. Is this the attitudes toward time inherent in modern production? Or does 'technological' time encourage a planning, engineering attitude to the future, not just limited in scope to the business sphere, but to all life. The two key elements in rhythm are regulated succession and measure flow. The most obvious rhythms in our experience are breathing, heartbeat, speech, walking, running, cycles of the sun and moon, yearly events, birth and death. Meanings are engendered when patterns are formed. Rhythms are circular patterns a reaching out then returning to the same point again and again. We need the past and the future to be parameterised with a beginning and end, without such boundaries time becomes distended and spread. When learning to drive a car, to ski, to master a new language, perform a new job we may decide on any number of approaches. One particular approach if successful may be taken as a guide when encountering future situations. It is by means of rhythms that we are able to grasp wholes, understand the beginning and end of a movement in all its diverse elements. Without rhythm our actions are slow cumbersome and choppy.

The 'thing' is inseparable from its world. There is a close and direct involvement between means and ends, the 'thing' calls forth a rich commerce with its world, often demanding bodily exertion, the commitment of time, the development of skills, the 'thing' engages the human being in depth. The 'thing' unlike the device does not relieve us from burdens nor does it simultaneously dis-engage us from this world. Heidegger speaks neither of reform, nor of activities, but of things. The 'thing' which is more than an object. 'Things' imply at first glance

10

something which is other, where activities tend again at to imply human centred activity. The 'thing' is never represented it is always something more than an object. The 'thing' things!

We can understand technique or technology only by getting at the root of all discovery. Discovery is something that happens to us, an event, rather than an activity that we are engaged upon. Technology involves discovery, it can be contrasted with another kind of discovery, what Heidegger calls 'the work of art'. The essence of technology is nothing technical, just as art is fundamentally not an aesthetic phenomena. By mediating on one can reveal perhaps something that is hidden in the other.

A discussion of Heidegger's conception of language is important too, since it points to certain key terms such as truth and releasement. It is central to 'Being and Time' that the world of equipment or equipmentality is grounded upon structures of intelligibility which are constituted by the essence of language (discourse). Art forms are also dependent on the structures of intelligibility constituted by the essence of language (discourse). This leads to the question or enquiry, 'How do linguistics or language concepts inform our experience of things in everyday life?'

> 'Human existence does not possess or project temporal openness, but instead is possessed by it. This openness is articulated by language, which is the self, expression, abode or house of Being.' (LH 213).

> 'Language is a gift which imposes on us the supreme obligation of bearing witness to beings.' (EB 274/34)

The question is does 'Bearing witness' or 'letting Beings be' may mean an active engagement to reveal them or letting them alone to pursue their own course?

CHAPTER 1

'Being'

What is the relation of philosophic enquiry to ordinary life? Heidegger concludes the first section to his introduction to 'Being and Time' with a comment that in activities humans are constantly making sense of themselves and of everything else. In investigating the question of being, in seeking to understand the understanding of our practices, he is doing what every human does all the time.

In the description of the disclosure of the environing things in 'Being and Time' Heidegger sought to deprive theoretical seeing and knowing of the priority they have enjoyed in the philosophical tradition since Parmenides. In other words the practical takes priority over the theoretical and everyday experience priority over scientific cognition. This however Heidegger was at pains to point out is not to assert 'that the essence of man lies in wielding a spoon and fork and riding on a street car.' 1 There is a difference between describing how we 'first and for the most part' (*zunachst* and *zumeist*) acquit ourselves in everyday experience. and claiming that man is essentially a practical user of practical instruments. What is 'first and for the most' part is neither primordial nor is it fundamental.

Heidegger seeks to demonstrate:-

o   Ways of being of equipment and substances, actors and contemplators presuppose a background understanding of being or 'Being-in-the-world'.

o   That the situated use of equipment is in some sense prior to just looking at things.

o   What is revealed by use is ontologically more fundamental than contemplation which reveals substances with determinate context free properties.

Being is not a substance, a process nor an event, rather it is a fundamental aspect of entities or that which is most fundamental about entities. Being is that about entities which they all have in common. According to Rorty in his "Essays on Heidegger and Others" 2 Heidegger speaks of *being* because he wants to direct our attention at something we have no tools for manipulating, something which resists the technical interpretation of thinking. Heidegger is not pointing to some other phenomena that lie behind or beyond the being of entities. Okrent in ."The Truth of Being and the History of Philosophy" 3, claims that Heidegger uses the term Being in two distinct senses. Firstly as that which is most general about any being, that which every being possess in that it is at all. Secondly as the truth/sense/place of being.

The opening or clearing which allows Being as prescencing to appear and manifest itself. The disclosive structure of entities indistinguishable from other entities but neither separate nor reducible to them. The essence of entities lies in their rendering themselves intelligible, a kind of automatic unveiling. This movement to automatic unveiling happens only in conjunction with the disclosive movement which is the structure of man. As Rorty puts it :-

> 'There is no more to Being than its understanding by Dasein, since Being is not a power over and against Dasein.' 4

Dasein is Heidegger's technical term for that which is distinctively human, but more than this :-

> 'Self and world belong together in one entity, Dasein. Self and world are not two entities, like subject and object or like I and thou; rather self and world are the basic determination of Dasein itself, in the unity of the structure of 'Being-in-the-world'.   (BT 64 pp364)

Thus Dasein comprises more than just one person and more than just people. Existence within the world is a necessary structure of Dasein

> Dasein, as essentially understanding, is proximally alongside what is understood. (BT 34 pp207)

Built into Heidegger's view of understanding is that beliefs and desires must be ascribed together. In other words that Daseins Being-in-the-World is :-

> 'The foundation for the primordial conception of truth' (BT44 pp261)
> 'There is no such thing as a disinterested quest for truth.
> 'Being and truth are equi-primordial'(BT40 pp230)

Our relation with being is one of fragile co-dependance, it is not a question of power relations, of it being larger and stronger than us. The primordial sense of truth is more basic than the traditional one which presupposes a subject-object dichotomy. The primordial sense of truth must be sought in terms of Being-in-the-World. Within Dasein's Being-in-the-World the meaning of truth is the quality of discovery. Any attempt to see truth as certainty, or to find direction from outside can be viewed as an attempt to escape from time or to view being independently of time. Heidegger seeks to recapture a sense of contingency, of the fragility and riskyness of any human project. Time has fallen under the spell of eternity, our tradition suggests that the transitory and fragile can be safely neglected. That which is significant or has meaning is often associated with that which survives, lasts or endures. That which endures is not always that which is prevalent or even in the ascendant.

Being-in-the-World

'Being-in' is not a property which Dasein sometimes has and sometimes does not have. It is not the case that man 'is' and then has, by way of an extra, a relationship-of-Being towards the 'world' - a world which he provides himself with occasionally. (BT 12 pp84)

> There is no such thing as the 'side-by-sideness' of an entity called 'Dasein' with another entity called 'world'. (BT 12 pp81)

The world is so self evident, so much a matter of course and we are so implicated in it that we are usually quite oblivious to it, it is a taken for granted sphere of activity and interest which embraces existence. The 'World ' for Heidegger is not nature, nor the sum of things that happen to surround us.

> 'The world is not the mere collection of the countable or uncountable, familiar or unfamiliar things that are at hand. But neither is it merely imagined framework added by our representation of the sum of given things. The world worlds, and is more fully in being than the tangible and perceptible realm in which we believe ourselves to be at home. World is never an object that stands before us and can be seen. World is the ever non-objective to which we are subject as long as the paths of birth and death, blessing and curse keep us transported into being (OWA, 170-171)

> 'The World comes not afterward but beforehand' (BPP)

If we think of a preposition such as 'in', the first sense which comes to mind is that of physical inclusion, only second may be the sense of in which implies involvement, e.g. being in business, being in love. Similarly Dasein has a tendency to interpret itself in terms of the objects with which it deals overlooking the fundamental experience of involvement. The sense of 'in' to which 'Being-in-the-world' refers is one of dwelling rather than merely inclusion, a relationship that is:-

- full of concern, marked by ties of work, affection, responsibility, interest and memory or
- not full of concern, leaving things undone, neglecting responsibility.

Our way of being Heidegger calls 'Being-in-the-world', the 'in' does not specify spatial containment, we are our worlds. "Being-in-the-world" is the basic state of human existence, the activity of existing , Heidegger calls 'Being-in-the-world', in other words everything which exists has an environment. Dasein is the only being whose existence can be describe as "Being-in-the-world". A characteristic of humans but not of other entities. Heidegger argues that strictly speaking objects cannot touch each other, in the sense of mattering to each other, though obviously they can touch in a physical sense. An entity for which other entities is present has a world, but this is not "Being-in-the-world".

> A stone is worldless. Plant and animals likewise have no world; but they belong to the covert throng of surroundings to they are linked. The peasant woman on the other hand has a world because she dwells in the overtness of beings. Her equipment, in its reliability, give to this world a necessity and nearness of its own. By the opening up of a world, all things gain their lingering and hastening, their remoteness and nearness, their scope and limits.' (OWA, 170-171)

A standard view of the world is of a collection of objects linked causally and spatially. These objects are substances which possess properties such as size colour and density, properties which identify and distinguish them, they also provide links between objects, those of the same size shape colour etc. This account of the world is not false, but partial, what it ignores is the extent to which the world is a human one. Heidegger uses three factors in support of this account.

- **The equipmental character of things**
- **The sign like character of things**
- **The negative**

Entities are revealed as Equipment as Signs or by Disturbance. If these are essential attributes of things then perhaps the world is human and that there is a more fundamental view of the world than as a collection of objects linked causally.

Equipment -Availability

Equipment is the basic ways of being of entities other than Dasein. The notion that entities are primordially encountered as equipment is a compliment to Heidegger's insight that the world is the domain for human practical activity. However Heidegger does not want simply to privilege the practical, rather he seeks to describe a more fundamental involvement of people with things than the relation between self referential

mental content and objects outside the mind. What we encounter, use have dealings with, are not mere things, rather we use things at hand to get something done. The things he calls equipment are broad enough to include whatever is useful, be it a tool, a dwelling materials, clothes etc. We shall call those entities which we encounter in concern '*equipment*'. In our dealings we come across equipment for writing, sewing, working, transportation, measurement. The kind of being which equipment possesses must be exhibited. (BT 15 pp97) Utility and context are always implied by 'equipment'. The location of the meaning in the 'for' make it dependent on context. In the case of the hammer, meaning is connected with the shape of the hand, the strength of the arm, the structure of the nail and the wood and all events leading up to and following from the act of hammering. What makes a given entity a piece of equipment, is its place within a totality of equipment.

> Taken strictly there is no such thing as an equipment. To the Being of any equipment there
> always belongs a totality of equipment, in which it can be this equipment that it is. (BT 15
> pp97)

Equipment is essentially 'something in order to....' Its essential structure is one of assignment or reference of something to something. A piece of equipment is defined in terms of what one uses it for. The functionality that goes with the chair, blackboard or window is exactly that which makes the thing what it is.

> 'Equipment can genuinely show itself only in dealings cut to its own measure hammering
> with a hammer for example'. (BPP, 164)

Equipment is defined by its function 'in-order-to' in a referential whole but to actually function, equipment must fit into the context of meaningful activity. This Heidegger calls involvement *Bewandtnis*. In a workshop, for example, the whole of involvement's which is constitutive of the available, is earlier than any single item of equipment. s Hammering makes sense by referring to nails, wood etc. The activity of hammering, the use of equipment makes sense because the activity has a point. To use more Heideggarian terms the activity is a 'towards which' or a 'for the sake of which' .The 'towards which' is Heidegger's non intentionalistic term for the end points used in making sense of a flow of directed activity. However the activity or action is not comprehensible in terms of the desire to reach some goal. Activity can be purposive without the actor having in mind a purpose. Human beings can relate to the world in a purposive manner without the accompaniment of representational states that specify what the action is aimed at accomplishing. This can be seen is skilled activities such as skiing, habitual activity such as driving or washing, spontaneous activity such as gesturing. Often one is surprised when the task is actually accomplished. Much of such activity is just reacting to particular situations.

With hammering, there is an involvement in making something fast; with making something fast there is an involvement in protection against bad weather; and this protection is **'for the sake'** of providing shelter for Dasein, that is to say for the sake of a possibility of Dasein's being. 6 The primary 'towards which' is a 'for-the-sake-of-which'. Heidegger uses the term 'for-the-sake-of-which' to indicate the way in which human activity makes long term sense. Sense not in terms of a goal but in terms of a self-interpretation that informs and orders all activities.

A piece of equipment is a piece of equipment no matter who uses it. Equipment such as buses or hammers are for anyone to use. There is a normal or appropriate way to use equipment, a chair to sit on, a pair of glasses to help see. Norms tell us right or wrong but do not require any justification. In the West one eats with a fork and knife, in the east with chop sticks, for each culture there are equipmental norms. It is not human agreement or consensus which decides what is true and false, there is no agreement in opinions, there is agreement in forms of life in background practices. It is through average public practices, that the world in made in intelligible and through which there can be such a thing as understanding at all.

Signs

'Being-in-the-world' is proximally though not exclusively a matter of concernful dealings with entities within-the-world, of manipulating equipment rather than theoretically cognizing things. 'What we first hear is never noises or complexes of sounds, but the creaking wagon, the motorcycle. We hear the column on the march, the north wind, the woodpecker tapping, the fire crackling. It requires a very artificial and complicated frame of mind to 'hear' a 'pure noise'. The fact that motor-cycles and wagons are what we proximally hear is the phenomenal evidence that in every case Dasein, as 'Being-in-the-world', already dwells alongside what is ready-to-hand within-the-World. To cope with signs is to cope not just with them but with the whole interconnected pattern of activity into which they are integrated. We often act appropriately with respect to the turning signal of a car in front of us even if we are not driving. As a sign it points out a shared context of practical activity. This instinctive feel for the technology possessed is gleaned by a process of long familiarity. If we imagine someone from the 19th Century transported to our own time it would be difficult for them to adapt to our modern technology, systems of road traffic etc. A nation of children brought up playing computer games will find it easier to come to grips with an aircraft's missile tracking system or air traffic control.

> A sign is not a thing which stands to another thing in the relationship of indicating; it is rather an item of equipment which explicitly raises an equipmental whole into our circumspection so that together with it the worldly character of the available announces itself. (BT 17 pp110)

It is important to stress that signs do their job only because we already know our way about the world. A sign is a sign only for those who dwell in that context, it presupposes a certain level of orientation.

How we commonly encounter or cope with entities.

There are two basic ways of being, being human which Heidegger calls Dasein and non human being. Non human being is divided into two categories.

1. The being of Tools (equipment), Ready-to-hand, (*Zuhandenheit*)
2. The being of Objects, Present-at-hand, (*Vorhandenheit*)

It is as equipment that we first encounter the worlds contents. We encounter a particular object for a certain kind of purpose. Everything, even an object of nature is encountered first as 'ready-to-hand', only later can it be encountered as 'present-at-hand'. The world is not divided into two kinds of entity. The 'ready-to-hand' once 'discovered' can be analysed dissected etc.

We encounter things as 'ready-to-hand' in our 'dealings' and traffic (*umgang*) with them. By dealings is meant the kind of concern which manipulates things and puts them to use, a full bodily concern rather than mere

perceptual cognition. Further there is no gap between our encounter with things and our interpretation or understanding of them. 'The hammering itself uncovers the specific manipulability of the hammer'. It is the human project which gives meaning to the 'for the sake of' the 'in order to'. The essence of the 'ready-to-hand' is reference, directionality and indication. This does not correlate with a view of the world that specifies causal and spatial relations between objects, and perceptual relations between objects and ourselves.

What we encounter 'proximally and for the most part' includes technological equipment. Things which are encountered 'ready-to-hand' are called equipment. Equipment is that which is in some way mediated by man, has his fingerprint on it. The readiness-to-hand of a piece of equipment consists in it having a certain significance. This significance consists in how appropriate it is for various roles and how inappropriate it is for others. Such equipment is ready-to-hand, yet technology for Heidegger is based upon a reduction of *being* to objectivity. Heidegger does not later see technological equipment as simply more complex tools. How does he square this ease of use, this familiarity, with its basis on separation or objectification, with man as subject?

There are four ways in which Dasein can cope with beings and thus four ways in which the being of these entities is thus revealed. The fundamental modes (ontological categories) in which the world appears to us are presence at hand and readiness to hand, terms which Dreyfus 7 in his commentary on 'Being and Time' calls *availableness and occurrentness'*, and two modes of comportment, dealing with (*Umgang*) and cognition (*Erkennen*), that reveal them.

Ready-to-hand
o   Dasein can get by, cope and if there is a problem Dasein can simply switch to some other mode of coping. Either way all that is revealed is the manipulability of the available.

Three kinds of presence-at-hand.
o   Dasein can confront the equipment in context as somehow defective and try to fix it. Dasein thus is the 'subject' and the equipment the 'object' which has aspects whose way of being is *unavailableness*.

o   Dasein can de-contextualise its object, revealing context free properties, these can be contextualised in formal models and scientific theories

o   Disinterested reflection no recontextualisation, reveals isolated entities

'Present-at-hand' (*Vorhandenheit*)
The way of being of objects, understood as isolated, determinate, substances, Heidegger calls *Vorhandenheit*. This term is either translated as present-at-hand or 'occurrentness' and refers to self conscious or disinterested reflection, an attitude in which there occurs a feeling of separation from matters. Properties independent of human practical ends are what characterise the ready-to-hand. To think about the world or entities within it in as abstract things, the object of casual curiosity. That which resists our grasp, it initially looks like what we

want but ultimately falls short. Present-at-hand is discussed as a deficient (though not by Heidegger) mode of being, to be accounted for by the reductions and dislocations it presupposes.

o   The present-at-hand as a particular kind of performance, one view is that the present-at-hand is that which is left over when the practical world is abandoned and the ready-to-hand is decontextualised. What accounts for the objectivity and independence from us of present-at-hand things is their inability to play a role in our practical activity. Beings as objects of enquiry into the 'natural' or 'inherent' properties of these objects. These objects are the focus of a theory and are presumed to be intelligible in their own right.

o   Present-at-hand in the sense of **things disclosed in anxiety.** What is disclosed in anxiety is a nature which is indifferent to human concerns, an earthquake or a volcano. The lack of dependence of things on the world of significance, meaning, the referential totality. If such disclosure is more fundamental than the world of practical concern of readiness-to-hand then how can it be established that the ready-to-hand is prior?

Ready-to-hand (*Zuhandenheit*)

Heidegger's notion of readiness-to-hand of objects reflects the seamless, unhesitating way in which these objects are taken up in practical activity, a peculiar grace of smoothness which are characteristic of a practise. The primordial form of readiness to hand refers to a relationship which is not merely spatial but one which radiates meanings, for example a carpenter to wood, an engine to a mechanic

> 'If we look at things just 'theoretically' we can get along without understanding readiness-to-hand but when we deal with them by using them, and manipulating them, this activity is not a blind one; it has its own kind of sight, by which our manipulation is guided and from which it acquires its specific Thingly character. Dealing with equipment subordinate themselves to the manifold assignments of the 'in-order-to'. And the sight with which they thus accommodate themselves is circumspection.' (BT 69 pp410)

Alternate Modes

Presence at hand and readiness to hand are not alternative attitudes which we can choose to adopt or reject at will. Rather they are descriptions of different modes of closeness and involvement with the world which are necessarily part of existence. It makes no sense to promote or criticise one or other by itself, for both attitudes are part of being-in-world.

Theoretical Knowledge must be understood as derived from and founded in more engaged modes of understanding.

> To lay bare what is just present-at-hand and no more, cognition must first penetrate beyond what is ready-to-hand in our concern.'(BT 15 pp101)

When Heidegger says in the next line,

> 'Yet only by reason of something present-at-hand, is there anything ready-to-hand.'

In other words there couldn't be a hammer unless there was an object with objective features like shape. There seems to be a circle, present-at-hand being founded in readiness-to-hand which in turn 'is given' only 'by reason' of present-at-hand. By moving from readiness-to-hand to present-at-hand we loose everyday familiarity with things and this leads us to overlook what things are. This dislocation has a dual effect of threatening loss of meaning and at the same time makes things visible, which seems to be a paradox.

One interpretation, if one starts from Dasein's everyday preoccupation with equipment then one reaches **nature** only secondarily with a shift of focus which brings present-at-hand to the fore, in other words nature dependent on the prior showing of an apparently primordial ready-to-hand. Heidegger never says that ready-to-hand is primordial.

> 'Perhaps even ready-to-hand and equipment have nothing to contribute as ontological clues in interpreting the primitive world. (BT 17 pp113)

Is there then another aspect to the world as we experience it? An aspect which cannot be catered for in either the ready-to-hand or the present-at-hand. For example going for a stroll in the woods, the woods are not theoretically observed ('present-at-hand') nor are they precisely 'ready-to-hand' equipment.

In 'Being and Time' instrumental activity is the basic way of "Being-in-the-world" this has led some commentators to see it as paving the way for a world conceived in technological terms. Those parts of 'Being and Time' which seem most relevant to technology, primarily the tool analysis, the distinction between *Dasein* the being of humans, *Vorhanden* the being of objects and *Zuhanden* the being of tools. Apart from the activities of producing, making and manipulating, the sole alternative is to treat them abstractly (curiosity or scientific scrutiny). Objects are problematical, they provoke questioning and enquiry, the result of which may be 'use', it may be that they are consigned to oblivion. The 'ready-to-hand' are available and provide the means by which Dasein may carry out his purposes. The prominence in terms of the fundamentally assigned to the 'ready-to-hand' in 'Being and Time' seems paint a picture of man as technologist. It is the car driver who is the tool user, the one whose relationship with the car is primarily one of use. The mechanic is someone who regards the car in an analytical way. For one the car is equipment, for the other, object, 'ready-to-hand' and 'present-at-hand'. The mechanic and driver both inhabit different worlds, but which, if any is more fundamental? They both exhibit degrees of orientation of being at home in their own respective worlds, the race track and the garage.

One understands something not when one cognitively grasps its content, its 'What', but rather when one can cope with it. The formulation in terms of coping is that of from Dreyfus.[8] Understanding something is competence with it. To understand something is to let it play some role for you.[9] Anticipation requires planning, forethought, it is not just responding 'instinctively' to a situation. To rely on instinct is not to choose and only in choosing can there be a degree of skill. Room for manoeuvre the range of possibilities available in the current world. The range of possibilities Dasein sets up for himself, what in a specific situation it makes sense to do, these are known without reflection. There is a contrast between all the possibilities opened up by the world including all that is logically and physically possible and the existential possibilities. In other words those possibilities which make sense to someone involved in the current situation. My understanding activity is directed towards bringing something about for the sake of which. My 'for the sake of which', organise and give

sense to specific possibilities. This coping which has a point Heidegger calls projection. Projection gives us all room to manouvre, given the range of possibilites available in the world.

CHAPTER 2

Distance, Region and De-Severence

The development of the transport, energy, telecommunication infrastructure tends to eradicate the space

dimension, where electronic programming irradiates the time dimension by allowing the programming of

events in micro seconds. A primarily aim of information and communication technologies is the compression

of time, and the division of time into increasingly small and finite units.

> 'Hourly and Daily they are chained to the radio and television......... All that with which
> modern techniques of communication stimulate, assail, and drive man - all that is already
> much closer to man today than the fields around his farmstead, closer than the sky over the
> earth, closer than the change from night to day, closer than the conventions and customs of
> his village, than the traditions of his native world.' (DT50)

Heidegger cites the example of a radio.

> All of the ways in which we speed thing up, as we are more or less compelled to do today,
> push us on towards the conquest of remoteness. (BT 23 pp140)

Film, television, commerce bring everything that is equally near, things become empty, null, lacking

distinction. Yet this is a negation of Dasein.

> The here of Dasein's current factical situation never signifies a position in space, but signifies
> rather the leeway of the range of that equipmental whole with which it is most closely
> concerned
> (BT 70 pp420)

It is quite possible to spend a day looking at nothing but images on a screen, listening to disembodied voices of

people we cannot see. We become increasingly inured to natural cycles, the coming and going of the seasons.

Day and night no longer have the same impact on our lives. Conversely the instruments of technology, that

which mediates between us and the environment, cars for example, take on an increasingly important role,

often coming to be regarded as extensions of ourselves, worthy of and demanding more care and respect than

the 'natural' world.

Heidegger's concern is not with the nearness or remoteness of a particular piece of equipment with respect to a

particular person but to illuminate the role of concern in opening up the possibility of remoteness and nearness.

What is near is that with which I am absorbedly coping. Spatiality is no longer a composed of 'places', each

with their own characteristics, rather we inhabit a uniform grid.

1. A way of being called existence opens up a shared world in which things can be encountered as present
   and therefore capable of being near or far.

2. That it is concern which opens up the possibility of nearness or remoteness given a particular Dasein a
   specific piece of equipment.

> In Dasein there lies an essential tendency towards closeness. All the ways in which we speed
> things up, as we are more or less compelled to do today, push us on toward the conquest of
> remoteness. (BT 23 pp140)

Priority cannot be given to the spatiality of the individual Dasein, to my world of closeness and farness over the world with its public regions and places. Space grounded in Dasein's being an issue for itself.

> What is ready-to-hand in our everyday dealings has the character of closeness.....Every entity that is 'to hand', has a different closeness which is not to be ascertained by measuring distances.

> Equipment has its place [*Platz*], or else lies around, this must be distinguished in principle from just occurring at random in some spatial position. (BT 22 pp136)

The Region

The things we use as ready-to-hand have specific places to which they belong. However there are many places where they might belong. My pen could be in my pocket, in my desk in my drawer - these places together comprise a region. However a region is more than simply the sum of the possible locations. Heidegger gives the example of the sun, presumably to show how these locations pervade other areas. (BT 22 pp137)

> Something like a region must first be discovered if there is to be any possibility of allotting or coming across places for the totality of equipment that is circumspectly at one's disposal. (BT 22 pp136)

> The whither which, which makes possible for equipment to belong somewhere, and which we circumspectly keep in view ahead of us in our concernful dealings, we call the region. (BT 22 pp136)

Heidegger gives the example of the sun which has its own places, sunrise, midday, sunset, midnight, places which are discovered in circumspection and treated distinctively in terms of the usability of the sun. 'Places' become accentuated 'indicators' of the regions which lie in them. The house for example has its sunny side and shady side. The region itself become visible in a conspicuous manner only when one discovers the ready-to-hand circumspectly and does so in the deficient modes of concern. Often the region of a place does not become accessible explicitly as such until one fails to find something in its place. This is perhaps a redeeming feature of being lost. We tend to think of region as referring to a geographical or at least a spatial location, yet if we add a temporal dimension, then event and region become more closely allied. The difference between event and region in the later Heidegger is not easy to determine.

Heidegger goes on to write that the region is constituted both by direction and remoteness. Where closeness is simply a mode of remoteness.

> 'De-severing amounts to making the farness vanish, that is making the remoteness of something disappear, bringing it close.' (BT 23 pp139)

Only Dasein can be 'desevered', two points are just as little de-severed from one an other as two Things. A rock may be touching another rock, but it is still not be close to the rock in the way that a person is to the family member, even if he is far away. Closeness in the sense of inclusion and involvement.

Equipment has its place, this must be distinguished from just occurring at random in some spatial position. Each tool has a specific place in the workshop, the workshop as region makes possible places for the work bench, hammer, etc. The whole determines what counts as parts. Something like a region must first be

discovered, if there is to be any possibility of coming across places for an equipmental whole that is circumspectly at ones disposal. The region as a workshop makes possible the places for those things which count as parts, regions in turn are laid out in terms of Dasein's concerns. Dasein..... is 'in' the world in the sense that it deals with beings encountered within-the-world, and does so concernfuly and with familiarity. So if spatiality belongs to it in any way, that is possible only because of its being-in, in the sense of involvement rather than inclusion. 1

Heidegger insists that equipment is what is encountered closest to us, however the sense of such proximity is complex. An item of equipment sustains a complex of references or perhaps the references sustain an item of equipment. It is almost as though the hammer has no shape, no colour, no weight, instead the hammer is a point of intersection of a complex of references. Heidegger draws the focus of attention away from everything which is simply present, from form and content, from that which is merely visible. Heidegger bypasses the merely present-at-hand in order to return to it as the founded mode. The present-at-hand is derivative of the ready-to-hand. In order to push beyond what is ready-to-hand there needs to be a 'narrowing' of interest.

Modes of 'Being-in-the-world' are 'De-severence' and 'Spatiality'. *Ent-fernung ent-fernen* to undistance something, in modern times a drive to get rid of remoteness all together. The opening of a space which can be near and far. The establishing and overcoming of distance. Dasein brings things close in the sense of bring them within the range of its concern, so that they can be experienced as near or remote from a particular Dasein. *Ent-Fernung* or *Dis_tance* has no degrees, but once an object has been brought into the referential nexus, dis-stanced, it can be more or less available, in other words more or less integrated into an individuals activities, more or less distant from a particular individual, it is at hand (*Zuhandenheit*) or available. Deseverence (*Ent-fernung*). The literal translation of *Entfernung* is 'remoteness' or 'distance'. To use it with a hyphen, given the negative sense of the German *ent*, could mean the abolishing of distance, the creation or opening up of a space in which things can be both near and far. 'De-severing amounts to making the farness vanish. Other types of being other than Dasein are no the type of entity taht can be 'De-severed'.

Dislocation of Expectation
The emergence of man in 5th Century b.c. Athens as ' the measure of all things' heralded the beginning of the understanding of the world as a correlation between stable disclosed things and stable disclosed man. Just as entities became understood as stable appearance so to is man understood as the one who can fix entities in that firm intelligibility.

Heidegger interprets the present not as a now point in a series of now points, but as that which concerns human beings (Dasein). Presence is that which lasts in concern. Instead of the more usually understood present it involves necessarily absence. Both the absence of that which has been and that which is coming towards us. That which is past and future is present only in the sense of being of concern. Time-space provides the open space in which presence and absent beings can be.

At first sight it does no such thing at all, our pleasant unselfconscious use of something is disrupted, we are distanced from a tool which no longer functions, from the machine which has broken down. Rendered helpless by the malfunction, a distance grows, harmony is replaced by disharmony, we are challenged, provoked to find a solution to solve a problem, action is required. Action is required if we wish to continue where we left off before the disruption. How we react, how we cope is extremely important and will betray a view of technology.

We have already seen what dislocation does to our reaction to something, the shift from the ready-to-hand to the presence at hand, from unconscious use to self conscious puzzlement, from an orientation to the future to what is ahead to what is here and now. From an unquestioning acceptance that something works to a curiosity as to what makes it tick. True our responses to a dislocation of expectation, to a malfunction, to a disruption may be different, though some features can be discerned, we are momentarily at a loss, unable to plan, less sure of what will happen next, unable to predict the near future. Several questions need to be examined.

Why should dislocation of expectation be a good thing? More often than not this action will bring home to us our ignorance, dependence on others, the specialisation of things. It will disrupt a calculating, engineering, planning attitude to the future. Plans for efficiency which require an uninterrupted flow and reliable work of machines become less of a possibility. So we are less likely to take things for granted, more likely to appreciate things when they work, less likely to see things as permanently available and present for use. We are more likely to see something is not where it should be 'obtrusive', to regard that which was invisible as 'conspicuous', or to see that which did work as being repairable 'obstinate'.

Heidegger cites three ways in which our understanding of things may be disturbed, our expectations dislocated :-

1. Malfunction (Conspicuousness)
2. Temporary Breakdown (Obstinacy)
3. Total Breakdown (Obtrusiveness)

Reliability v Malfunction (Conspicuousness)
The form of a tool is shaped by the end and by the material, the earth from which it comes. If the earth is inexhaustible it is also reliable. Emphasis should therefore be on purpose and not on matter. The instrumentality of a tool lies in its serviceability and this in turn is grounded in its reliability. To be reliable is to take its place in a familiar world. The peasant's shoes in the Van Gogh painting are reliable, equipment may be reliable in the sense that even when the hammer's head flies off it is easy to fix.
Just as in everyday dealings our concern focuses not on the tools but on the work for which they are 'ready-to-hand', so the work does not bear on its face the referential totality for us, this only happens if a tool is damaged or missing or if an entity is encountered which is an obstacle to the work. In our concernful dealings however, we not only come up against unusable things within what is ready-to-hand already, we also find things which are missing, which are not only not handy but are not 'to hand"

> When its usability is thus discovered equipment becomes conspicuous. This conspicuousness
> presents the ready-to-hand equipment as in a certain un-readiness-to-hand.   (BT 16 pp103)

> Our circumspection comes up against emptiness, and now sees for the first time what the
> missing article was available with, and what it was available for.   (BT 16
> pp105)

Temporary Breakdown (Obstinacy)

The unready-to-hand can be encountered in a second way, that which is 'obstinate'. That which is obstinate is

that which stands in the way of our concernful dealings, that which does not belong here or has not yet been

attended to. Only when the head flies off the hammer are we forced to consider it as an entity with properties

other than that of it being hammerable. So begins an objective enquiry. We habitually misread our lived world

as the objective reality thus discovered. There really is a Cartesian or empiricist picture of the world

accomplished of mutually external and independent entities or objects related only mechanically. But objective

enquiry may give deeper knowledge of what is there than is vouchsafed by the knowledge implicit in

unexamined practice. It may contradict, correct or explain that knowledge. Indeed since the function of

objective enquiry is to put to rights some upset that has occurred in the everyday work-world, it must be able to

produce more adequate ideas than were already implicit in the understanding of the work-world or else it would

fail in its function.

Total Breakdown (Obtrusiveness)

> That which is obtrusive is also 'un-ready-to-hand'. The more urgently we need that which is
> missing the more it reveals itself as present-at-hand.   (BT 16 pp103)

If a piece of equipment for example a car breaks down, then my normal relation to it changes. The car can no

longer be used as a tool. At this point the scientific view takes over. Is the so called scientific view correlative

with 'how something works' with the underlying form as opposed to the appearance? This cannot be the case

when a car is viewed simply as a means of transport, it is still the practical use which the driver is concerned

with not merely the appearance. A broken down car brings into focus a number of new worlds. The garage,

workshop manuals, various tools for fixing the car, scrap yards. These worlds or areas may be unfamiliar to the

driver, they constitute new horizons opened up by the broken car. As these new areas become familiar to the

driver he will attain a new and close relation with the car and the detached perspective will diminish. For a

mechanic these worlds will probably be as familiar as those that the driver is used to, the roads etc. What is

present-at-hand for the driver is ready-to-hand for the mechanic.

The tyranny of the present and that which is present.

It is a major contention of *'Being and Time'* and *The Basic Problems of Phenomenology* that the dimensions of

lived time are a crucial feature in any understanding of the being of things. All modes of being are schematised

unities of the temporal dimensions of past present and future. These unities understood more basically than the

standard picture of a set of instants marching in a line. Heidegger claims that time is the horizon against

which any mode of being is articulated. 2 Our world is limited in that it is articulated within certain definite

temporal structures and not others. The idea of unlimited access and transparency of, and to things is an

illusion based upon the predominance of one particular temporal structure that puts presence over other temporal dimensions.

For Aristotle all natural entities are kinetic, there *kinesis* is their very being. A moving entity is one which does not fully appear, is not completely present and yet does appear in its incompleteness. We understand a plant only as a plant by knowing that its presence is 'fraught with absence'. In other words our awareness of the plant is tempered or combined with a recognition of a not yet a no longer, a coming into presence and a going from presence. What makes the entity a moving entity is knowing from whence it came and to where it will go. To really know a natural thing one has to know it as present, what it will be, and what it was. That part of the entity which is not present, the absent dimension is not fully knowable or controllable whereas the present dimension of the entity is usable touchable and understandable. There is a correlation between entities conceived of in terms of movement or *kinesis* and man. Man is only present to entities because he stretches beyond them, from alreadyness to becoming. Mans awareness of his own futurity and alreadyness allow him to know himself authentically and to know entities in terms of their kinetic intelligibility.

At the heart of Heidegger's thought lies this interplay between access, recess and excess, between disclosure, withdrawal and transcendence. Heidegger wishes to draw our attention to an intrinsic self concealing element in phenomena which has generally been forgotten. Heidegger tries to break the supremacy of the present, the conception of time understood in terms of the present and prescencing, as a succession of past or future now points. That the one dimension of time was given such prominence that the past and future were thought in terms of it. Rather the interplay of the three dimensions resulted in a fourth dimension which gives structure to or is that aspect from which the others stem. Thus the past is not the 'that which was present' nor the future 'that which will be present'. The present or the moment is attained only by the interplay of the past and the future. Similarly just as time is not a measurable series of time points, so space is not merely the placing beside, before or beyond another, rather it is that which first shows the distinctiveness of placing, space makes room.

Various kinds of presence need to be distinguished. In an ordinary sense Paul may be present here in this room or absent on a trip to America. However Paul's absence is for Heidegger a mode of presence. There is a gap left by his 'absence' with expectations and possibilities left unfulfilled. Even though he is away Paul is involved in a texture of significance into the world. This weaving is a deeper sense of presence.

To make something continually present is to reduce its value, to inure us to its proper limits, to make us forget that there is nothing permanent about this thing, that it will not always be with us, to obscure something's finitude is to render something less than it is. To have an awareness of mortality, of the limit of things is surely healthy, for in this way we appreciate things whilst they are here, take things less for granted. It is also deeply pragmatic because it gives a true picture of what we can expect from things. To descriminate between what is delivered, given, and that which should never have been asked in the first place. To balance short term achivement with the price which is revealed only in the longer term. By wishing one thing we have to cope with a whole load of other things. This leads some people to stand back and reassess what is wished in the

light of the consequences. If one expects something to be there and it is not, then one is aware of its none presence. Paradoxically its absence from a particular place and time makes one acutely aware of that place and time, the absent thing occupies your mind, so in a sense bringing it close.

Another kind of absence of which we are not usually aware or which is taken for granted is the space which is unoccupied by anything, in which there are, nor have ever been people or objects. The space enclosed by a container. The existence of such space allows potentiality to be realised to reach actuality. Any attempt to utilise all space is to inhibit that which would other wise be realised. To silence what would otherwise be spoken and heard

> Thirty spokes unite in one nave,
> And because of the part where nothing exists we have
>   the use of a carriage wheel.
> Clay is moulded into vessels,
> And because of the space where nothing exists we are able
>   to use them as vessels....
>   (Lao-Tse)

Is there a technological concept of time? Time as a commodity

The ordinary representation of time is as a series of abstract 'now' points arranged along a line. This conception with its relations of succession and simultaneity can account for the 'timing' of events. But this contrasts and conflicts with our everyday experience of time, it takes no account the centrality of the present as an actual now, nor the primacy of the future as the main orientation of human desire, nor the fundamental capacity of recollecting the past in the present.

Newton's linear extension of time sharpens the sojourners sense that he moves towards an inevitable confrontation with his own mortality rather than some kind of perpetual rebirth. Day dawns again, the week renews itself. There is something about repetitive activities which discourage one from looking to the future. If the only thing to look forward to is more of the same, then why look ahead, you know where you are going and what you are going to be doing. If an end is in sight it is likely to be seized upon as a break from routine. If the routine is set to continue for a long period then the status of ends diminishes, if the end vanishes then what is left is an activity for its own sake, or concentration. For example the act of polishing is a circular activity, the more we make circles the more visible the wood becomes to us. It is an activity which we can take pleasure in for its own sake, it sets us free to day dream, it allows us to concentrate to reconstruct the world. Consider the following description by Bachelard from *The Poetics of Space*:-

> The housewife awakens furniture that was asleep. Objects that are cherished in this way really
> are born of an intimate light, and they attain to a higher degree of reality than indifferent
> objects or those that are defined by a geometric reality. For they produce a new reality of
> being and they take their place not only in an order but in a community of order. From one
> object in a room to another housewifely care weaves the ties that unite a very ancient past to
> the new epoch.

There are various levels of absorption. At one level one daydreams and is only dimly aware of ones surroundings, one is on 'automatic pilot'. The mind is free to wander where it will, this freedom to day dream

27

is not really meditation because it is of essence undisciplined and focuses tend to be of short duration. It is surprising how much time one can spend daydreaming, though it tends to correlate quite strongly with the performance of familiar routines. There is a deeper level of concentration which places one firmly in the here and now is the level which some organisations seek to encourage in their work force, a level of absorption which makes time go faster. There are techniques one can adopt in conjunction with repetitive activities which serve to sharpen concentration, lengthen attention span, root us more firmly in the here and now. On one level then repetitive activities set us free to dream on another they provide the basis or ground for spiritual discipline ie. the growth of a practise. A discipline which encourages a focus not on ends but on the here and now. One is able to concentrate on a single thing or thought.

Time as linear and irrevocable, as something to use to the maximum and not waste. A commodity which can be bought, spent, wasted, invested, lost, or exchanged. The emphasis on efficiency and speed, on the shortest time needed to accomplish a specific task has affected more than just the business of getting the job done. Our view of time is completely intertwined with the promise of technology. We have more free time in the industrialised nations than anyone at any previos time in history. It is paradoxical then that we seem to spend more time trying to save time than anything else. A process such as rearing chickens should, without interference, take six months however with the use of steroids, special diet, selective breeding it only takes a fraction of the time. Things are speeded up, made to quicker than they would naturally go. Less respect is given to how long things would normally/naturally take, there is less emphasis on waiting. The answer to questions is usually to redouble efforts, to try harder to do more. Rarely is the answer to wait and see. More and more processes are mission critical, dependent on there being no room for error, on the need for split second timing.

Time is usually measured in hours, minute, seconds, days, weeks, months. Distance in miles, metres, inches. Technology collapses distance and time or at least it reduces its importance. The fact that a relative is 12,000 miles away is irrelevant when I can hear their voice and they can hear mine. The fact that someone is dead is in some ways less significant when I can hear and see a recording of them. Technology will not stop people dying nor will it reduce a 12,000 mile gap but it does influence our conception of time and distance. We tend to think of ourselves as spatially and temporally liberated by the technology of today. Two hundred years ago if proceeding from one point to another, there would have been little choice but to walk and to be to be bound by the rhythms of walking. Today the rhythms which bind us tend to be mechanical ones.

Heidegger sees as one and the same, the past itself and our fate which is our very past and its repetition. The act of narrating or recounting our lives and inherited history is to recollect our horizon of possibilities in a resolute and responsible manner. The retrospective character of narration is closely linked to the prospective horizon of the future. Repetition responds to the stretching along of Dasein. There is a question over the founding of our understanding of time on the private experience of Being-Towards-Death given the shared nature of our history. There is a need to go beyond the realm of individual fate to the realm of public time, to view human time as the place between the private time of our own mortality and the public time of language.

Measured Time: Calendar, Schedules and Clocks

Nothing and no one is free from the stamp of the calendar or the clock, measures and units of time, order and govern our daily lives. Calendars serve to regulate the events of the day, week, month and year often in a commemorative fashion, gaining significance from past events. On the other hand schedules are oriented toward the future. The future is severed from the past and made a separate independent domain. What counts is what can be accomplished tomorrow. Schedules are oriented more to daily and hourly events than monthly or annual. Time for labour, time for reading, time for eating, time for sleeping. The introduction of the clock gave even more precision to particular activities. So long for business, so long for pleasure, timed payments, timed contracts, timed meals. Without scheduling industrialisation with its vast co-ordination of people activities and machines would not have been possible. To put it another way, industrialisation demanded, encouraged rigid discipline in our observance and measurement of time. The clock as the mechanical divider of our time, controls our actions, structures our work day and tells us when to work and when to sleep. The clock makes every hour just an hour, it makes no distinctions between morning and night. But distinctions can be made, time shortens and lengthens without regard to the minute hand. There is an ebb and flow to the day, to the tide, which escapes the clock. The rhythm, the tempo is unique to each individual as unique as their finger prints. Most of us are aware that we have fluctuations in our performance, energy and mood, these rhythms can now hardly be heard amidst the din of the mechanical clock.

Natural or Unnatural Rhythms?

With the introduction or emergence of clock time and scheduling, time has become a uniform continuum, which can be divided into standard quantities of duration. The week, like the hour and even the decimal system is a cycle which has no basis in nature, unlike a year which has. Yet we need not only to map our own time in terms of personal anniversaries remembrances but also onto public times and shared cultural rhythms.

o   Changes made to the Gregorian calendar after the French revolution replaced customary weights and measures with a metric system, the traditional seven day week replaced by a ten day week, with three weeks making up a thirty day month, days divided into 10 hours made up to ten decimal units. Measures which attempted to wipe out traditional memories or loyalties to the past by replacing one system with a more rational system.

o   In 1929 in Stalinist Russia the uninterrupted production week was introduced to make the most use of industrial machinery. People were only given a rotating free day which meant that only 20% of the working population would share a rest day. Five day cycles as well as six day cycles were tried, but in the end a decline in production was cited as the main reason for returning to the seven day week, betraying perhaps an ignorance of proper limits, rhythms and cycles.

The most obvious rhythms in our experience are breathing, heartbeat, speech, walking, running, cycles of the sun and moon, yearly events, birth and death. Meanings are engendered when patterns are formed. The two key elements in rhythm are regulated succession and measured flow. Rhythms are circular patterns reaching out then returning to the same point again and again. We need the past and the future to be parameterised with a beginning and end or else we become distended and spread. When learning to drive a car, to ski, to master a

new language perform a new job we must decide on any number of approaches. One particular approach if successful may be taken as a guide when encountering future situations. By means of rhythms we are able to grasp wholes, the beginning and end of a movement in all its diverse elements. Without rhythm our actions are slow cumbersome and choppy. A measured flow of words in verse or prose, movement or pattern with regulated succession of strong and weak elements, opposite of different conditions. When faced with the unexpected a dislocation of expectation we try and either fit the intrusion into the existing plot or game plan for the day, or else invent a new one to preserve the wholeness of our various activities. A sense of ending on the open ended succession of events and manifold possibilities or perspectives on this succession. With an ending we learn to perceive consequences to the destination. The week ties together seven days which would not otherwise be grouped together, days which can be completely disparate in their events, moods and activities. The week provides these seemingly irreversible events, goals, means, unintended results, with a beginning and end. In the same way the year provides a framework, a larger whole into which to frame events. This framework is or can be based in nature (a season), or on historical events, either way it provides a means of organising, a means of orientation. Meanings are engendered when patterns are formed, situations are mastered the natural world is transcended through cycles. The cycle of sun, moon and seasons (natural) hour, week and day mean for us 'Now I can do this or that'. Experience is thus rhythmically structured, we can anticipate certain times of the year certain festivals and we remember in the context of rhythms. A particular day time smell will trigger a recollection which then builds on these contexts.

Which is primary the past present or future?

Some indication of how we regard the past, presnet or future lies in how we commonly refer to them in spatial terms or using metaphors.

1   The more conventional positioning of past behind us and the future in front

<div align="center">⇨   ⇨</div>

Past	Present	Future
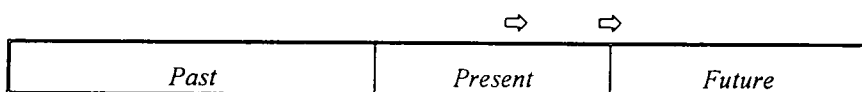
We are walking towards the future, which is in front of us, it becomes nearer with each step likewise the past gets further away with each step. It is puzzling that we tend to locate the future ahead of us and the past behind. The past has already happened and therefore it should, if anything be visible, whereas the future is more of a mystery, less visible and plainly not in front of us for observation as an object is.

2   The future as behind our backs approaching unseen whilst the past is in front of them, where they can at least imagine seeing it clearly.

<div align="center">⇦   ⇦</div>

Future	Present	Past
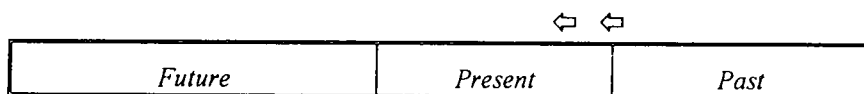
More coherent perhaps would be to regard ourselves walking backwards towards the future with the past receding in front of us. Since we know little about what lies in the future, yet what is ahead of us is plain to see. and we can see the past more clearly than we can the future.

3   The past is never behind us it is always to one side. This view of the past has it as a constant companion always close to us and forever at our side, rather than something forever receding on the horizon.

	Future	
Present	⇧	Past
Present	⇧	Past

It is one thing to map them quite another to state that they correlate to for example, Perpetual concern or rumination over the future; nostalgic living in the past; living only in the present

The future is primary, when at any particular moment we are more aware of where we are going or what we will be doing than our present position, which may happen to be on a train or on the way to the lecture hall. The degree of authenticity of ones experience of time is measured in terms of resoluteness. Grasping the whole of ones life as having faced its end. The finitude of time emerging from our resolute acceptance of our being-towards-death.

The past is primary when for example it is a birthday or an anniversary, when we look back, remembering events and people which are from the past. One is stretched along between birth and death. What saves this distension from becoming a complete dispersion is Dasein's capacity to retrieve or repeat possibilities or potentialities. It is through repetition or recollection, that the stretching along of our lives is rescued from dispersion and we are enabled to actualise our inherited possibilities. Repetition is going back into ones past, one heritage and taking from it existential possibilities which are then projected into the future and approach us as our fate.

The present predominates and events are said to happen in time. When we are absorbed an activity or practise that demands a high level of concentration on things outside of ourselves. Our common pre-occupation with objects in time allows us to measure and date time. A view of time in which each gesture involves absorption in the present, full concentration on each movement and gesture, on what is happening now with no distracting glance to the future or the past. A single-mindedness of view, a full absorption and concentration on each movement, the present towers over the future. This level reflects our thrownness among our objects of care which are available to us manipulated by us, and which keep us occupied in the present. Some sports, especially dangerous ones encourage a rootedness in the present. The time is now, participants are eternally present, they have to be, to turn away from the decision that has to be made this second is to invite disaster, so only the now exists. Every instant the participant must chose and continue to choose among the possibilities of acting and being, there is no time to think of the future. There is no contentment with what was done yesterday, nor even bother thinking of it. Its like being in an accident, everything slows downs, your brain speeds up so that it is able to make all the minor adjustments necessary to keep you going. Nothing else matters you are there for that one reason. Its like having your whole life put in front of you for just one second and being asked can you live it just that one second? Discipline and dedication are needed to be able to live your life to the fullest just for this one second.

Which if any of these attitudes to the past, present or future, toward time, is inherent in modern production? In a technological society 'technological' time is one which stresses planning and measurment, an engineering attitude to the future. An attitude not just limited in scope to the commercial sphere but to all life. Technology treats nature as instrumental to its purpose, production and utility are equivalent. A thing valued as a means, a thing valued as an end. The shortest distance between two points, may be a straght line for the detective who simply wants to solve the crime as quickly as possible or for the motorway traveller hurrying to point B. The person doing the crossword puzzle, could find the answers easily, however the point is in working them, similarly you do not holiday in France to try out their motorway system but to explore the back roads, it is the journey rather than the destination that matters. In the former the end is primary in the latter the end is secondary. So with technology is the end primary or the means? Often we do not want to be bothered with how we get from a to b, we just want to get there, we are only interested in the means so long as they work. Present is equated with 'means' which sit in the background whilst the future is equated with 'ends' which sit in the foreground of our attention.

Deprived of control when moving from A to B we tend to regard time spent in such away as dead time, so we focus on the end of the journey and not on present surroundings. We want to speed things up to minimise the time to get where we are going. One motorway looks much like another, the landscape retreats into the background, there is little sense of place other than the grid of which the motorway is part. Look at the traffic speed and patterns, look at the fields cut in such a way as to suit the harvesting machines, less need to turn around as often, or have their progress interrupted by hedge rows. Alternatively there is an increasing need for speed, speed has become self justifying , the 'mission critical' computer system designed to direct emergency ambulance calls or to land an 'airbus' means that people's lives begin to hang on nano seconds.

CHAPTER 3

A particular way of revealing

Heideggers concern was the perceived claim that science and technologies made to sovereignty over all ways of uncovering beings, technology as encompassing a perspective, a way of looking at things which had come to dominate all other perspectives. A way of revealing threatening to other ways of revealing, threatening because the partiality of this particular mode of revealing does not stop it from obscuring other ways of revealing. In other words every mode of revealing must simultaneously conceal. To bring forth into one mode of prescencing is always to close of others. The revealing characteristics of modern technology conceal the autonomy of the object and the responsibility of the technician toward that object. To comport oneself in a particular way to the things-that-are is to neglect other ways.

The technological framework is inherently expansionist, threatening to enclose all other claims in its framework. It is not claimed that the world can only be seen in only one way, nor that the world reveals itself to us in one way. Rather the world is revealed to us, leaving open the question of what or who it is that is doing the revealing. Heidegger wanted us to see that technology was merely one way of making beings manifest. Many of the later essays seek to stress the partiality of technological modes of thinking.

> 'Where this ordering holds sway, it drives out every other possibility of revealing' (QCT 27)

Heidegger's concern with the technological mode of understanding things was closely allied with his lifelong investigation of what was meant by 'the being of entities', to understand the process which shaped the nature and character of that being. By 'Being' he did not mean an eternal foundation or ground for entities such as a God or a Platonic form, rather 'Being' comprised the different ways in which entities are revealed. Heidegger's view of technology cannot be understood in isolation from his entire philosophy of Being.

> 'It is technology that demands of us that we think in a different sense what is meant by essence......If we speak of the essence of a house and the essence of a state we do not mean a generic type, but rather the way in which a house and state hold sway, administer themselves, arise and decay.
> (QCT 38)

Heidegger wishes to move away from what he calls the instrumental/anthropological definition of technology to one which grapples with the essence of technology.

> For we must first of all respond to the essence of technology in order afterwards to ask whether and how man might become its master. .... and this question may prove to be senseless, because the essence of technology stems from the essence of what is present i.e. from the Being of beings, which man never masters, which he at best can serve. (DT 51/189)

Technology conceived less in terms of machines and devices and more in terms of its all pervasive and encompassing nature. Technology as encompassing a fundamental way of revealing that pervaded every area of life. Art, language, science all exhibited features of the essence of technology. Heidegger's investigation into this essence does not attempt to define technology by placing man in the centre in such a way as to regard

it as either means for an end or as a tool for mans action. Technology is not what is made by man it is not technical, it has a transcendental character which is unmanipulable by man, tools or machines. It makes a claim on a man and since man always listens to this claim he is controlled by it to the extent of ceaselessly trying to set-up all beings as useful. Technology involves ceaseless human action without beginning or end.

> 'Let us finally be done with representing technology only technologically, i.e. in terms of man and his machines. Let us pay heed to the claim under which, in our age stands not only man but all beings, nature and history, in respect their Being. What claim to we mean? Our entire existence everywhere finds itself provoked, now lightly, now playfully, now urgently, now hounded, now pushed to plan and calculate everything' (ID 26/27)

There is something that distinguishes this mode of encounter from all other that have held sway in the world. Technology totally reduces all modes of encountering to that of appropriation. Where as the Aristotelian world view recognised inherent potentialities and teleology's in the objects of the world, the challenging of modern technology sees no integrity in the 'thing'. The world becomes visible as a mere reflection of our desires and intentions. The depreciation of the object which no longer stands over or against us is accompanied by an overvaluation of the subject. The sun is regarded merely as the source of usable heat, the earth of coal, the rivers and wind of convertible energy. Technology provides a perspective that reduces for example nature to a storehouse of energy, a woodcutter to a cog in the paper industry, agriculture to the motorised food industry. The Rhine is interpreted only as views for our enjoyment, energy for our needs. The aesthetic moment becomes useful as a source of relaxation. People become useful as the operators and supervisors of various technologies, the occupants of housing, the producers of wealth. The body as machine subject to the will and purposes of reason. The world interpreted as mere use value with all meaning subjectively derived.

Technology as not simply a mode of manufacturing or producing but a way in which things are assisted to appear, brought forth into presence. In the technological encounter the world is seen as fully available for use, ready to be appropriated. Maximised, expedited output, stored and on call at all times and ready to be utilised. The objects of such challenging demands can exhibit no autonomy, no personal rhythms or claims. The autonomy of the object, the responsibility of the technician are concealed. Man is not ultimately the creator or master of any form of revealing, even that of technology rather man is *destined* to use Heideggers phrase. Beings become subject to the claim of sheer manipulability and utter availability. The coming into presence and withdrawal into absence remains mysterious, something still distant from the claim of technology. Whatever is not permeated by the mystery appears as real. A mystery which Heidegger describes as an unapparent state of affairs.

When Heidegger speaks of today's 'technique' or 'technology' he refers to the ontological notion of *techne*. The Greek word *Techne* meant two things; firstly the actual doing which results in the production of objects, secondly a way of discovering, of making present, a way in which things are assisted to appear, revealed, brought forth into presence.

Instruments tend to bring one side of phenomena sharply into focus at the expense of the other sides and the fullness of experience. Modern technique, or technology is not asking the things-that-are to yield their being,

even if such yielding were possible, rather it demands of material things that they yield up their energy, an energy which modern man wants to **transform** in many different ways. Modern open cast mining techniques for instance turn fields into areas whose worth is assessed solely by their capacity to yield coal. Nature is reduced to a storehouse of energy, so much power waiting to be used. The transformation of coal into energy is a convoluted process. The chain which comprises this process may be called a system. Each element of such a system becomes nothing more than that. Thus to cite an example from Heidegger, the wood cutter who walked the forest trails his grandfather had walked can be absorbed into the paper industry and is an instrument to help fulfil the enormous capacity of machines for raw material. We have moved from tools to machines to systems. The modern airliner is not a tool we use, not really an object at all, but a cog in the transportation system. It uses us rather than we use it. The London tubes do not merely serve to get me from A to B, they are in fact my environment, they threaten to overshadow our need to get from A to B and present us with an environment, which is much more pervasive than the act of using a tool. A few years ago the writer went to a modern art gallery, one of the exhibits was an American diner, upon entering the exhibit one heard and smelt the sounds of such an environment. Though a fabrication one felt transported into that environment, with it came a more respectful impression of the impact of different objects and sounds and images can have on our lives. So much of the furniture of our lives is technological providing environments which we respond to.

Heidegger agrees that technology can be correctly defined as a means and a human activity. However Heidegger wants to go beyond definitions to what he describes as the essence of technology. The technological understand of *being* of what it is to be something or someone. Being meaning that which is most elemental or fundamental or basic about something or someone. It is this sense that technology is something new.

> 'Expediting is always itself directed from the beginning.... towards driving on to the maximum yield at the minimum expense' (QCT 15)

> 'Everywhere everything is ordered to stand by, to be immediately at hand, indeed to stand just there so that it may be on call for further ordering. Whatever is ordered about in this way has its own standing. We call it 'standing-reserve" (QCT 17)

Other ways of saying the same thing, our only goal is ordering, optimal ordering for its own sake, to order everything so as to achieve more and more flexibility and efficiency. To order, to store, to endlessly switch about, total mobilisation of all beings

Technology as a challenge or provocation

By attack and challenge Heidegger means the constant attempt the enlarge the reach of order and availability. The further modern technology unfolds, the more the objectivity of objects changes into a standing ready for use.

> Whatever stands by in the sense of 'standing-reserve' no longer stands over and against us as an object' (QCT 17)

Modern technology involves a distinctive way of uncovering of bringing forth of fabrication, not found in manual crafts or the fine arts. An uncovering which is a challenge, a provocation. Provoking-uncovering gets taken as the standard by which not just things, but man himself is measured. If we become frozen into a one-

dimensional apprehension of beings, if beings become revealed in ever more limited ways, we will cease being human.

> 'Man everywhere encounters only himself' yet 'man nowhere encounters himself in truth'. For he encounters himself only as the subject of, never the subject to the call under which he stands. (QCT 17)

In the technological encounter the world is seen as fully available for use, ready to be appropriated. The world is 'ordered', 'set upon', 'challenged' by modern technology.

> Everywhere everything is ordered to stand by, to be immediately at hand, indeed to stand there just so it may be on call for further ordering. Whatever is ordered about in this way has its own standing. We call it the standing-reserve. (QCT 17)

It is not any particular technique that distinguishes the challenging inherent in modern technology, but rather the general attitude which allows their invention and employment. An attitude towards the 'standing-reserve' which seeks maximised, expedited output, stored and on call for utilisation at any time.

Technology is not a bringing-forth in the sense of the Greek word *Techne*, rather it sets the demand upon nature to deliver energy, which as such can be provoked or stored up. A tract of land for instance can be provoked into yielding coal; this part of the earth now discloses itself as a coal mining district. To set a demand upon nature, to provoke it. Does this not imply a personification of nature? Is it an opponent who is provoked by means of modern technology? What is the land, that mining of coal and ore can appear as a provocation to it? Can technology as disclosure be provoking at all? If nature was a duellist provoked by man, then this opponent would have been recognised as such and man's weapons of battle found out. This is not the thesis of provoking disclosure. Heidegger's thesis concerning the provocation of nature is not a theory of rapacious exploitation because he avoids the whole question of plundering and exhausting nature.

The word disclosing (*entbergen*) can mean to dis-close (*ent-bergen*) for example, coal and ore from the hiddeness and concealment in the depths of the earth, to bring it out and secure it for oneself. But it can also mean to discover or uncover a law of nature. Both meanings are intended in the conception of modern technology as *provoking disclosure*. Provoking disclosure is also called a 'setting up' (*stellen*) of nature. For example the Rhine river sets the water pressure for the dam which sets the turbines turning, and the turning drives those machines whose driving puts out (*herstellt*) electric current, for whose transmission the power station and grid are set up (*bestelt*). But also a scenic river the Rhine is an object set up for viewing by tourism, which has set up a vacation industry there. The term 'to set ' (*stellen*) here means that it is set up and reset to a definite purpose. That which is most visible (unconcealed) in this provocative setting is always that which is set up (*ein Bestelltes*) set up to stand in that setting and indeed to stand in such a way as to be itself able to be set up for further setting up '. The proper state of the thing so set up Heidegger calls *Bestand*, usually translated as 'standing-reserve', the 'standing ready' or stock.

Setting up is always a setting up for, it is always purposeful. Further Heidegger makes full use of the everyday meaning of the word '*Bestellen*': the ordering (*Bestellen*) by a customer, the employment (*bestelltwerden*) of

the secretary by her boss. One can perhaps also say that since *stellen* and *bestellen* always proceed along ordered lines so control (*Steurung*) and reliability (*Sicherung*) are primary characteristic of modern technology.

Permanently present for use

The 'standing-reserve' is utterly accessible it can be mobilised in an instant, it is forever on call, and it is revealed in one particular way. It should be noted that the criteria for identifying the 'standing-reserve' are not merely that something is used by man but that it is seen as permanently present for this purpose.

> The attempt to make everything present to exist at once, to be at hand and of use. A stockpile, in service to , on call for technological purposes (QCT 17)

The suggestion that everything is available are often dismissed, particularly when they come from philosophers. As Baudrillard puts it in *America*;

> 'What do we do when everything is available ?.....This is America's problem, and through America it has become the whole world's problem.'

There is ample evidence of scarcity in the world, however to be available is not quite the same as being in plentiful supply. To stand ready is to be at call, to be the subject of an organisational structure, to be part of a system in which you have little control, to be interdependent, to have a clearly defined role to play. It is not unbridled choice, freedom to do what ever you want. I can go anywhere, this does not mean that I go where I want to go, the house may be full of food but I do not necessarily eat well, I may have freedom of movement this does not necessarily mean I will find a home simply because I have more choice over where I live.

Rather like energy stockpiles cannot run off into indeterminancy since it is freed from the vagaries of absence and presence. A resource which is continually present or available, in abundant supply and can be stored for future use is what Heidegger calls the 'standing-reserve'. Heidegger thought that we were in great danger in coming to see man primarily as a resource. It is not uncommon for organisations to regard their work-force as a resource. This is fairly explicit in numerous statements of corporate philosophy. In the companies view employees are a tool whose requirements are fairly exhaustive, they need to be nurtured in order that the might fill their productive role. The subordination of man to a purpose, a purpose which is linked to a need.

Whereas the Aristotelian world-view recognised inherent potentialities and teleology's in the objects of the world, the challenging-forth of modern technology ascribes no intrinsic integrity to the thing. In Heidegger's example the Rhine river is interpreted only as views for our enjoyment, energy for our needs. When taken as the 'standing-reserve' the world becomes a mere reflection of our desires and intentions.

Whatever stands by in the sense of standing-reserve no longer stands over against us as object. Yet in Heidegger's sense of object technology is objectifying. With the depreciation of the object is a concomitant overvaluation of the subject. In this way the impression comes to prevail that everything man encounters exists only in so far as it is his construct. The sun is merely the source of usable heat, the earth of coal, the rivers and wind of convertible energy.

GESTELL

From what has been written so far it would appear that in modern technology man really does provoke nature, set it up and make it into a standing-reserve. To assert that man might abandon this provovcation in favour of exercising the contemplative or artistic side of his nature is to depart from Heideggers own views. According to Heidegger man is himself provoked to provoke the energies of nature. Modern technology is not merely human doing but is rather a 'Gestell'

> 'We now call that provoking claim that summons or convokes man to set up the self
> disclosing thing as stock -- we call this the Gestell' (QCT 27)

> The word Gestell as used here does not mean the apparatus of technology or any instrument
> at all. When applied to the tools of the craftsman, Hegel's characterisation is correct.
> Characterised in this way, however, the machine is not thought at all from the essence of
> technology within which it belongs. Seen in terms of the standing-reserve, the machine is
> completely unautonomous, for it has standing only from the ordering of the orderable.
> (QCT48)

Gestell refers to a mode of is disclosing which exercises power in the essence of technology. One cannot make a setting or provoking out of the Gestell as some instrument. That which is set by the setting (Das Gestellte des Stellens), that which is made by the making (Das Gemachte des Machens) just as mountain range (Gebirge) is supposed to be that which assembles or convokes mountains (Berge). This begs the question :- Where in the foreground of technological phenomena is the evidence that man himself is provoked to take nature as mere stock or 'standing-reserve'. 'Standing-reserve', orderer and ordered are gripped in a structure that is a mere skeleton of their being, of the way in which they intrinsically are. No object has significance in itself its significance lies in its orderability.

The essence of technology is not in the device, but in the way man and thing are brought into presence together, this essence he names Gestell. Heidegger uses Gestell to desribe the pure and extreme danger that our age faces, which constitutes the ultimate peril to human existence. The danger of technology is not in overt self destruction by for example nuclear weapons but as a subversive force which seems assured of a long reign.

In ordinary meaning Gestell signifies a framework that holds things ready, bookcases, racks, holders hold things ready in a form in which they can be easily accessed and used. The prefix GE means a collection or range such as Gebirge a mountain range. Stell from the verb stellen means to put or to place. Ge stell then is a collection of 'puttings' or 'placings'. Stellen has the additional connotation, 'to put a demand on'. There is a military connotation in compounds such as Gestellung, which means reporting for military duty. The military is often regarded as the realm in which everything is set in order, waiting to be used at a moments notice. The complete and instant availability is much of what Heidegger has in mind by Gestell. Gestell as the call to encounter beings or things as available for ordering, there is however no hierarchy no central will that is exempt from such a call, everything is open and available, there are no exceptions to total availability. (Bestellbarkeit)

Things no longer stand over us, they stand by, they stand ready, everything faces everything else as ready for ordering and use. In the early phase of modernity the way things were ordered could still be attributed to man to subjectivity, with *Gestell* or universal imposition as Zimmerman's calls it in his book 'Heideggers Confrontation with Modernity', the way things are ordered is not due to the way a particular being behaves but it is due to what Heidegger calls the call. Man is challenged by the same call which dictates the field of possibilities and how beings are revealed to man. 1 The call has power, it cannot remain unanswered. Heidegger's notion of *Gestell* was influenced by Ernst Junger's idea of 'Total Mobilisation'. Either the ordinary worker would learn to participate willingly as a mere cog in a machine or he would perish. The war was, in effect a gigantic process of labour involving constant production and consumption. War involves an 'absolute seizing of potential energy' which involves everyone even a 'homemaker at her sewing machine' 2

Technology as the opening of a particular way in which things and men are made available to one another. As such it marks the conditions for the occurrence of modern beliefs and practices. It is the triumph of temporal dimension of presence, so that even past and future are revealed as things to be made present. As the culmination of the drive to total presence and availability that has dominated the West since the Greeks. *Gestell* has a certain completeness, it is not beset by dialectical contradictions that constitute Hegels motor of history. Attempts to plan and master technology stay within the modern space of order and control. All entities are revealed to us within the limited texture of the fields of possibility that is the world, world as the opening of the space within which we find ourselves In the world of total availability no one being grounds all the others. For the metaphysical tradition there was always one being, God, nature, the laws of science, reason, the modern subject, that guaranteed all others and was available as the grounding for the others. The meaning of reality becomes pure available presence.

Gestell as Granting

Essence (*wesen*) is understood in contradistinction to the old doctrine of *Quidditas* and *essentia*, as that which is (*das Wesende*), that which holds out (*das Waehrende*) and this in the dual sense of persisting (*Fortwaeherendes*) and granting (*Gewaeherendes*). *Gestell* persists in that it continuously provokes man into the setting up of the 'standing-reserve', and it is that which grants, in that this provocation 'still always remains a dispensation which brings man onto a path of disclosing'. 3 As 'dispensation' technology introduces man to the sort of thing which he can neither find out or make.
On the one hand *Gestell* provokes in a fury of setting up shifting attention to the occurrence of the disclosing, on the other hand *Gestell* occurs as that which grants, offering him the dispensation or reward of a genuine disclosing ' which makes man hold out in....being one who is needed to watch over the essence of truth. Thus the rise of the saviour comes into appearance'. Can both these things happen within the same technology?

Co-operation?

It takes two to cooperate only one to provoke. This 'provocation' result in the accumulation, transformation and distribution of energy. Nature comes to appear merely and overwhelming as a vast store of energy subject to mans domination. The hydroelectric dam provokes the river to turn the turbines that yield up electrical power, which can be accumulated then distributed and transformed to supply mans needs for heating and

lighting or directly to drive machinery in factories in which things are fabricated or in which further sources of energy are unlocked.

> 'The uncovering which hold sway in modern technology is a provoking, which places on nature the demand to deliver energy, which as such can be exploited and accumulated.' (TT22)

> Movement the consuming of every substance in favour of speeding up Transposing of life stuff into energy, the basic law of motion is the universal key. 4

This process which reveals things as a fund or stock or 'standing-reserve' means that things are, in order to be disposable (*bestellbar*), the exist for further disposing (*bestellen*). It seems apparent that it is man who does the provoking through which things are uncovered as the 'standing-reserve'. Perhaps it would be more accurate to say however that we find ourselves already cast in this role. Through our decisions we find ourselves handed over to this way of uncovering. The source or call from which this hand over comes is concealed from us.

Consider two methods whereby electricity is generated, the windmill and the coal fired plant. One significant difference is that the windmill is at the mercy of the wind, the wind does not always blow and when it does not no power is generated. This serves to remind us that the wind is a thing in itself, it can neither be generated nor taken for granted by man. The windmill co-operates with the wind and hence lets it remain what it is. The wind is not permanently present. In contrast coal is present in vast quantities, it is on call ready to deliver the suns warmth that is stored in it, if one source is exhausted then another can easily be utilised. There is more of a tendency to take it for granted whilst stocks are plentiful and the miners are at work.

Coal is regarded as a resource and nothing but a resource, the wind however has an added dimension. The windmill is an illustration of man attempting to minimise his interference and maximising co-operation with a natural phenomena, the wind. The wind draws our attention to the power in the wind and its contingency. The manifestation of the power of the wind does not presuppose man as subject. Consider the use of a sailboat compared to a motorboat, the sailboat is dependent on the winds and the currents and one is aware of this. In the motorboat the currents and the wind appear as obstacles. The motor boat is a machine (note the sailboat not commonly referred to as a machine) made to overcome the water by using its engines. An illusion arises that the motorboat can dominate the river. Such an illusion lies at the heart of modern technology and distinguishes it from earlier forms.

The wind keeps us in touch with natural cycles, with coal it is requires a little more imagination to realise that it, like the wind is a finite resource and will not always be on call ready to deliver the suns warmth that is stored in it. The coal is part of the 'standing-reserve' the wind is not. We do not look upon the wind as a resource, unless we live in a windmill. One form of *techne* allows things to be what they are, another forces them into a new form.

> 'Books which still diffused the warmth of hearts long turned to dust. In the same way the glow of earthly summers lives on in the dark veins of coal'.5

> 'The wood is a forest of timber, the mountain a quarry of rock; the river is water power, the wind is wind 'in the sails'. (BT15 pp100)

Consider the difference between a bridge built across the Rhine and a hydroelectric power plant which uses the Rhine as a power source. The hydroelectric plant builds the river into the plant itself, such that the river becomes a component in a machine needed to help generate electricity. The mechanical force of the river is transformed into electrical force and the river becomes identified as a resource to produce electricity. The bridge however brings forward part of the rivers essential character by bridging its banks

A pattern which structures and constrains the fabric of modern life

Most of our everyday encounters with technology are with machines, devices, switches, grids and networks. Heidegger was at pains to point out that technology involved more than simply looking at machines. However it is through our everyday encounters with certain objects that we become aware of some of the concepts like *Gestell* and *Bestand* which were mentioned in the previous chapter. Technology, when one comes to approach it systematically does not dissolve into unintelligible fragments, rather it immediately falls into highly articulate processes and disciplines. Any philosophical enquiry must show to what extent the apparent organisation of technology manifests basic features, to what extent there is a recognisable pattern which structures and constrains the fabric of modern life. A pattern which is a consequential event of the modern period a pattern which can be called that of modern technology. The essence of technology lies in an ontology, a way in which the world comes into presence, to focus on machines, tends to foreclose this ontological significance, Heidegger concentrates more on *Poiesis* and 'Being' than on machines or devices. However most forms of enquiry value static patterns, if it is possible to find such patterns in machines, devices even history, then this will add to the enquiry, it will, at least initially give it a somewhat speculative nature.

The Machine

It is the technological object, the device, the machine, which makes intelligible the manner in which technology has reshaped the world. The notion of such a paradigm thus functions like an essence, a consistent structure which characterises a region of experience.

When we think of technology we do so less in terms of tools, which are generally thought of as more simple and primitive than machines like computers or devices (silicon chips). Technology is a term which has become synonymous with the leading edge, with the frontier of what has been achieved. Any discussion of technology usually includes some mention of the silicon chip or the computer. The silicon chip for example could hardly be described as a machine though the computer is usually referred to as one. A computer or a car are generally taken to be embodiments of technology, a candle is not. Yet if we were to be told that the candle in front of us contained a novel arrangement of chemicals which represented the latest advances of knowledge in this area of chemistry. and that such advances in the composition of wax, allowed the candle to burn for ten times longer than a normal candle of comparable size, then we would undoubtedly label such developments as technological. The processes embodied within the candle are the product of technological, or we may use the word scientific development. It is often the newness or the novelty of a particular object or device which tempts us into labelling it as technological, a reason why we do not recognise the candle as such. Yet what we have learnt about the candle is that it is not its outward appearance but the material and the processes and techniques that have gone into its manufacture which make it 'technological'.

In a similar way a fifty year old runner worried about the state of their knees, or a competitive surfer keen to get an edge over his rivals, will follow avidly the considerable developments in running shoe and surf board technology. Surfing and running are not activities which we commonly associate with technology but the equipment used in such practices encourages one to look at the latest developments, to think in terms of

technology. This shows the pervasiveness of technology, and the folly of thinking it involves only machines and heavy industry.

The cutting edge of technology often bewitches us.. It does so because of our tacit understanding that what is new and technological in some way marks an improvement over that which has gone before. In a sense it is because we have never seen anything like this before that we wonder at it. It is a paradox then that the new breaks and at the same time builds upon a past chain of developments.

Every technological object comes from another technological object. Tools and technology are inextricably linked. When does a tool become a machine and a hammer a device? Perhaps it is the degree of complexity inherent within the artifact. Today's latest advances in technology do not just come to us in the form of machines. The machine seems a dated term, device or even the techniques seems more 'leading edge'. In Albert Borgmans 'Technology and the Character of Contemporary Life' 1, Billington contends that the theory and practice of technology are preoccupied with machines, perhaps technology is not really about machines at all. Machines are transient they quickly become obsolete and that encourage restlessness. Billington urges us to think of technology more in terms of structures such as roads, bridges, dams, harbours, waterworks, power plants, office blocks. Structures tend to be more permanent and designed for a specific site, they along with machines invariably constitute our environment. Similarly why restrict technology to just machines and structures? It makes sense to include the objects that are produced by them. Any definition of technology should encompass three constituents. Technology as knowledge, technology as process and technology as product. Thoughts, activities and objects.

The Device Paradigm

Modern technology seen most clearly in the devices we use. The aim of the device, to render commodities fully available, is in line with the spirit of Heidegger's conception of the 'standing-reserve'. Through the device paradigm one is able to analyse technology in its everydayness, in the things we encounter and use everyday. Devices do more than influence the pattern of our lives, they shapes our everyday lives. The pattern they reflect tends to be inconspicuous and hence taken for granted, its sheer permissiveness makes it difficult to analyse. Everyday devices such as the central heating system, the television set, accomplish a novel restructuring of space and time, self and other, means and ends.

A device can be characterised as that which makes or renders a commodity 'available'. A commodity serves a dominant end. The commodity may take the form of a material object, social good or a desired experience. A commodity becomes 'available' when it is made present to the user in an instantaneous, ubiquitous, safe and easy fashion. Availability also implies a lack of constraint or restraint. The means employed by the device Borgman calls its machinery.2 Such machinery is designed to free us from concern. The more it is hidden from view the more effectively it functions. There is a stark division between the machinery, the electronics of the device and the commodity which a device procures. We know how to use devices, but how they are made tends to be beyond us. The concealment of the machinery and the disburdening character of the device go hand in hand... A commodity is truly available when it can be enjoyed as a mere end unencumbered by means. Borgman suggests 3 that technologies progress towards the ideal of minimising the demands and intrusiveness

of the machinery, while maximising the availability of the commodity provided. The end or commodity is made prominent and available whilst the means or machinery are concealed. Further whilst the device is identified by the constant commodity produced, the means becomes open to radical variation since the means are completely subservient to the ends.

Means can change somewhat radically whilst ends remain fixed. Means are characterised by lack of familiarity or understanding, ends tend to be prominent before this. Devices provide the ends so easily that we do not notice the means at all. We live in ignorance of the context in which a commodity comes to be. For example wine and beer are now produced with the aim of achieving consistency and uniformity of quality. In the case of beer we tend to have little idea of the year it was produced, the region nor the history or tradition of the family or community that produced it. Things are divided into machineries and commodities, the thing is wrenched from its context from its time and place. All commodities are presented in advertising as available for anyone and everyone. With tradition and culture as providing a kind of backdrop to enjoy these commodities. In the modern world we tend to live on a continual diet of complete commodities unencumbered by thought of where they came from. On the other hand it is possible at least in certain spheres to disengage from device, to do things for unencumbered by modern equipment, for example to employ simple skills, to build homes, bake bread. The influence of machinery can be reduced by walking instead of driving, reading and writing rather than watching television.

The states of a device are not disclosure of its thing-like character, but are manifestations of its function. It is no longer easy to see what something does, what its function is just by looking at it. Function becomes emancipated from form and the thing-character of the device regresses. For example a stove is more advanced, the closer it gets to being a two dimensional horizontal surface. The television is more advanced the nearer it gets to being a two dimensional vertical surface. Once a function has gained prominence over the thing-like character of the device, it in turn disappears in the fulfilment of needs. It is because a function become available that a need become a definite task capable of fulfilment.

The appearance/illusion of isolated worlds The divided character of our lives.
The split between commodity and machinery is mirrored by the split between labour and leisure. This division of our lives between labour and leisure is a unique feature of the modern age. Borgmann suggests that devices do not clear a space for leisure but rather constitutes the primary mode through which our leisure is expended. [4] Television epitomises the seductiveness and impoverishment characteristic of the device. Leisure consists largely in the 'enjoyment' of commodities, whilst labour is devoted to the construction and maintenance of the machinery through which commodities are procured.

The family increasingly is divided, with children returning from school, taking a processed meal from the microwave and retreating to the bedroom to watch television. The family which is severed or insulated from the world of work has become a place to consume. The skill and competence of a parent are remote from the children because they take place in another world. Pre-technological labour or work was not so disjointed. The stone mason knew the people for whom he was building the church, knew the place from whence the stone was

hewn, he was oriented in his community. Modern labour tends to be far more specialised, processes of mass production divide jobs into many descrete tasks carried out by a number of individuals. Workers tend to interchangeable, the high standards of reliability consistency and productivity achieved by machinery are now demanded, by those who work with machines. Natural cultural social ties are replaced the process and the rhythms of machines.

The Switch

Our contact with reality, with the world has been attenuated to the pushing of buttons, the turning of handles and the flicking of switches. The so called information age has arrived with the dream of having the world database at your finger tips already a reality.

Certain things are immediately apparent in their significance, such is the case with certain hand tools and many natural objects. If I find a certain type of hammer, then the tasks it lends itself to are not difficult to fathom. The immediacy of things is always based upon presuppositions or context. Immediacy denotes a univocal relationship between a thing and its context, such that the thing delimits a definite context as appropriate to itself and that context allows us to identify the thing. In other words a thing demands a definite surrounding, and the surrounding in turn permits the thing to be univocally identified

A switch is initially concealed by its lack of immediacy, it does not demand a particular context nor does the context reveal itself univocally. If something is identified as a switch, the significance so revealed does not ultimately accrue to the thing, rather it passes through it to the thing it is a switch for. A switch is normally absorbed into the device that it switches and has no immediacy of its own. If I reach for a light switch I do not take note of it because my expectation is focused on the light that comes on. A thing, a system, or a device that can be switched on and off has a limited number of determinant states and can be put into one of those states at any time. Hence the system, like the switch requires no particular context. In fact it is crucial for a switch that its operation be independent of contextual factors such as skill and chance. Hence the keys on a piano are not switches. The state of the device, system or thing are dependent on whether it has been switched or not. The actuality of its state refer to the switch, thus it to is concealed since it does not radiate into a context nor is it vulnerable to one. The thing-character of the device disappears behind the states of the device.

A System or Grid

Motorways comprise a grid, electricity is part of a national grid. The important point with regard to grids is that they all display essentially the same features, they are characterised by modularity, accessibility, by a lack of any preordained order or path through the grid. There is this idea of random access, one can join at any point and leave at any point. Modern database technology provides a good example of this, so called 'object orientated systems' display the capability of entering and leaving the system at any point, of taking or retrieving data from any place as simply and quickly as from any other point. The whole development of

database technologies. from flat file to relatinonal, through to object orientated systems has been aimed at establishing the features listed below.

The following are features of the 'grid' :-

o No one route/path through the system suggests itself as being better or distinct from another. Random access, any number of ways into the grid or out of the grid.

o If one part of the grid or net breaks down then there is always another way of bridging the gap of getting to the end destination, since there is a multiplicity of routes.

o Interconnection can meant vulnerability since every point is accessible to every other point on the grid, nothing remains unreachable.

Spreading the Grid or Network

The Internet as an example of a packet switching system it is based on a system of protocols developed by the US Department of Defence. Fearful of a breakdown of communications after a nuclear attack, they wanted to develop a system of communications between computers which did not rely on any particular physical link. Rather like the postal system there are any number of routes by which a parcel/package data can get from one point to another. Provided the data bears an actual address then the message will get delivered. This network has been extended using the earlier protocols to encompass the whole world. Millions of individuals will soon have an Internet address which will hook them up. Access to the Internet will soon be as common as access to the national grid or the road network with one common cable used to carry computer data, voice and video pictures.

It is not just the distinction between networks of telephony , audio visual, television, data and computer which is blurring. There is a merging between what were regarded as completely autonomous networks. Links are getting stronger and broader between road, rail and air. Recent failures in the rail network highlighting the relationship with the other two. Common features of such networks encourage common discussions of networks of energy, transportation and data. Such are the centrality and similarity of problems raised that a recent European Council of Ministers Meeting set up a program to facilitate developments in all three areas, energy, transport and data.

It can be argued that, whole grids or systems are vulnerable to system collapse precisely because of their interconnection. Note the rapid damage that a computer virus can do simply because there exist these links between computers. Any whole system is vulnerable and can be brought down, through a blockage or failure in just a small part. We become more aware of our complete dependence upon a system of technology, a dependence which is pervasive and growing. Consider for example a failure in the electricity supply, where there has been power there could easily be vacancy. Of all the power stations in the UK not one can be started up without electricity. If for some reason they all failed there would in theory be no way to restart them.

In the past few years the South of England has been suffering a drought, one of the proposals is that a national water grid be set up so that water can be channelled from the North. Such a grid would ensure access is improved. It also makes users less aware of shortages since it protects them from natures cycles. It also encourages an increasing level of interdependence and specialisation, this in turn makes man dependent on a system which he cannot live comfortably without and of which he can never hope to achieve more than partial knowledge.

Patterns are most clearly demonstrated in *Grids* they can also be found increasingly in Devices and Machines. This decline of a preordained order does not apply simply to *machines*, and *devices* but to all spheres. A student embarking on a course of higher education is increasingly likely to find that the course he or she is on has a modular aspect. Similar features can be found in other devices such as for example the compact disc. It allows the user to play the songs in any order specified or to have random access. Unlike the cassette which it replace there is no pre-ordained order, the user can go easily from one place on the disk to another simply by pressing a button. When information is organised in small chunks, that can be accessed and sequenced at random, in other words in whatever order the user wishes, then it becomes much more valuable than when you take it in serial form.

There are similar trends in patterns of employment. In America now there is the phenomena of 'virtual corporations', they employ no full time staff, have a minimum number of permanent employees, have no permanent office space, all the work is contracted out. Hospitals rather than employ more full time nurses rely increasingly on banks of nurses, such banks can be called on when needed for jobs, then let go when no longer needed. It is no longer possible for many people in work to count on the security of their jobs, organisations try to keep to a minimum the number of full time employees, preferring instead either to keep people on short term or temporary contracts, or else to contract out specific pieces of work. Labour as a kind of 'standing-reserve', to be called on at will, to be ignored when not needed. Increasingly there is a pressure for workers to make themselves available all of the time, in case they might not be able to take advantage of an offer when it comes in.

The Framework

The call under which man stands is the predominant perspective in which everything presents itself, within which we take up with the world, and which finally guides the ways in which we understand ourselves. Things appear within the framework as challenges to which we respond by procuring them as a resource. (*Bestand*) symbolic logic is a focus of the framework. Borgman believed that symbolic logic had a paradigmatic significance for technology. In technological practice formal features are discovered in the concrete phenomena in the world. Reality is modelled in two senses:-

1. Modelling sharply captures and represents a certain segment of reality.
2. This modelling amounts to a certain reshaping of reality.

The articulation of a segment of reality in a model severs that part of reality from its historic context. It takes hold of a region of reality by delimiting and exhausting at once all its possibilities and variations. This kind of modelling is the way in which technological man meets the challenge of the modern era. Technological practise far from suppressing any actuality seems to expand the scope of such actualities ad infinitum. However when all paths are equally possible, none will stand out as commanding actuality, a striking instance of self-concealment. Borgman cites the example of a road grid system. The ideal expressway system encompasses all possible trips, one can use the road system as a grid which will take the driver from any point to any other point. An expressway system as a calculus and a trip on that system as a proof within that calculus.

Storage, Representation and Access

The development of devices, machines, grids and framework suggest, that there is a substantive difference between modern and old technology. Is this really the case? It is perhaps wise to be distrustful of 'growing trends'. Consider a man on a beach drawing a series of circles in the sand, into each he puts a different type of pebble. The activity he is engaged upon is essentially no different to putting papers in a filing cabinet or storing data on a computer. The technique is one of ordering, the purpose of ordering is that the information will at some point be useful. The difference between the early and the later activity is not the type of technique undertaken but the scale and complexity of it.

A pebble is an entity, it is one of the most simplest things that demonstrates a unity. A pebble marks itself of from everything else, no two pebbles are the same. To ignore the specific shape, the particular colouring, we pass to the notion of a unit, a unit nonetheless which constitutes a mark, which makes a distinction. Pebbles mark a place. Imagine a computer disk each row or grove on the disk is numbered and hence mark an order of magnitude, the marks within each row can represent information in much the same way as pebbles. The ancient pebble computer distributed its pebbles over a disk of sand in much the same way as a modern computer stores its bits over a magnetic disk.

A novel can be viewed in a number of ways, as a story with a plot, characters, a beginning a middle and an end. It may reside on a computer as a series of binary digits represented as 0's and 1's, or at an even lower level as a series of fluctuating voltages. These are all representations of the same thing, they mean different things to different people and they have a common focus of sorts. Binary code, fluctuating voltages, words. Is representation the problem? Does it matter that music or words are stored in a certain way? Provided they can be accessed, reproduced in a way which is conducive to our purposes. The novel cannot exist in the computer without a parallel system of voltages, but that does not mean that the novel is an expression of those voltages. It does not have to exist on electronic circuits at all but can be stored on magnetic disks or other media such as a notepad or sheets of paper. The novel has its own set of patterns, these are independent of the machine. Yet is it sufficient to state that the method of storage is irrelevant to the story? Are not the two are interconnected, because access is determined by the method of storage, and access may determine the order, which in turn effects the story. What technology provides us with is different ways of looking at the same thing. Do these ways of seeing have anything in common? What is the relationship of one pattern to another? How are these different levels related? A story which is stored in peoples memories, never committed to paper, is going to be

accessed retrieved and performed in an entirely different way to one which is written. We tend to forget that writing is in fact a technology, and a relatively new technology in the history of mankind compared with oral story telling. The rhythms and techniques which govern it performance are different, as are its content. Word processing, helps you to write and not to worry too much about the order in which it comes out. It encourages a stream of consciousness which we can worry about making coherent at the later editing stage. It encourages dislocation, chopping sections into little bits and myopically focusing and re-arranging them at some later stage. Discrete units which are not linked with those which proceed or follow them.

An interesting development with regard to accessibility is provided by the example of 'Hypertext'. Hypertext is form of formatting text which resides on a computer. It differs from ordinary text in the sense that the reader is encouraged to follow his own path through the text. Certain key words are indexed or 'bookmarked' so that one can move in a fraction of a second from a key word in one part of the text to a key word in an other. There is no longer a definitive order to the text. Many words provide access to a host of others, rather than just those following or preceding. At any point in the text large related section in the rest of the text are on call and available. Such a method of storage and retrieval is ideally suited to an encyclopaedia or reference works which need updating regularly and which we tend to read selectively, finding our own paths through them.

Are products of technology becoming more responsive to man.

Are computers more responsive to the different ways we have of learning? Some people learn by doing, others by listening and watching, others by reading, some even learn by talking. As voice recognition is developed in computers, we will be able to use our voice rather than a keyboard or a mouse in order to instruct them or to record our wishes or thoughts. The spoken word is not the written word, what is spoken is not always meant to be written, indeed what is spoken can often not be faithfully recorded no matter how sophisticated the machine since the context is altered. A speaker is more of an author than a writer in the sense that the reader cannot replay the spoken word, unless it has been recorded. The unrecorded spoken word is less prone to looping that the written word. A reader can and often does return to a paragraph that they have difficulty understanding, the order in which they read is up to them, an order is suggested by the author, left to right, front to back, page 1 to page 2 etc. In the end the reader has control, if listening to a speaker they would have to interrupt the flow. Listening to many speakers when not reading from a prepared text we could be forgiven for thinking that they had forgotten how to speak. Speaking as a forgotten art, so as machines become more intuitive, more like people, perhaps these skills will return or conversely perhaps will we end up speaking like computers rather than computers speaking like us.

Technology not as marking an extension of our power but as diminution of it. We spend more and more time trying to grapple with the mysteries that technology throws at us. General overall control now seems unlikely, we can no longer even imagine how things work so they seem more like magic. Technological artefacts many of them deeply mysterious, are constantly added to the world, they do no mark an improved control of it. It is just a matter of relating to these new things as they come into being and trying to work with them. Machines are now part of the so called natural world, you deal with them at a local level. Even professional engineers do not understand how things work, purring dynamos with their machinery exposed have given way to

mysteriously sealed black boxes. boxes which are replaced without question rather than opened up and analysed.

We are encouraged to view the end and ignore the means because by in large we tend not to understand how things work. We only understand something by using it not by reading about it. If we do not know how it works when it goes wrong we cannot fix it so we look for a replacement. Function and form no longer coincide, you can no longer tell what something does simply by looking at it. This encourages scant respect for the material it is from. Yet at the same time machines are becoming more in our own likeness, easier to communicate with, and easier to understand by using than by any other method. Tools magnify hands, machines are switch operated. Anyone can make a tool, but who can make a machine, machines are very complex.

The only way to find out what these marvels will do is to run them or use them. The only way to understand a machine that can play chess is to play chess with it. Reading the manual or examining the programs which governs its operation will throw little light on this, at least in the first instance. There will come a time after the 500th game when you are dying to look at the computer program on which it is based. In the meantime we understand them best by using them, we do not understand how they work, simply that they do. We no longer have spirits to explain, we imagine that we might explain it ourselves, when we can't we are in despair. Since we cannot see the mechanism, we impute to them our purposes. Machines are held to be conscious, computers extend our verbal control, or the semantic control. With the graphical user interface, machines have become more responsive ,such that not only can we only understand them by using them but we have a tendency to humanise them, to see them as thinking and animate. Whilst we cannot see the mechanism, machines are still essentially mechanical. Mechanisms are fairly humble projects, there is nothing to be afraid of. Like horses some degree of co-operation is necessary for you to get from one point to another.

Can we have a distinction between the artifactual and natural or has the distinction become more and more blurred? Dangers lie in treating kinds as though they are artefacts, that we might treat each other as machines in need of mending, to entrust to others as we would a car the maintenance of our body, to regard the body as not belonging to us yet the car as belonging to us, to have an extended yet diminished notion of the body.

Characterisation of work as a ceaseless, repetitive, alienating activity with the worker at the mercy of the rhythms of some large machine is undoubtedly an accurate one for many people. It is important to machines that things arrive on time in a certain consistent manner. Uniformity and repetition are very important to the smooth operation of machines. If people are to work with machines they have to adapt to them. It is important to machines that things arrive on time, people involved with machines have to become more like machines if they are to ensure a consistent flow of production. To wander around a highly mechanised production line for example in a car factory, it is uncanny how closely the movements of the workers resemble those of the machines which they operate. There is a trend for an individual worker to partner one machine. This results in the macabre spectacle that for every action of the machine there is a similar movement of the person, such they are working as a team. Both are able to confirm, sanction each others performance, if there is a problem either

with the machine or the individual it become immediately obvious since they are no longer operating as a team and this effects the rest of the production cycle. Technology has reduced many forms of labour to twiddling knobs, pressing switches, pulling levers. Actions which may be characterised by lack of full bodily involvement with work. Contact with objects apart from ourselves is tenuous, limited often only to finger tips. Is it fair to say that such involvement desensitises participants from materials which the objects are made.

This view of modern labour and production, so well portrayed in Charlie Chaplins film 'Modern Times', is only a partial one. The growth of unemployment, and problems with automating production mean that we are not all destined to work like machines. A recent article [6] described the demise of an automated assembly lines used to produce computer monitors. Automated assembly lines are best suited to a continous flow of production. This was not possible given the fast pace of technological change which means continuously changing components, increased demands for a widening variety of monitor type to comply with different legislation. Robotics machines are to inflexible and expensive to modify in constantly changing environment.

There was a time when the world view we now live with only encompassed a small part of our daily lives. This is all that can be said. The supremacy of technique, of the need to organise, to have things standing ready and available at all times, this has grown. Now everything is for the sake of something, nothing can be stripped of purpose. This overpowering world view obscures other paths, encourages us all to accept the agenda as it is offered. This is the range of choices open to you, take one of them and everything will be OK. Who sets the agenda,? What if my choice does not lie within those proffered? It is a nightmare to all the time be doing what everyone is doing, never to err to try something, personal, unique, to find your own path, to push to one side that which distracts.

CHAPTER 5

Technology as a modern phenomenon

The difference between old and new technology lies in the creation of surplus, leisure and an increase in specialisation. We only have problem with storage if there is a surplus. The problem of storage and retrieval have in turn demanded various coping skills. Heidegger is facinated by such simple ideas as holding and storing. They are discussed more fully in Chapter 7 under the 'fourfold'. In the 'Question Concerning Technology' and other essays he discussed what it is to capture, hold, store and retrieve with such simple examples as jugs used to hold wine. These essays are illuminating since they explore things which we think are beyond question. Heidegger makes us think again, leading us to a view that our current understanding is only partial.

We are in danger of being overwhelmed. Computers can store and access huge amounts of information, more than we can ever possibly assimilate. History or rather the past is seen as a vast storehouse of information which can be accessed. Imposing intelligible patterns on such vast amounts of data, presents a real problem. The success or failure of this enterprise determine largely whether we can claim to be in any better position to make decisions on the basis of having such informaton at our finger tips.

Don Gifford in his book 'The Farther Shore' claims that the average American urban dweller is subjected to 5000 advertisements per day. Put in this way, arguments as the influence or otherwise of advertising seem superflous. You cannot go for a walk in a shower without getting wet. The only choice that remains open to us is the choice of appetites.

> 'Once in 1940 , I stood on a busy street corner in Boston with a blind friend. I read out all the signs and slogans I could see. We were there and astonished for over half an hour'. 1

In 1985 the Challenger brought back 250 billion *bits* of data enough to fill 50,000 books of 200 pages each. There are numerous example we can all think of in which we are overwhelmed by information. Of course we can choose what we look at, but our range of choice in particular situations is often restricted

The importance of looking rather than merely seeing, is a capacity that is increasingly jeopardised. The quality of looking is different from ten years ago, the way a child looks, the way a parent looks. A hundred years ago looking was regarded as an active process between the world and yourself. It doesn't just come into your eyes and that's it. The look is something in which you invest something, you give something back by looking. Looking as something transcendent and numinous, an antidote to the clutter of visual and aural cacophony that increasingly fills our heads. However it seems natural that if we are being bombarded by things all of the time then it must change the way we look.

One feature of the modern world inseperable from technology, is the notion of the liberation of increasing amounts of energy, set free from the earth, free to roam around in new ways, many of which are difficult to handle. Power not in terms of control, of bringing about a desired effect but in terms of the release of energy.

Everyone gets exposed to more energy. It is no accident that when Heideggers wishes to distinguish modern technology he uses examples which involve energy, energy cannot be easily stored or contained. Once summoned up, energy or rather power has to be managed, used quickly, storage is a problem for it. For it to lie inert, is against its nature, hence a resemblance between energy the 'standing-reserve' and power, they are more than mere potential, more than just sitting there. Like war once started they are difficult to stop with a momentum all of their own.

Technology places at the individuals and the states disposal an increasing amount of power. Power conceived loosely in terms of in terms of energy, in terms of the ability to harm other people or do good to them. Power to destroy, the power to make. It is easier than ever to kill or injure someone with a car, a momentary lapse can have catastrophic effects. Self control, discipline, skill and concentration seem the most adequate responses to anyone in possession of such power whilst expressions of emotion are to be avoided. The link between what one intends by an action and its consequences has become weaker. It becomes easier and easier to invade another persons space. Simply by pressing a switch. Technology overcomes barriers of distance and time and this collapse often results in and invasion of territory in one way or the other.

Technology places upon people unprecedented demands, new skills to learn, skills which are changing all the time. Technology presents us constantly with new situations, new devices which have to be dealt with. If a car breaks down in the desert the only way to get it fixed is to do it yourself, there are certain benefits in acquiring such knowledge, independence from others, freedom from overpriced garages, the ability to solve future problems that may arise, the knowledge that your safety depends more on how well you have done the job. Every day we use things that we can never hope to master, understand or make, our relationship to them is one of user, such a relation is thin but necessary. What we can do is specialise, but the knowledge gained in such specialisation, the methods of solving problems, patience, an appreciation of how much the manual does not tell us, the refusal to give up even when faced with apparently insurmountable problems are all gifts, qualities, attributes that we can take to other spheres, so the partiality of the knowledge acquired is not wasted, because not all of it is partial, and at the end we may have built ourselves a home.

Mans relations with nature, the world, the environment are increasingly mediated by technology, everywhere today man finds himself surrounded by artefacts, objects which are perceived as being man made. It seems reasonable then to wonder what effect technology has on these relations. Does it for example make us feel more at home in the world? Does it contribute to the ease with which man dwells, on the earth, in the world, with the environment? If one goes through a heavy industrial area of a large city, there it all is, 'technology'. Most of it you don't know what its for, nor why its there. It doesn't help much to know there is an explanation for it somewhere and that there are people scattered around who know some of these explanations. These technologists tend to speak a language which is difficult to comprehend anyway. The service which these bits of technology serve is equally difficult to apprehend, the unsightliness of it and the pollution are more easily capable of being grasped.

53

Technology seems to rely for its progression on its past, suggesting a sort of continuity, on the other hand there is this idea of permanent change. The speed with which things are rendered obsolete means that often it is easier to start from scratch, except that you are never really starting from scratch. Rapid change is disorientating and it is the speed at which technology is changing things which is perhaps its most startling characteristic. To focus on what stays the same is a way of characterising technology and at the same time of understanding coping and orientating oneself in it. Today's dreadful innovation is tomorrows fond nostalgia.

The attempt by Heidegger to distinguishing 'technology' as a particularly modern phenomena less successful than the characterisation of technology with such concepts as Gestell and Bestand, it is however a question worth pursuing. The term modern derives from a Latin word meaning 'in our time'. Apart from this definition the word is often used to imply a uniqueness or newness about our own age, a uniqueness which distinguishes it from medieval and ancient times. When we refer to societies as developed we refer not just to the level of industrialisation but also make an assumption that there is a path of development. A path which the West is well on it way to, a path the less developed countries must follow.

In 'The History of the Being of Equipment' Dreyfus 2 constructs from Heidegger, a three stage history of the being of equipment. These are:-
1. The period of craftsmanship expressed in the Greek notion of *Techne*.
2. Industrialisation and its attitude of pragmatism.
3. Cybernetic control articulated in systems theory

Each period is characterised by a different conception of nature -
* *Physis*
* Raw material
* 'Standing-reserve' (*Bestand*)

Together with different ideals of human use, needs and exploitation.

Three phases :-
1 Limbs replaced by tools.
2 Human sensory apparatus replaced by instruments.
3 Functions of the brain emulated by machines.

Conception of nature		
Physis	Craftsmanship expressed in the Greek notion of *Techne*	Limbs replaced by tools.
Raw material	Industrialisation and its attitude of pragmatism.	Human sensory apparatus replaced by instruments.
'Standing-reserve' (*Bestand*)	Cybernetic control articulated in systems theory	Functions of the brain emulated by machines.

Isolated and divorced from the past

54

The world we live in today is in many ways further removed from the nineteenth century, than the nineteenth century was from the nineth, largely because of technology. How quickly the machines or instruments of technology become out of date and the consequent severing or alienation from the recent past. Technology has a way of divorcing us from our recent past. It exhibits a tendency to race ahead of itself dragging needs in its wake, creating 'vintage' objects in an increasingly short space of time. Yet paradoxically it relies for its progression on continuity.

It is the objects of technology which give the past such a dated feel. One has only to watch a black and white film made in the fifties featuring steam trains, black 'marias' and steam trains to feel distanced from that time. The experience of Japan and Germany since the Second World War shows that it is easier to build up a strong industrial and technological infra-structure if the old one has been destroyed. What seems to be needed is an ability to organise, adherence to principles which demand that we try and extract the maximum gain whilst keeping costs to a minimum.

Does this process of radical change imply a rejection of the past, or more worryingly an urge to destroy all that is old? In a way it does because new methods, new machines are always regarded as better. It is a short step from this to regarding the past as a source of ignorance and error. On the other hand a machine or a technique has to be used before its inadequacies can be brought to light and new innovations sought to improve upon them. The vindication of contemporary natural science is the history of science. The best established theories, that which it is rational to accept, are not worthy of acceptance because they conform to some timeless set of cannons, but because of their superiority to their immediate predecessors in respect of providing resources for solutions to certain types of problems and remedying certain types of incoherence.

Technology and those artefacts most commonly associated with technology have not been around for a very long time. This tends to give the recent past a look which is totally unfamiliar. This unfamiliarity is exacerbated by way machines and devices tend to conceal not only their functions but how they work, this ignorance reduces our encounters to things to the superficial one of use. Use is superficial, a notion Heidegger would not agree with. Scientists, technologists, mechanics, engineers, are keen to expose the innards of things, a fairly inoffensive idea when applied to motors. By understanding how something works we become closer to it, it is less of a mystery to us, we are less dependent on it.

Several years ago whilst wandering down a road near Fleet Street, the interior of a building was exposed which still partially housed the printing works of a national newspaper. The antiquated nature of the machinery inside was complemented by a dwindling band of pickets who had been attempting to blockade the building for several years in a vain effort to prevent the introduction of new technology. The old machines were no longer needed, neither were the same number of workers. It is a scenario played out on a daily basis in the modern world, jobs or efficiency. Efficiency usually wins.

The past as representing a primitive and ignorant stage of development. There is a paradox here for the development of technology and science is dependent on a tradition for its continued advancement. Starting

55

from a 'green field site' Nissan have managed to go from producing 0 cars on Wearside to 200,000 in little more than five years. Developers show a marked preference for these 'greenfield' sites. Increasingly manufacturing companies attempt to start from scratch. A factory that is six months old is six months out of date, if it were to be rebuilt today then it would be done so in a markedly different way. It is easier to build a new factory than to try to modify an old one, to utilise the latest machine technology rather than try and incorporate obsolete machinery. Paradoxically though the developments in machine technology come about as a result of the deficiencies in previous models become evident though use. to regard the past as a source of ignorance and error is perhaps a mite hasty.

Technology appears as a concerted and unlimited effort at problem solving. Technology seems to offer solutions to problems of how to do things. Experience shows that a solution usually exposes a number of new problems. The trick with problem solving is to imagine that you have the solution already, in other words by doing it backwards. , by proposing an answer or solution and then testing this solution. Putting forward a thesis before you have any clear idea of the answer is useful, it removes the anxiety from problem solving, it allows you to come to a clearer solution because you can see clearly why the first one was inadequate after you've explored its possibilities.

Technology and Science

For Heidegger science is research, and research is a procedure for solving well packaged problems. Heidegger does not draw a line between the pure and the applied sciences. We live in an age of research, of planned, systematic and co-ordinated intellectual tasks which are neat limited and manageable. The solving of such problems tends to lead to improved manufacturing of inventing new and better gadgets. The collection of gadgets he sees as the inevitable result of specialisation, the rigid departmental structure of expertise in our society. The resolute adherence to restrictive presuppositions makes research possible. Facts cannot appear accept against the background of a ground plan which determines what phenomena are to be examined, in what way and how the results of this examination are to be interpreted.

Heidegger challenges the common notion that modern science made possible modern technology. The development of modern science of machine technology, of mathematical physics all depended on the development of a new kind of truth, a new attitude concerning mans relationship with things that are. It was a conception of nature as a complex of forces which made physics into an experimental endeavour to understand them as they stand. Nature conceived (reduced to) as a storehouse of energy, to so much power waiting to be used. 3

     'Modern Science is grounded in the essence of Technology'
     (WCT pp155)

Modern science in its character as experimental is bound to technology in the sense that it is developments within technology which circumscribe the range of experimentation open to science. It is not merely of seeing that there is a common influence between science and technology but rather of uncovering the common essence that rules in them both.

The essence of modern science consists in the projection of a conceptual framework onto the sphere of being. (BT 76 pp445)

In 'The Age of the World Picture',₄ he gives three characteristics of modern science:-

1 **Delineation in Advance.** The use of theories to delineate a realm of objects in advance. In modern fashion history pre delineates its subjects just as much as does physics. Heidegger tries to assimilate the mathematical and non-mathematical sciences in a single cognitive approach summarised by the phrase 'the things known in advance'

2 **Careful exploration of the realm of objects.** Objects are made to act in forced circumstances, to reveal normally hidden qualities and laws, things are forced because we have strong forecasting tendencies and we want to see if our expectations are borne out.

3 **Ceaseless organising activity.** The way science is organised is a response to the way man encounters nature. Ever expanding activity, an elaborate institutional structure, specialised into exact subordinate spheres. Resulting in the precedence of method over whatever is.

What is modern is the rigor with which all of the three above are carried-out.

Two views:-
1 Science has no access to essences to reality to the nature of things.
2 Science does provide a realistic perspective, if it does not then nothing else can.

A realistic perspective is only possible if it is accompanied by other 'realistic perspectives' the problem with science is that it has become the sole mode of judging reality and that is commands too much authority.

Science like many forms of enquiry values static patterns, its business is to search for them, a deviation from a normal static pattern is something to be explained and controlled. Technology as a response to the question of how something is to be done, science is an attempt to find out what something is. Both enterprises proceed according to a particular way of seeing which involve a narrow way of understanding what things are. The pre-structuring of the world accomplished by science by virtue of its mathematical nature, is reminiscent of the pre structuring that lies at the heart of technology, the taking of the world as always on call, already available for use.

View Of Nature

Modern science is based on a view of nature set out before us as a collection of objects. To say something is real is to say that it is available for that subject, this does not mean that things are only my representation of them but that the extent to which it is considered real lies in the way it is proposed, presented, put before, it the object is constantly available to be presented in a rigorous way. For the scientist nature is a human construction. **Science more than anything epitomises the way in which modern man represents reality.** The scientist arrests things, objectifies them, sites them over and against himself, by representing them in a particular way. Nature is represented as a manifold of cause and effect occurrences which becomes amenable to

experiment. Such methods fit the reality so conceived because they are determinant of it. Experimentation is a process of mutual confirmation. All scientific experiments are designed to elicit facts which will test a law to be true or false, but these facts must fit in with the initial projection of nature as a mathematical nexus. That which man knows prior to his acquaintance with things founds fact and that fact provides a sufficient and exclusive license for scientific projection.

'A fog still surrounds the essence of modern science' This fog 'is not produced by man at all'.

'To get up an experiment means to assume a situation where it becomes possible to trace a definite nexus of motions in the necessity of its course, that is, to control its calculation in advance.' (WCT)

Modern Science is commonly described as being founded in mathematics. The mathematical has its source not in the things but in the proposing activity of the subject. That about which we already know, which we do not first come to know from the things themselves. There is an already established ground plan. The dependence of science on numbers and this independence from things themselves is not straight forward. Mathematics is critical to things themselves, without an implicit awareness of numbers brideges would be subjected to loads they could not support, things would not work.

Physics projects nature as that which unites spatio-temporal relations. These can be described mathematically. Nature it is presupposed is accessible through mathematics, or mature is of its essence mathematical. A crucial idea in Heisenberg's essay 'The Physicists Conception of Nature' s is that we no longer know nature in and for itself; natural laws 'no longer deal with elementary particles themselves but with our knowledge of them'.6 Modern Science no longer confronts nature as an objective observer, but sees itself as an actor in this interplay between man and nature. The object of research is no longer nature itself but man's investigation of nature. Mans delusion is to believe that he only ever encounters himself, that to be is to be part of a process, to be is to be produced.

Science rests on ordinary everyday experience, and can be understood as a specific and secondary way in which man relates to things. Presupposed is the change-over from ready-to-hand to present-at-hand and the diminution of present-at-hand to objectivity.

Representation is central to the modern conception of Being, where representation means,

'bring what is present before one as something confronting oneself, to relate it to oneself, the person representing it, and to force it back into this relation to oneself as the normative area'
(AWP pp74)

Contrast this with the conception of Being that Heidegger reads in the Parmenidian fragment:-

'To gar auto noein estin te kai einai'
'The perception of beings belongs to Being, because it is demanded and determined by it.' 7

A desire for knowledge for its own sake and not for the sake of some immediately practical results. Technology has a strong practical element in it, some notion of practicality or use is essential to any definition of technology. A for the sake of something. There is a problem of divorcing the two, for there is no such thing

either as pure theory or practise. Theoretical investigation or reflection always gives rise to practical problems. There is no escaping from the realm of practise and of technology. To go through life always thinking in practical terms, always thinking of use is to miss something. A practise defined as an activity for its own sake is a good way of getting away from the particular world view that technology encourages. When we think of activities for their own sake, we think most commonly of activities which are not rewarded with money, activities which make us loose our common conception of time such that if asked we can no longer tell what the time is nor how long we have been doing what we have been doing. Such activities provide a much welcome break for a particular way from viewing time, as some thing to be filled in. The motivations for pursuing science as somtimes considered in this light, science more plausibly than technology is pursued less often for profit or practicality, more often from curiosity, as way of finding out what is going on. If we understand the northern lights we bring ourselves closer to the creator. Scientific practices are craftsmen like, they are a trade which comes out of an apprenticeship.

Should some kind a disaster befall the world and there were only a half dozen English speakers left in the world, would the English language survive? Perhaps, but in a much reduced from, accents would vanish, vocabularies would be slimmed down. Language like science is a shared practise, without its daily exercising it is difficult to see how it could survive as theory alone. One might be forgiven for thinking that his had happened already. You reach a point where there is no sufficient reason to go in the same direction. Accompanying those who have trod a particularly lonely road is futile if the landscape is hostile and if there is no one to follow in your footsteps. Maintaining the energy and the journey are important, as is enlightenment, mutual understanding, simplicity, themes expressed with great clarity in the work of the artist Richard Long.

Without technology pure science becomes a story a myth, existing only in records or in peoples heads. It is technological detail which locks science into experience. All societies are technologically adept, it is a fallacy to talk of the triumph of the West in technological terms. The transfer of inventions such as the magnetic compass and gun powder evidenced changing paradigms of use, printing didn't start with Gutenberg. Technology is pragmatic, opportunistic, it cares less as to the truth of something, the why as to more the how. Technology, science, theory testing, experiment are all interdependent. An experiment is an attempt at controlling some things whilst watching others change, to answer the questions : What happens if? It is a mistake to state that countries like India and China are concerned with practise not theory given their highly sophisticated theories on law, diet, psychology.

There are those instruments which improve the senses, make visible that which previously could not be seen by the naked eye. They effect how the world is perceived, they improve the kinds of experiments which passively observe, they can recall otherwise hidden phenomena without rearranging them. Some discoveries are thus technology lead. Often it is the instrument, the technological progress in one sphere which allows for a test in another, an advance in theory may provoke a test in an instrument that was not done before, difficult to say that one comes first. It is tempting to say that technology comes first that it allows the testing of something.

Models are prevalent in those areas in which there can be little direct interference with nature for example with the Northern Lights. The more sophisticated the model, the further removed it is from nature, sophisticated models are not good at modelling nature, the more it can mimic the better. Some distrust at to the validity of new instruments, how do we know that the evidence gleaned from a new instrument is true. Problems tend to test the validity of instruments, we become aware of the artificiality of the situation, anomalies help us make leaps, they facilitate them as does the dislocation of expectation. Theories are just instruments for construction good models.

Certainty

The philosopher sought to grasp and consider reality, to discover what might be permanent in it so as to know what it truly was. The origin of the modern technological age lies in grasping, in order to control. In doing so the philosopher distanced himself from Being. Thinking has become a quest for certainty. Unless we can make the object of our enquiry evident, get it clear and distinct, get agreement from to those qualified to discuss it, then we will have fallen short of our goal. In Descartes man found certainty within himself. Man could represent reality to himself, it appeared to him as an object of thought. This certainty Descartes tried to achieve by turning from exterior to interior objects of enquiry, a turn toward subjectivity. A turn which eventually was to throw into doubt everything, except perhaps our desires. We could be certain about what we want but about little else. It is desires which now assure man of his own existence and of the reality thus conceived. Man takes himself to be more and more the determining centre of reality. The Greek word *Hypokeimenon* meaning that which lies before us, the reality that confronted man in the power of its presence, becomes in Descartes man the subject. Man as subject the self-conscious shaper and guarantor of all that comes to him beyond himself. This anthropocentric feature of modern thought is an essential attribute of technological thought, and leads to an insistent aggressiveness.

A being is what is represented to man with certainty. The result of this definition of beings is that the whole of beings comes to be regarded as the sum total of these representations to man. In Heideggers words this brings us to the age of the world picture.

> 'World Picture when understood essentially does not mean a picture of the world, but the world conceived and grasped as a picture. What is, in its entirety, is now taken in such a way that it is first in being and only in being to the extent that it is set up by man who represents and sets forth'
> (AWP pp74)

The Partiality of Representation

> We first arrive at science as research when and only when truth has been transformed into the certainty of representation. (QCT 127)

A model or a representation is rarely complete, it never tells you everything you need to know. What can we say about the relationship that exists between a model, a map, a representation and that which it proports to represent. There is a story that T.E. Lawrence after writing his book 'The Seven Pillars of Wisdom' brought a first edition to show some Bedouin Arabs, proudly showing them the cover which displayed a painting of them on horseback. The Bedouin were unable to see these colours as a representation of themselves. They did not have the upbringing that had trained them into understanding or interpreting such representations. So you wonder can any society which differs as markedly as that, embrace western technology without importing other things with it.

Maps never tell us the whole story about the ground they cover, they cannot tell us what the weather will be like. They may tell us the shortest distance between two points, they may through the use of contours give us some idea of countryside that lies between. It is only when we try to traverse the ground that we realise the partial view provided by the map, it can be equally helpful or misleading depending on how well we use it. The question arises, do maps, do representations incorporate a way of seeing things which is peculiar or symptomatic of technology. The bridge between the representation in the form of the map and the reality which it purports to represent comes to us in the form of the practice. As long as we continue to traverse the ground on foot we have something to measure or compare the representation with, once we loose that then it is all to easy to forget that that which we see is only a partial view of something more complex. Herein lies the danger, that we come to view the shortest distance between two point as the rightful and only distance, that things are or should be forced to correspond to representations rather than the things in themselves (see later discussion off the thing). Sitting in my room I can control a number of appliances with push button devices, the television, the hi-fi, the video, the telephone. It becomes increasingly possible to change our immediate environment with the touch of a button. This mastery is of a sort might encourage us to wish a similar control in other spheres for example to be whisked from a traffic jam or a stationary train with the aid of a switch is appealing and points perhaps in the direction of our future expectations from technology.
Technology constitutes our environment our reality. The products of technology constitute our environment they do not control it. Technology presents us with the problem of how do we control machines, the problem is perhaps less one of good intent, more of unforeseen results, what is needed is less morality and more an awareness of its limitations.

Encounter, experience, engagement are broad terms implying involvement. Intellect, perception are seen as more partial less fundamental and parasitic on our being in the world. This is perhaps what lurks behind discussions of particular practices, the priority or weight attached which is attached to traversing ground on foot as opposed to just watching a film of other peoeple doing it or studying a map of it.

Artificial Realities

The misleading discussion about what is the more real.

A trip to see the latest blockbuster film at a local cinema may reveal a whole multitude of special effects using the latest techniques of cinema photography. The camera can 'lie' now with such ease, that many people no longer make the effort to try and distinguish between what is real and what is not real, it no longer seems to matter. In a sense though it does, for soon we will have the choice of doing something or doing a simulation of something. Both events are real, they both take up a part of our finite time on earth, both build on experiences on the people we are. simulations tend not to involve risk.

Soon the world will be on-line, we'll be able to simulate just about anything. How necessary will it be to go to real places and do real things. If the producers of artificial realities succeed in a perfect realism will they not have simply created reality again. Eternity in the form of a 24 hour global world within which are artificial realities which can simulate a variety of experiences, a world where we can know everything known to man. A world in which we can conduct our business, do research, go shopping, communicate with others, make reservations all at the touch of our finger tips. The world is cursed with monotony, limitation, confusion and recalcitrance. Artificial realities are not seen as poor substitutes to reality but as better than reality, since they present features of richness, pliability, excitement and brilliance.

It is one thing to be able to store and retrieve information, quite another to be able to manipulate it. Can the good life still be found in the artificial world rather than the real one? The distinction between the two is blurred daily. Peoples confusion's are not mistakes, rather they are a measure of conscious desire. There is a difference for example between reading a novel and being immersed in an artificial reality. In reading a book my centre of gravity remains overwhelmingly in the real world. However in the case of artificial realities 'the real world provides no more than an initial and instrumental supply of skills'.8 The real world contains the artificial one, yet it is the real world that is made to take a back seat to the artificial one. However whilst it may appear more distant in many ways we revere it more because of that distance. The forest we once enjoyed walking in, a place that focused our lives, the intersection of many lines of experience, memories will be given the role of a kind of supporting structure.

The image is always less than the object. Can an image ever be said to be less 'real', true you cannot touch an image or smell an image but you can see and hear it. One view puts smelling as the first and most fundamental of all the senses ahead of hearing touch and sight. All of these given a higher priority than thinking. So why the fascination with the image rather than the 'reality' or object which they represent? There is nothing more powerful than the word, you cannot touch a word but it has a power and a reality that is almost beyond dispute. Different forms of activities offer different forms of absorption or involvement. Eating a packet of crisps hardly involves total committement. The number of senses reveals or descriminate how real something. Yet in a sense it is all real.

Insulation from Nature Extended View of Our Bodies

To declare something technical is to call it predictable. Instruments shape the way we think, by which we mean implicitly our modes of reasoning, imagining and remembering. Imagination shifts with capacity. An acceleration of the interplay between technology and human practices, all material, man made things are extensions of the body or specialised parts of the body.

Weapons are extension of hands and fists ending ultimately with the Atomic bomb, clothes and housing are extensions of our biological temperature control mechanisms, the wheel is an extension of the foot, the book an extension of the eye. Through global communications, radio and television we have extended our central nervous system to span the globe. There is a difficulty in separating our experience of the world from the machines which mediate that experience. It goes some way to explaining why we habitually regard our clothes, the tools we are using, the car we are driving as part of us. We feel the road with the wheels of our car, the motorist refers to my fender getting scratched; the victim of a burglary feels violated even if nothing has been stolen. Such an extended definition of our bodies is not new, one can see similarities in Locke's refusal in 'Two Treatise on Civil Government' to clarify when he was using the term 'property' to refer to possession and at other times to body.

On the other hand there is a tendency to regard our bodies as not part of us or at least to conceive of them as an object in much the same way as a car is. We entrust our bodies to doctors in the same way that we hand over the keys to a mechanic, refusing all responsibility for fixing it ourselves, our responsibility starts and finishes with the payment of the bill. We seem increasingly blind to the difference in kind between looking after our cars and our bodies.

Our envelopment in technological devices such as planes and automobiles, insulate or distance us from the character of the land, the rhythm of the day, the expanse of plains and mountain. 'The highrise office building of the 1960's stands as a metaphor for the society's desire for independence from the natural setting, temperature, humidity, air exchange, and lighting are all controlled mechanically. They are independent of season, wind speed, or whether one is on the north or south side of the building. Neither materials or design change as the location is moved in latitude by thousands of miles. In scientific jargon, the building is invariant under ninety-degree rotations, displacement in space, and translations in time.

> 'A covered railway platform takes account of weather; an installation for public lighting takes account of the darkness, or rather for specific changes for the presence or absence of daylight--the position of the sun. When we look at a clock. (BT 15 pp100)

> In a car you are always in a compartment and because you are used to it, you don't realise that through the car window everything you see is just more TV. 9

There seems to be a paradox here on the one hand we come to have an extended view of our selves and our bodies yet at the same time we insulate and isolate ourselves from that which we commonly regard as natural.

Heidegger's account marks a sharp break with those which locate our minds inside our bodies. Neither body nor mind is a substance. Heidegger uses the metaphor of the clearing in the forest. Only by virtue of the clearing are the trees visible, yet the clearing is nothing except the trees and the relations between them. We are not *in* the clearing we *are* the clearing. The boundary we assign to our bodily being has been extended, we have exosomatic parts. Distant objects may in one sense be closer to me, that closeness we refer to in terms of distance. The scene I look at through a window is more 'part of me' than the window itself. The scene is my reference not the window. Landscapes retreat from attention, Heidegger gives the example of a street as equipment for walking. One feels the touch of it at every step as one walks. It seems that nothing could be closer and more ready-to-hand and yet it is more distant than the acquaintance one sees at 20 paces. 'The street retreats as it were into the background'.10 However in certain moods we may be disposed to notice the world around us. Something happens there is a rupture of some sort and we see something for the first time. 11

The unifying force which organises my world is one of practical concern. 'My World' in this sense is unique to me, 'your world ' may be quite different. It is concern which collapses distance and brings thing close to us. It is paradoxical that technology should collapse distance and time and yet seemingly insulate us, make a greater distance between us and nature. Borgmans treatment of the device extends Heidegger's account. Though Heidegger rarely mentions the body per se, his terminology of the ready-to-hand points to this corporeal intimacy which may be characteristic of a tool. Whereas a tool is concealed within the lived-body, the device's machinery is concealed from the lived-body. Involvement becomes tangential, reduced to a finger on a switch. Heidegger tends to focus in 'Being and Time' on tools such as the hammer. Such tools are easily seen as extensions of the body. particularly since the movement of the tool, in this case the hammer is mirrored in the movement of the arm, in whose hand the hammer is held. A carpenter's hammer becomes an extension of the users body in contrast to the switch in which the machinery, the motion the impulses triggered by its operation are often hidden or concealed.

Technology has become pervasive in our interactions with the world and others, fundamental in the way it informs us about the world and ourselves.

What should our attitude to technology be? Philosophers when speaking or writing on technology are loathe to condemn it openly. We are all so obviously dependent in our everyday lives on the means of production, distribution and exchange which are inseparable for technology. It takes little sensitivity on the part of the reader of Heidegger to detect a strong sense of repulsion at many features of the modern world. To rail against something as pervasive and all encompassing as technology is to invite ridicule, particularly from a philosopher. Philosophers are supposed to try and understand the world and understanding is still very much linked with acceptance.

What should our response to technology be? Such a question seems to imply that we are free to adopt a position, in the same way that we are free to decide who we should vote for, our how we stand on a particular political issue. It is therefore similarly misleading to state that we may accept technology, reject it or, adopt a position somewhere in between. More coherent to speak in such terms when it comes to a persons attitude to advances in technology, however because technology is so interwoven with the fabric of our everyday existence the position of acceptance or rejection somehow seems inadequate.

Technology and War, The will to dominate
One view of technology propagated by Spengler in 'The Decline of the West', was the Faustian vision that technology was an expression of the will to dominate a domination which was an end in itself not for the sake of utility. To view technology as an unstoppable force, is to characterise it as something that one must fall in line with. In this view technology becomes part of an attempt to impose order, to gain control, to process every sort of entity, human and non-human alike, to devise solutions for every problem. The systematic effort to get everything under control. Technology is not driven by human wants but is driven by itself, an omnipotent procedure, a blind force. Observations along these lines have been made about the battlefield

> No one can foresee the radical changes to come. But the technological advance will move faster and faster and can never be stopped. In all areas of his existence, man will be encircled ever more tightly by the forces of technology. These forces..., since man has made them, have moved long since beyond his will and have outgrown his capacity for decision. (DT 51/189)

In the Essay *Poetry Language and Thought,* Heidegger paraphrases Rilke,

> Objects are produced to be used up The more quickly they are used up, the greater becomes the necessity to replace them even more quickly and more readily ..... What is common in things produced as objects merely for consumption: is the substitute -Ersatz (PLT, 130)

War provides an illustration of the destructive power of technology, it also gives some credence to the view of technology as being beyond mans control. It has provoked in some participants a view of technology as a tremendous force beyond the control of man. Ernst Junger spent most of The First War in the trenches, he is an acknowledged influence on Heidegger, particularly with his concept of total mobilisation. Junger believed that his war experiences brought him a hidden perspective, a magical view on the hidden *Gestalten* that governed history. On the field of battle he experienced himself at times as a cog in a gigantic technological

machine. Junger was not the only soldier to come to this view, Frederick Manning in 'The Middle Parts of Fortune' expresses much the same sentiment.

> On the field of battle, he experienced himself at times as a cog in a gigantic technological movement....[2]

Such a view is not difficult to comprehend, modern war involves increasing output and production, total mobilisation of labour. Invariably people find themselves either involved with manufacturing or consuming, in one form or another the products and tools of warfare. War hastens the industrialisation process, a process in which workers in factories and soldiers on the field became virtually indistinguishable, one produces the other uses. Similarly the soldiers faced across the trenches were not the enemy but instead were comrades joined in a gigantic adventure; the transformation of the earth into a totally administered technological marvel. Manning makes much the same point, saying that the war, citing the views of local peasants ....

> 'C'est la guerre' they would say, with resignation that was almost apathy; for all sensible people know that war is one of the blind impersonal forces of nature, which can neither be foreseen nor controlled.

> 'The sense of being at the disposal of some inscrutable power using them for its own ends and utterly indifferent to them as individuals'.[3]

Whilst Manning shares this particular characterisation of war, he does not follow Junger in his total acceptance of technology. Controversially and unexpectedly Junger found that by surrendering himself to the enormous power, he experienced an unparalleled personal elevation and intensity, which he regarded as authentic individuation. The best way for humanity to cope with technology he believed was to embrace it wholeheartedly.

> The frenzied activity was strangely beautiful to him - compelling... Labour , the manifestation of the same cosmic force which moves the planets. Its clearest exhibition was during a war. [4]

It is but a small step from here to thinking that all technology and technological knowledge is good, that technology is not merely a means to satisfy ends but an answer to all problems, technology as a leading source in social progress. Whatever can be done should be done, with the fewer the regulations the better. Love of technology is not so easily dismissed for it has a strong pragmatic streak to it. When faced with an overwhelming force, particularly one perceived as natural then one cannot meaningfully oppose it. Being reduced to a state of complete powerlessness can be liberating as well as frightening. Sometimes it is liberating to 'go with the flow' to let oneself be driven by the force.

Technology as a Natural Force

Such recognition that this is indeed a great power and force is accompanied by a realisation of the futility of opposition. Forces of nature are usually thought of as indifferent or oblivious to man's aims intentions and choices. Hurricanes, volcanoes, monsoons are something to be survived, endured, escaped but never opposed. If technology is viewed as a force of nature then the ethical position becomes straightforward. There is an absence of choice, no choice no ethical consideration. Power can raise ethical questions only if a choosing agent is wielding the power or can influence the power wielded.

Linking power first to that which is right, that which is ethical, can have unnerving consequences. To think of power in terms of survival and endurance, that which persists. Something must be said for that which is permanent or at least more permanent. The glorification of that which is, to get out of proportion the significance of the 'now' the 'present' as opposed to the 'has been' and that which is 'yet to come'. This is not a position which is tenable with respect to power, for power implies potential i.e. the future and cannot be fleeting if it is to be reckoned a force. Power can be discerned without being used.

Ethical action arises not in opposing or in going along with it, but in recognising it as a force and using that force. Whilst this may involve self destruction at least that possibility is appreciated and the risk taken with foresight for and appreciation of what power can do. Power like energy cannot be destroyed, it can be dispersed, put into different forms, the focus for its wielding or use may change or shift but it is still there. Power is something to be managed, harnessed for good. There is nothing to be gained from turning away from it. Is it, can it be ethically neutral, simply a tool in the hands of the user, entirely dependent on the user for its positive or negative consequences. Without a choosing agent is is difficult to imagine power as a good in itself, irrespective of who is using it, or power with an ethical centre of its own.

Storage as a Response to Power

What respect can we have for something which is apparently brought so completely under our control. It is undoubtably very useful tamed and captured, no longer wild, no longer free. Do such concepts have any meaning when used in conjunction with a river, certainly they are not the same as when applied to humans. The Rhine dam is the successful harnessing and containment of a great force. For Heidegger this is a great tragedy, something vital and powerful of great poetic beauty has been stifled. An engineer would probably not view the dam and the river in this way, he might have respect for the dimensions of the concrete, for the design and construction techniques employed

Significant that Heidegger chooses methods of power generation when discussing modern technology. Electricity cannot be easily be stored, once produced it has to be used up quickly, which is why it is important to forecast demand and to be able to hold energy in the form of coal tips and dams. To store is certainly to introduce longevity, to improve accessibility to the flick of a switch. Conversely it takes away spontaneity, deprives the river of energy, renders it tame or harmless. It also makes things dependent on the medium in which they are stored. Perhaps it is to do with the nature of storage itself. In the past to store meant usually just to put in a particular place, increasingly however storage involves changing the form of something as well. For example in electronics or computing digital is a term meaning coded as numbers. A digital system uses two state, either on/off or high/low voltage pulses to encode transmit and receive information. Storage can mean reducing to a 1 or 0. Digital data transmission for example converts all signals be they words, sounds or pictures into numeric binary codes before transmission and the reconverts them upon receipt.

Does this act of reducing, of storing something great and powerful into a controllable form matter? Particularly when the storage of energy is a problem for nature and not just man. Consider an oak leaf and a sycamore leaf.

They are distinguishable because their elements are ordered differently, a hot cup of tea and a bowl of ice cream are ordered differently in terms of their heat, however the orderliness of each example tends to disappear, the leaves will rot and become indistinguishable in compost, the coffee will go cold and the ice cream will melt. This is because the amount of energy available to keep the orderliness in being is gradually used up in the effort to maintain a form. The energy put into the ice cream and coffee to keep them at their respective temperatures from the electricity supply will inevitably dissipate into the surrounding atmosphere, eventually their will be insufficient energy left to maintain the order which characterise the item. A sycamore and an oak still clearly distinguishable full of energy have high information value, they are clear and well defined. When they decay and are indistinguishable there shapes ambiguous they impart little information. To maintain a high definition of differences we need a good deal of information. Entropy must be low the energy available to maintain orderliness must be high.

Successes and failures of Technology

The following points are sometimes put forward as successes of technology :-

- Freedom and enrichment are joined those of availability.
- Technology is that which gives a basis for choice in out lives, rather than something we choose,
- Each technological innovation represents a problem solved which in turn represents progress.
- Release from disease, hunger drudgery and toil
- Release from lifes tedious tasks
- Freedom from the restrictions of time and space.
- The promise of the information era.
- What people find lacking in their lives now will be made available by technology

On the one hand it is claimed that our lives are made freer and enriched by the vast array of goods and services on offer, on the other hand we are increasingly free and ignorant of the skill care and attention needed to produce these goods and services. In our daily lives it is the foreground of the commodities we use which are the focus, the work, lives and machinery that went into producing them are the background. It is as if the services were just there. The only time we think of them is when they go wrong or we have to pay more than we anticipated. In each case it is only when some expectation is unfulfilled that the means of fulfilment comes to the foreground.

The idea that technology involves not just a challenging but a constant exploration of limits which involves increasing the weight we put on things all of the time. Use does not always offer protection, the promise of sustainable development can be maintained despite the exhaustion of coal and oil reserves by the promise of nuclear power, with technology there is always another way of achieving a specific end. Technology is in its essence the response to problems of supply and use, if for some reason we cannot do something, then there is an almost boundless faith that technology will come up with an answer. Never mind that this solution will bring with it further problems, it succeeds even though the nature of this success is often contingent or partial.

'Communism is electrification plus Soviets' a phrase which expressed Lenin's faith in machines as a saviour and agent of socialism. 'We are masters of the machines therefore we need not fear it. In six months machines will introduce true socialism s. As recently as 1964 Harold Wilson was expressing his faith in the 'great white heat' of the technological revolution. It seems incontrovertible that technology places the means in our hand to continue increasing production until there are no resources left. However as long as there is material, the size of the cake can keep increasing and with it the promise of everlarger shares. Technology, potentially offers a solution to every problem bar death. However the ability of technology to solve major problems is perhaps more in doubt today than it has ever been. Technology, for all its advances does not seem to have contributed to the sum of human happiness, it does not stop man from killing other men. It has done little to engender a sympathetic relation between man and his environment.

Technology as a means to satisfying ends.

Another view of technology propagated by Spengler in 'The Decline of the West' was the 'Promethean' Vision that the domination of nature is not for its own sake but for the sake of satisfying needs, i.e. those of well being, welfare, utility and profit. If technology is viewed as mere means then perhaps mastery, correct application, appropriate technology becomes more fruitful areas of interest.

Even in Junger there is a tacit recognition that technology is limited, that its manifistation in war involves an unsustainable development, since it involves production as well as destruction; both processes which involve matter, and material is limited. As Junger puts it in 'Total Mobilisation' :-

> It was with joy that we felt the certainty come over us that destruction finds no place in
> the elements, and that its seeming power moves on the surface of life, like a ghostly
> mist which cannot withstand the sun.6

Technology is a kind of neutral tool, almost anything that we use or that has been produced for us. Any technological artefact can be used for good or ill. It is therefore up to us to use these things for good and not ill. It is not what people can do with technology but what they choose to do with it that counts, the world as it is, not the world as it might be. If we were to say, take a look at governments spending, examine all of the things that it spends money on, better still look at society as a whole. These spending patterns reflect a hierarchy of priorities of values, these values are representative of needs. What the state spends money on, what individuals spend money on is an expression of individuals and societies values as well as needs. Following on from this, most of the things, objects, artefacts which we use are made available through mass production. Without such a technique they would be more expensive, less available and would intrude less in my everyday practices. This encourages us to look at technology as a means, a means which demands or encourages a certain lifestyle and a certain way of working.

What exactly are we responding to when we rail against modern modes of production, against weapons of mass destruction, against the tools, rather than the hand that operates them if it is human ends that technology is seeking to satisfy? There is nothing wrong about wanting own a car, but to will the object is to will the means to produce it, a means which may involve alienated labour, men working on a production lines, acting like

machines for the sake of money. It is perhaps easier to justify a good end pursed by bad means, than a bad end pursued by good means.

We become so enamoured with cars for example that we no longer see their negative features. Thus although it may originally have been a means to an end, transportation, getting from one point to another, the car and its whole supporting infrastructure of roads, car parks, factories, petrol stations have becomes a dominant feature of the culture as a whole. If even more people in Britain buy and drive cars some consequences can be predicted with confidence. More of the country will be paved for roads and parking, more of the countryside will be quarried for building materials. Life will become more dangerous for pedestrians and cyclists, especially children and old people. Goods services and friends will become less accessible to those without cars as shops move out of town, suburbs sprawl, and public transport declines. Street life will retreat and community life weakened: society will become more anonymous, polarised and threatening.

There is an instrumentalist conception of technology whereby technology provides an arsenal of means by which man is able to achieve certain already posited goals. Man needs only to gain mastery over natural energies in order to direct them to shaping things in accordance with these goals. Machines and tools afford the possibilities of which we may avail ourselves for better or for worse. In other words technology is a medium, through which or by which, an agent does things, the agent or subject remains the guiding force, the creator of direction or value. Technology simply shows the most efficient way to produce certain ends. The ends are up to us, it is not technology's fault if we use it to do bad things. True there may be a dislocation between our technical progress and our moral and political progress, but this is nothing to do with technology. Rather there is the problem of gaining sufficient control over the means which technology has placed in our hands, of making sure that such goals are not contrary to the interests of man, goals understood in the final analysis as values. Human beings are tool makers and users. The technological tools used today are simply more sophisticated than those of our ancestors. The tools do not embody values but can be applied to any number of ends. Technology as a mere means to enable individuals to pursue their ends.

Ends in many ways are the same as values, to have a goal is to have a value. Our conception of values has changed. At one time that which shows us what is good for us was independent of our aims and desires, from Plato the idea of a good shone upon us and draws us to it. In the Enlightenment values became objective, passive objects which stood over us waiting to be chosen, they had no claim on us until we decided which ones we want to adopt. Today valuing is something we do, a value is the result of this activity. Once we see that we can posit them we also learn that we can 'unposit' them. At this point values loose their authority over us, they cannot illicit our commitment as Heidegger puts it . 'No one dies for mere values.'

Technology is seen simply as the means in an ends means relationship. However a is never a mere means but is always inextricably woven in a context of ends. Ends are chosen in some way, the technician does not ask how. Ends may be food, shelter, clothing, these are necessities and in a sense they are not really chosen by us at all. The point is that ends do not emerge independent of the technology. Technology will suggest certain possibilities, a range of choices, and it is mans job to chose between those choices. If for example I decide to

travel to London several modes of transportation, car, train or bus may available, any option chosen will depend on factors such as speed, comfort and cost. Whilst I can choose between the means, once chosen the journey has an accompanying set of conditions over which I have very little control. Technology brings with it a whole range of environments, which I would like to control but cannot. There is this certain dynamic and ever changing aspect to technology which puts control always out of reach. For example a positional good such as a car ceases to be a good if everyone else has one. I cannot unclog the motorways. The availability of means of course is in itself remarkable and consequential fact.

Maximisation of production minimisation of cost, to get more from less
What are ends? How are they chosen? They do not come out of a void. Ends are always articulated with one eye to what is possible or practicable, the precise end or focus emerges from the means. Ends contain the means. Technology as a technique, a methodical procedure to attain an end, a consciously applied method, but to what end, efficiency perhaps. For efficiency to be coherent we need antecedent fixed goals to aim at. These goals remain shrouded in mystery. Jacques Ellul in the 'The Technological Society' puts forward a definition of technology as 'that attitude which most efficiently effects efficiency in some activity'. The shortest distance between two points. Ellul seeks to explain technological society in terms of a self-propelled principle, a technique which envelops all aspects of society, art politics education labour entertainment. Technology as a power in its own right, with its own logic and method. It is difficult to try and give a comprehensive elucidation of our world in all its perplexity with regard to such a precise definition using technology which is itself difficult to understand.

Machines have become more efficient, more important, yet it is the techniques which they embody, the processes, which have perhaps become most characteristic of technology. Yet these techniques and processes are often aimed at maximising returns. In an interview in 'Der Spiegel', published posthumously, Heidegger, describes the agriculture industry which as a kind of motorised food industry not too dissimilar from the gas chambers. With regard to livestock, maximisation of production and minimisation of costs can only be done in three ways, larger animals, faster growth, more offspring. All of this to get more from less. Animals such as chickens kept in confined poorly lit conditions, never knowing when 'market' day will come, seeing those that are sick killed without ceremony. These are animals not people, though their reaction to suffering, pain and death at a behavioural level is not that dissimilar to human beings in concentration camps with the exception that they are well fed. The food chain is collapsing when chickens are fed on cows waste products with supplements added, when they are feed on steroids to reduce to 12 weeks the amount of time it takes for them to become fully grown. A recent motion in the European Parliament obliging contractors to feed and water transported animals every 15 hours was defeated by southern European nations who feared it would cost too much. People engaged in this industry do not mean to be cruel, their overriding concern is to transport as quickly and cheaply as possible, ultimately to produce a commodity, to service a profit, to feed as many people as cheaply as possible. In this light storage, access and retrieval of animals should be as cheap and as easy as possible. The chicken to the farmer represents so many pound notes, as does the field of corn, the sty of pigs. The point is maximisation throughput of chickens which will reach the customers plate in an edible state. Chicken lead short inglorious lives.

71

Rejection

To reject technology completely even if it were possible would be to opt for misery, drudgery illness and confinement. Technology cannot be rejected, it is to distort the meaning of 'rejection ' entirely. It is one thing to refuse something when one is in a position of accepting or not, quite another when one rejects when there is no choice in the first place. A state like the Islamic Republic of Iran which attempted for a while to reject many of the values epitomised by the West, found it difficult to isolate itself from a form of production which allowed it to have food, arms and effective medicine.

A more middle way perhaps involves the pursuit of self sufficiency, the revitalisation of arts and crafts. a return to a simple lifestyle. An attempt to keep our usage of technological devices to a minimum without a the same time being dependent on things or people that do require them. Suc a course might well prove usefull should the whole infrastructure of the modern world collapse, for example after a nuclear war. Then the main obstacle to rebuilding would be that the knowledge about how to make anything is so dispersed amongst such a large number of people that it would be difficult to organise them into a working group. The most valuable people in such a situation would be those who had mastered basic skills like how to grow food, how to build shelters, how to use basic minerals. People who had some independence from the vast technological apparatus around us.

It would be the skills of artists and artisans that would have to take the place of advanced technology should there ever be a full system breakdown. Our survival would be preserved by those who have mastered the skills of minimal technology. The specialisation, sophistication, complicated nature of modern technology which most of us take for granted mean that we would not be able to produce most of the things now produced, few people know enough to do it, we are at most only privy to a tiny part of one process to provide one service or make one thing.

Appropriate technology seeks to respect patterns in nature rather than imposing their own. Where do the patterns come from in the first place? It is a paradox that much of the technology which can most benefit small communities, solar or power has to be developed using enormous and hence centralised resources with high capital costs. However appropriate technology tends to be weak in terms of efficiency of sustaining the greatest production in the shortest period of time

With so called appropriate technology we reflect on our ends and values before committing to technology. A balance to be struck between human well being, the economy (long term as well as short term) and technology. A balancing act. Technology should be appropriate. Such a view seems more prevalent in the developed world and is based on a view of technology as mere means, means which can be directed by the stronger force of value. A parent for example might well come to the conclusion that the attainment of a level of competence at a computer game is better coping skill to have than a familiarity with French literature. This attitude might well be accompanied by the belief that technology can be applied everywhere, to think of technology as holding the answers to everything.

Appropriate technology promotes diversity, provides individuals with a range of options, allows benign interactions between humans, the earth and machines; thermodynamically sound in the generation and use of energy, vital in a sustainable economy. Balances all costs, economic ecological etc, promotes human development and allows humans to master a whole process.

In the West there is no consensus or unified approach to technological development. There is wide spread disagreement in our society about how we should develop resources, whether or how to exploit the animal species, whether and which new technologies to develop. How to manage our collective activities in relation to individual rights and in relation to the earth. How does this rest with the overwhelming impression that technology is unstoppable?

The Backroads

Sometimes we suddenly find ourselves somewhere where we should not be, we experience a *dislocation of expectation*. This rupture in our expectations can provide a great opportunity. As Peter Ackroyd put it in 'The Fire of London'9

> 'Where there has been power there is now vacancy. Consider a failure in the electricity supply. The complete dependence upon a system of technology. What has been barred has now been released'.

Suddenly we have the time to do things that we wouldn't normally do, freed from the constraints of our own ambition, suddenly a space created in everyone lives, an unexpected gap of time had opened up, a gap created by the elements, the tides, suddenly people had nothing better to do.

Another 'appropriate' response to technology lies in taking the *'backroads'* wherever they may be. In a motorcycle journey across the northern states of America Pirsig 10 describes the difference between the main highways and the *'backroads'* in terms of the level and quality of human interaction. The *'backroads'* give one an impression of being away from the focus of things from where things are happening, from where all the energy and effort is being expended. It is not always a comforting feeling, to be in such a place, despite improving your contact with people.

Are there any such things as the *'backroads'* any more? Even the woodsman plodding through some half. forgotten trail, chopping down trees is still on call to the pulp industry. Pirsig in his motorcycle journey would presumably be on call to the petroleum industry, or motorcycle, or literary industry, perhaps even all three. Even escaping those there is still the road system which after all..........

> The development of a pattern or grid
> Into which everything must fit.
> which hold up the range of choices.
> Into which we must fit our answers and questions.
> That which is contained within the pattern is discarded if it does not fit,
> To deviate is to become outside the mainstream.

Perhaps though Heidegger would put it another way. A focus in our thinking on loss and destruction is indicative of a technological way of thinking. Rather astounding, Heidegger states :-

> 'All attempts to reckon existing reality .... in terms of decline and loss, in terms of fate, catastrophe, and destruction are merely technological behaviour' (QCT 48)

Similarly seeing our situation as one posing a problem which must be solved by appropriate action, betrays an instrumentalist view of technology and a technological frame of mind. It betrays an arrogance for it implies that technology poses problems of management rather than just coping.

> 'The will to mastery becomes all the more urgent the more technology threatens to slip from human control'. (QCT5)

For Heidegger the danger of technology is not the destruction of nature, the destruction wrought by specific technologies, rather it is the more fundamental technological understanding of what it is for someone or something to be. Even more remarkably he claims

> 'What threatens man in his very nature is ....that man, by the peaceful release, transformation, storage, and channelling of the energies of physical nature, could render the human condition.... tolerable for everybody and happy in all respects.' (PLT 116)

Techne

Heidegger attempts to amplify the original sense of *Techne* in a discussion of Aristotle's Four Causes. For the Greeks *techne* meant both the event of bringing something into the open and the know-how required for accomplishing this disclosure. Modern technology springs from a mode of revealing called '*techne*' by the Greeks. To stress the profound relation between art and technology Heidegger claims that *techne* is related both to *poiesis* and *epistime*. *Poiesis* meaning both poetry and producing, both of which are modes of disclosing. '*Poiesis* meaning the coming into the present out of the not present 1 . This bringing forth was manifest first of all in 'physis' which was the bringing forth which comes from within the thing itself. *Physis* is the first and essential name for beings themselves and as a whole. For them the being is what flourishes on its own, in no way compelled, that which rises and comes forward, and goes back itself and passes away.

Technology is not therefore merely a means; technology is a mode of disclosing. The question is can the means considered in itself be a disclosing or is disclosing restricted to man who deliberates and fashions the means.

For Aristotle technology is always concerned with the coming-into-being of something, and technological activity is also a deliberation on how something comes to be, when it is of the sort that can either be or not be, the ground of whose production is in the producer and not the thing produced.2 For Aristotle *techne* is a human habit bound up with reason (*Logos*), a form of production bound up with reason itself. For Heidegger in contrast technological production can be reduced to disclosing itself.

Techne was a form of this bringing forth, but one in which the bursting forth lay not in the thing but in an other. *Techne* signified a way in which beings could be made manifest. A technician in the original sense was a kind of poet who succeeds in originative uncovering of things. In arts and handicrafts man works in conjunction with other contributing elements: matter, aspect, circumscribing bounds in a bringing forth a thing into being 3. It is a secondary instance of *poiesis* since the artefact is no brought forth out of itself. However *techne* in the original sense meant making manifest and not simply making in the sense of construction or fabrication. Zimmerman 4 contends that for humans true *techne* or poiesis would mean letting beings manifest themselves with the least interference and the most co-operation.

Heideggers discussion of 'cause' within the essay 'The Question Concerning Technology' is to show how shallow our current conception of the word is. Cause as a mere means, with no real appreciation of the other factors involved in the miracle (not process) by which things come to be, by which things emerge. The indebtedness and interconnection of everything with every thing else. We often forget that we do not cause things to be anymore than we cause things to grow. We can with ease stop things from growing, destroy objects which we have had a hand in producing, what we cannot do is take sole responsibility for growth or for production. these are things which we are involved in, not things which originate in us. The discussion of the four causes seeks to show that there are at least three other causes.

A means is that by which something else is effected, namely the end, which itself determines the nature of the means. In the tradition of Aristotelian and scholastic philosophy both are seen as causes alongside matter and form. This is in opposition to more modern theories of cause which tend to regard only the efficient cause as a 'cause'. A view which correlates with a notion of technology as encouraging or showing a tendency to see all things as products of ourselves, as effects perhaps this is in part a failure of the imagination.

The Latin translation of the Greek word *aition* is *causa*, This more modern word has come to mean that which produces, that which is instrumental, as anything which makes or produces an effect. The adoption of this sense of *causa* means that the idea of efficient cause (invariably man) has come to overshadow all others. Efficient cause becomes sufficient reason. Man occupies the centre of causality, no causes are left in nature only correlation's. Heidegger argues that the Greek word *aition* does not mean at all what the Romans called *causa* and we call cause. The Greek word for cause is *aition* meaning 'That which is responsible for something'. The four causes form a singleness of responsibility. Further they help provide way of understanding how beings can be uncovered and made manifest in appearance. Heidegger uses the example of a silver dish.

- The **formal** cause is the design of the dish. (*causa* formalis).
- The **material** cause is the silver from which it is made (*causa* materialis)
- The **efficient** cause is the silversmith. (*causa* efficienc)
- The **final** cause is the purpose for which the dish is made.

The dish is indebted to the silver out of which it is made, it is owing to the appearance or form of the dish. As a sacrificial vessel it is indebted to the telos of sacrifice as the reason for its production. Finally the silversmith is the one who thinks over and brings together the other three ways of placing into debt. But it is all four elements which place into debt, make something present, bring into appearance the sacrificial vessel. For Heidegger the placing into debt has the basic feature of 'occasioning the advent' (*Anlassen in die Ankunft*). Thus oc-casioning (*Ver-an-lassung*) is a better word for causality as understood by the Greeks. When we view the dish as being brought forth by these four causes, then we understand cause in the Greek sense of responsibility. Yet there is a fundamental responsibility which is independent of both the craftsman and the four causes. Heidegger argues s that this fundamental responsibility is *Physis*.

Technology results in the suppression of all other forms of discovery (entbergen) According to Heidegger it is the fate of modern technology to forget the responsible uncovering that is harmony with Being itself, in other words the *poiesis* which is human making overshadows the *poiesis* which is *physis*.

Fourfold as 'Cause'

Heidegger's account of the world as fourfold differs in many ways from his early account of the world as referential totality of human Dasein. In earlier writings Heidegger suggested that it was human Dasein which constituted the clearing in which things could manifest themselves or be manifested. Something of this idea remains in later writings, Being continues to need man, however things did not appear because we disclose them, instead things call forth a world in which they can reveal themselves, a world of gods and mortals, earth and sky. Ordinary things, both natural things and artefacts, provide the focal point around which the world 'worlds'. Any thing - footbridge or bench, heron or roe, pond or tree, can perform the totemic function of world founding. World is now the unity of earth and sky, god and mortals assembled through a thing. This notion is not inconsistent with the scientific conception of the biosphere as a wholly interdependent system of energy transfers.

Heidegger uses the example of a jug and a chalice as a means of illustrating the focusing power and simplicity of things. A jug is a thing, it teaches us what it is to hold, to offer, to pour and to give. In the clay it gathers for us the earth, as it does in containing the wine which was grown from the soil. It gathers the wine whose sun and rain are present in the wine. It refreshes and animates us in our mortality. In its libation it calls on the divinities. In all these ways the thing gathers and discloses what Heidegger calls the fourfold, Earth Sky, Divinities and Mortals. A thing is a focus, therefore to speak of a focal thing is to emphasise this central point twice. The thing, the jug in this case draws together the differing ways in which in which things can present or manifest themselves, as natural beings, as mortals, as gods. No one mode of being grounds the other.

> 'The united four are already strangled in their essential nature when we think of them only as
> essential realities, which are to be grounded in and explained by each other'
> (PLT 180/52)

We humans are one element in the 'fourfold' but not the most important. Dasein instead of being like the subject around which everything revolves, becomes a vital element within a richer context. In the introduction to 'Poetry Language and Thought', Heidegger uses the term appropriation (*Ereignes*) to describe the way all beings appropriate or join themselves together in the fourfold [6]. This mutual owning, seeing and disclosing is reminiscent of the Taoist notion that the cosmos is organised by the spontaneous behaviour of things themselves, each of which acts according to its own nature.

Heidegger does not take the next step of locating the jug or chalice in a rural or social setting. In a rural setting it would be easy to see the jug as the embodiment of local traditions and practices. In this modern age the focusing power of a jug is perhaps as distant as that of a Greek temple. The things which gather the fourfold Heidegger claims are inconspicuous and humble, they flourish in the margins of public attention. Examples he cites are a jug, bench, footbridge, plough, mirror and clasp, book and picture, heron, crown and cross. Various attempts have been made to show that human events can function as a 'thing' that unites the fourfold. LaChappell in Earth Wisdom [7] tries to show that skiing can unite the 'fourfold'. Borgman seeks to claim more than Heidegger for 'things'. Another interesting idea put forward by White in 'Heidegger and the Language of Poetry' [8] is that silence lets things remain in the fourfold, while naming tends to cut things off from this

intimate relation and is thus painful. Yet we must speak to be human, so we are always in a profound sort of pain which arises from this separation .9

To view nature as merely the sum of the known and as yet unknown objects and their laws, to regard nature as ultimately accessible to investigation, leading to specialisation and institutionalisation such that no level of nature can remain a mystery. This is quite different from an older notion of nature as *physis,* which stressed the emergence from hideness or concealment that could never be full captured. Different periods can be characterised by different conceptions of nature, developing from a view of nature as *Physis,* to, raw material and finally to "Standing-reserve" *(Bestand).* Each period corresponding to different ideals of human use, needs and exploitation. This is not to say that alternate views of nature to not coexist at any particular time. The Aboriginal in Australia had an earth bound philosophy. The earth gave life to man, gave him his food, language and intelligence, the earth took him back when he died. Aboriginals believed that all living things had been made in secret beneath the earth's crust as well as all the artefacts used by the white man as were all those yet to be invented. They were just waiting to be called up.

For the Greeks to encounter something as real was to see it as coming to presence with other beings in the open space provided by nature *(physis).* The process by which things emerge from being hidden the bright luminous clarity that reveals them in their tensions and order. For the Greeks it was not man that instigated this process, this was part of nature and man wished to harmonise with what was revealed. The constant presence and luminosity attributed to the core of reality by Plato and Aristotle has now been transmuted into the constant availability of natural objects to the objectifying gaze and manipulation exercised by a distant subject.10

Heidegger's earlier emphasis that we are grounded and oriented in the world by the tools we use, on the ascription of primordiality and prominence to the ready-to-hand, to man as a person engaged fundamentally in practices as a way of coping with and hence understanding the world, seems inconsistent with the later Heidegger who ascribes more importance and emphasis to non utilitarian activities, to letting things be rather than manipulating them, the later stress on man the listener, the one who waits, the participant as mortal in the four fold, the man who lets beings be, the view of a world in which things have a life of their own, which man may engage with but not manipulate.

When we think of the ready-to-hand we are inclined to think in terms purpose, ease of use, familiarity, the sign like and equipmental nature of things. The inclination is not to think of the mystery of things. Mystery implies lack of understanding distance, between ourselves. In short it is closer to the spectatorial account of things present at hand. The later Heidegger in 'The Origin of the Work of Art' and 'The Thing' is keen stress the importance of this mysterious aspect of things.

The thing is that which gathers and illuminates the world. Heideggers discussion of 'things' is confined to simple things, many of which provide the scenery of a bygone age. In 'Building, Dwelling Thinking' Heidegger notes the human ways and works that are gathered by the bridge. Before we build the bridge we must be able to dwell. Though Heidegger assigns humans a place in the fourfold, when he depicts the jug, we

scarcely see the hand that holds it nor the social setting in which the pouring of the wine comes to pass. Not much indication is given as to what does 'dwelling' actually mean in its concreteness. Such a thing provides a focus, a certain orientation with respect to streams of changing images. It does not provide a dam to block such streams.

We must recover our orientation by letting the simplicity of things reveal themselves. An earthen jug can teach us what it is to hold, to offer, to pour, to give. Made from the earth it holds wine whose origin is the sun and the rain. There is a connection to be explore between the humble scattered simple things which are on the sidelines of our lives. Of course to be on the sideline is not to be at the centre or even the focus. Pirsig 11 writes of the difference between the main freeways full of hurrying motorist staring fixedly ahead and the leisurely *'backroads'* where people still have time to gaze and wonder at things. Once the road linked village to village to village now it by-passes them. These are modern times drivers do not want bends in the roads. If you drive along a highway you only see the highway, still the villages are linked to the highway. People just want to drive faster. Once people would stop in villages on their way to somewhere now they will never take the detour because the highway will get them there quicker. Life is about detours not about pressing a button or pedal and changing our surroundings.

In 'Being and Time' 12 the essence of 'the thing' and the essence of nearness were examined together. 'The thing' was near at hand, which in turn had a nearness not to be ascertained by measuring distance but on the basis of Dasein's circumspective and preoccupied handling. Yet in 'the thing' Heidegger lets himself be approached by the essence of a particular thing, a jug for example. The 'thinging of things' is not violent, it retains the basic traits of *physis,* of the first beginning. Heidegger seeks to express how the world's essence, individualises itself, how it incorporates itself in a particular thing like that of the style of a jug. This individualising process is more delimited as the meaning of 'nearness'.

An alternative response to the craftsman is not to specialise but to know where to look for something. Not to know the information itself but to know where to go to get it, to be able to find something, to have the tools at ones disposal to find something. Contrast the place of the tool in 'Being and Time', the totality of places related to one another as the there of belonging to. However in the Essay 'Building Dwelling Thinking', the particular kind of spatiality that Heidegger has in mind is one that gathers, arranges. A space in which the earth and heavens the divine and the mortal are let in. So the bridge gathers the earth as landscape around the stream and the heavens to themselves, in that it keeps the streaming of the stream close to the heavens and ready for its weather. It gathers the mortals to itself by guiding them on its way. The categories of play, square, mirroring, round, dance, ring and nearness aim to define the essence of the thing and are what will take the place of subject and object. We have here neither an Aristotelian teleological cosmos of substances nor an Hegelian ground grounded, but a world of play and round dance. The four are ordered they are not interchangeable, rather they are entrusted to one another. Perhaps indicating a connection between order and necessity.

For Aristotle there was such a thing as self supporting and standing in itself, a relational bearer of properties stands at the heart of this being. This model was not thought through but was merely a representational

structure of the thing. In 'On the Origin of the Work of Art' 'the thing' was granted a certain measure of standing on its own, resting in itself, but in the later Heidegger a 'thing' can no longer be thought of as standing on its own or having properties. The jug is not large or coloured, since it is the individuation of the worlds essence. The fourfold character of the heavens, earth, mortals and divinities are all gathered together. This raises the issue of showing how the wholeness of the world is capable of determining or enabling an individual in the sense of all their diversity. The jug may leak and the bridge may fall.

Are the concepts of 'world' and 'thing' really pertinent and applicable to the plurality of things among which men live? The essay 'The Thing' gives a long list of so called things, some are things of use others are natural things. Oddly enough no art objects are listed, even though all of the things so listed are capable of gathering the fourfold. Conversely the utensils or tools which technology places at our disposal, do not gather the four. Yet many of the things listed for example the plough or the jug are now made in a factory. So what are we to deduce? That there was once a founding act when those things did gather, but no more, or that the way they are produced is not an issue.

Heidegger declares that 'thinging things' are few in number. Perhaps he means not just things but situations, contexts, events such as St Paul on the road to Damascus. He lists no objects which can be produced in great quantity; perhaps then we are to concentrate on the sort of things that by there very nature cannot be produced, experiences which are precious, things of value that we do not create but that we are part of. Things which suddenly come to have meaning. Perhaps a sense of Being is valid only for the creative realm, which is a narrow realm. How then is one to regard the essence of all the other things with which man is involved? How is one to relate the creative and uncreative regions together?

Borgman differs from Heidegger in a number of ways:-
1. Heidegger tends to exhalt the splendour of the simple things, with the setting always a rural one. Borgman wants to emphasis that these simple focal things and practices can take on a new significance precisely because the arise in the midst of a technological context.
2. Whilst Heidegger writes of dwelling amidst a bridge, a temple he never spells this out with reference to human practices.

True things Borgman asserts, flourish in new ways within todays technological context. The 'thing' unlike the free floating commodity, is inseparable from its world. There is a close and direct involvement between means and ends, the thing calls forth a rich commerce with its world, often demanding bodily exertion, the commitment of time, the development of skills, the thing engages the human being in depth. Conversely the device in relieving us from burdens simultaneously dis-engages us from this world. The trouble free contextless commodities produced by devices cannot truly engage us. In searching for a path out of a technological way of seeing things, Borgman returns to Heidegger's understanding of the 'thing' 13

> The thing..... is inseparable from its context, namely its world, and from our commerce with
> the thing and its world, namely engagement. The experience of the thing is always and also a
> bodily engagement with the thing's world. 14

Things unlike devices provide more than one commodity, we are engaged with and by things in so many ways. Borgman 10 contrasts the wood burning stove with the central heating plant. The key question to ask of these two thing is: What are they for? When applied to the stove the answer is long and involved. For the central heating plant the answer is simply to provide heat. The commodities made available by devices are generally simple, singular and fixed. Further the machinery of the device takes on all of the work without need of our strength, skill or attention. Drawing attention to the concealment of the machinery and the prominence of the commodity. Artifical light frees us from the fetters of time, the availability of fruit and vegetables is no longer governed by local seasons.

> 'Wilderness provides a focus of orientation; when we bring surrounding technology into it, our relations to technology become clarified and well defined. 15

Focal things allow us to see technology for what it actually is in much the same that Heidegger believes that works of art do. A focal practice is one that can centre and illuminate our lives. Focal things are constantly being threatened by technology. The answer perhaps is to keep hold of their essence and find a way in which technology will permit their practise. The simple things of yesterday attain a new splendour in today's technological context. For example if we go out into the wilderness after a life in an urban environment then it is likely to challenge us rather than we challenging it. Borgman discusses the etymology of the word focus 16. The focus is the point at which lines or rays converge and diverge. To bring something to focus means to get a clear and defined picture of it. The focus is that which creates a context and sheds light on things which are in that context. In Latin the word focus means hearth, around it were gathered the rythms of the day, the seasons, the activities and the skills of the family members. The family ate by the hearth and made sacrifices to the housegods before and after the meal. The hearth sustained ordered and centered the house and family. Borgman reminds us of Aristotle's view that excellence virtue or competence can only arise thorough a settled disposition and a way of life.17

Food which is instantly available shatters the need for careful preparation, the remembrance of family relations. A diet of fast food will make us appreciate all the more the prospect of a family gathered around the table to enjoy foods thoughtfully prepared and chosen. What is implied here is that experience of something poor or negative makes us more appreciative, heightens our appetite for the good. This surely is a key point of hope.

EARTH, WORLD AND THE RIFT IN ART-WORK

The Work of Art

What had Heidegger in mind by the work of Art? Art as opening up or changing the world in which we live, changing the way things are open and available to us as opposed to a view of art as a means of *manipulating feelings or stimulating experiences, as a form of expression,as a business developed to market such stimuli.*

> Not merely representations or symbols but actually produce a shared understanding. The practices of the Greeks are manifested and focused, though not made explicit by the temple. Practices which are lived in a moral space of gods, heroes, and slaves, a space that gave direction and meaning to their lives. It is the temple work that first fits together and at the same time gathers around itself the unity of those paths and relations in which birth and death, disaster and blessing, victory and disgrace, endurance and decline acquire the shape and destiny for human beings. The all governing expanse of this open relational context is the world of this historical people. (PLT 42)

Heidegger calls the way Artwork and its associated practices resist such totalisation, *earth.* Both earth and world are necessary for an Artwork to work. The temple must unify and clarify practices but being a concrete thing it resists rationalisation.

> Mass production is a betrayal of Art. Art conceived in such a way that it can have nothing to do with representation or copying. The art of the new man must suppress all representation of man. Authoritarian societies love images because they reinforce the chain of command at all levels of the hierarchy. Anarchic people like desert nomads, hate and destroy images. To abandon the image is to enter the desert where nothing is real but feeling. [18]

Art is the place where truth happens

We can understand technique or technology only by getting at the root of all discovery, revealing, disclosure. This we can do best by contrasting technology with another kind of discovery. The essence of technology is nothing technical, nor is art fundamentally an aesthetic phenomena. Mediating on one can reveal perhaps something that is hidden in the other. Authentic *techne* involves a disclosing which preserves and guards things. It is not a matter of an 'agent' using force to push material together into a specific form. To disclose something appropriately is a disclosure of entities for their own sake. For Heidegger the art work cannot be understood as arising from handicraft, both handicraft and equipment attain an ontologically disclosive force only within the world opened up by the art work.

> 'Therefore, a functional instrument is half thing, because it is determined by the character of a thing, and yet it is more than this. At the same time, it is half art-work, and yet it is less than this, because it lacks the self sufficiency of the art-work. A functional- instrument occupies a peculiar position between a thing and a work...'   (OWA 18)

The art-work functions to establish "World" [19]

> 'To submit to this displacement means to transform our accustomed ties to world and to earth and henceforth to restrain all usual doing and prizing, knowing and looking, in order to stay within the truth which is happening in the work. Only the restraint of this staying lets what is created be the work that it is. This letting the work be a work we call the preserving of the work....Just as work cannot be without being created but is essentially in need of creators, so what is created cannot itself come into being without those who preserve it.'

In the '*Origin of the Work of Art*', Heidegger introduces the term earth. If equipment is that which has a fingerprint on it or is in some way mediated by man then 'Earth' is that which is not touched by man. Earth is characterised by reserve and refusal, it resists every effort we make to break into it or bring it under control. Stone, plant and animal are of the earth. The earth shatters every attempt to break into it. The earth is essentially self-secluding, whereas the world is self-disclosing. Earth sounds a note of estrangement, whereas world means solidarity, homeland and nationhood. The role of earth within a work of art dramatises the sense that a great work of art is unique, that the slightest alterations within it or attempt to translate it into another form would rupture its meaning. Earth celebrates the essence of materiality. If the concept of earth point to the artwork's irreducibility, then it is the concept of world which points to context and to a familiarity with the linguistic and cultural world surrounding the art-work.

Heidegger's own response to the Van Gogh painting of peasant shoes manifests or points to a relationship between features of the peasant's shoes and aspects of the world of peasant life. Heidegger links the sheen of the leather to the dampness of the soil, the worn insides of the shoes to the toil of a working day. His references to the surrounding world of the peasant's life seem to reach out indefinitely far.

The work of art involves two essential connections the setting up of the world and the setting forth of the earth :-

- Setting up (*aufstellen*) refers to the reciprocal; interplay between work and world. The work is within a world yet is gives rise to a world. It is the temple work that first fits together and at the same time gathers around itself the unity of those paths and connections in which birth and death, disaster and blessing, victory and disgrace, endurance and decline acquire the shape and destiny for human beings.

- Producing or setting forth (*Herstellen*) describe the reciprocal interplay between the work and the earth. In equipment the material is assimilated to a function or use, but in the work the material is allowed to show itself as material. In contrast, the temple work, in setting up a world does not cause the material to disappear, but rather causes it to come forth for the first time and to come into the open of the works world.

> 'The opposition of the earth and world is striving (Streit). But we would surely all too easily
> falsify its nature if we were to confound striving and discord and dispute and thus see only
> disorder and destruction.' (OWA-38/49)

The notion of strife points to two features of Dasein's relationship with the world:-
By being made without being intended for practical use as a tool, a work of art simultaneously calls attention to the materiality of its medium and to the totality of reference-relations which are the necessary framework of human praxis and are grounded in the structures of intelligibility which permit Dasein to grasp and utilise Beings in the world.21 The notions of earth and world capture these two features.
Heidegger writes of earth and world as having or sharing a common ground. *(aus einigen Grunde zusammen)* However Heidegger wishes to get away from the idea of ground or foundation, a common boundary might be nearer the mark.

The belligerence of earth and world reveals the essential reliance of one upon another.
(OWA 177)

World and earth are inseparable as well as belligerent because the work of their strife is one way in which truth happens. In 'The Origin of the Work of Art' Heidegger introduces such terms as rift (*der Riss*) and letting go (*Gelassenheit*). *Der Riss* is an attempt to get away from talk of foundations. *Riss* means not just rent, tear, but also sketch, design, plan. Rift carries the opponent into the source of their common ground. The work referred to in the title is not any sort of object, it is an event. A work cannot be displayed in an art gallery nor exhibited in a museum.

The work belongs, as work uniquely within the realm opened up by itself.

The Greek temple for example is not a representation, it portrays nothing. What it does do is bring things out into the open, draws the rock up out of the darkness, makes the storm manifest. The work opens up a world, sets it forth. The earthly material out of which it is made is not used up, the thrust of the work is always to withdraw, to return to the earth. This desire to return to its earthly materials is a manifestation of the rift between earth and world. A rift in the sense both of tearing and sketching. Truth occurs in both disclosure and denial. Simultaneously perhaps things come to appear as they are and at the same time they refuse to give themselves up to our penetrating gaze. Truth is not a transcendental *Logos* but is always self-divided, earthly as well as worldly.

'Truth does not exist in itself beforehand, somewhere above the stars, only later to descend elsewhere among human beings. (OWA 49-50 61)

Truth is thus no revelation, it occurs in the work as the rift of earth and world, but it cannot be put into words. Heidegger's notion of strife between earth and world reveals an element of createdness in all humanly produced things which is hidden in everyday existence.

'To be sure, 'that' it is made is a property also of all equipment that is available and in use. But this 'that' does not become prominent in equipment; it disappears in usefulness. The more handy a piece of equipment is, the more inconspicuous it remains that, for example, this particular hammer is, and the more exclusively does the equipment keep itself in its equipmentality.' (OWA182)

What emerges is the equipmental totality which is generally submerged in everyday encounters with equipment. This emerges in the concept of world when it is separated from earth, in strife. Createdness is not the product of the artists hand, the origin of the artwork has very little to say about the artist. The createdness of the work is a mark of its otherness, its self refusal. The work is solitary, it stands on its own and does not require to be grounded in anything that is not itself.

'The more solitary the work, fixed in the figure, stands on it own and the more cleanly it seems to cut all ties to human beings, the more simply does the thrust come into the open that such a work is, and the more essentially is the extraordinary thrust to the surface and the long familiar thrust down. But this multiple thrusting is nothing violent, for the more purely the work is itself transported into the openness of being - an openness opened by itself - the more simply does it transport us out of the realm of the ordinary. To submit to this displacement means: to transform our accustomed ties to the world and to the earth and henceforth to restrain all usual doing and prizing, knowing and looking, in order to stay within the truth that is happening in the work. Only the restraint of this staying lets what is created be the

work that it is. This letting the work be a work we call the preserving of the work'. (OWA 173)

This is a most extraordinary statement for the work of art seems to leave man more rootless and disorientated than ever. The work is an event that occurs in the history of a people, it occurs like the breaking in of an outsider, yet the work does not originate in the sense of having a ground elsewhere. The truth of the work means estrangement from what is present and familiar, the truth is never gathered from objects that are present and familiar. The truth of the work cannot be appropriated. 22 To be somewhere other than we normally are. In 'Desert Notes and River Notes', Lopez describes what happens when a familiar technological object, a jeep is taken into the desert, the system of signs which normally accompany it are easily jettisoned.

> Only then did I understand how easily the vehicle's tendencies of direction and movement could be abandoned together with its system of roads, road signs and stop lights. By a series of strippings such as this one enters the desert.

Perhaps Heidegger has something like this in mind.

CHAPTER 8

PRACTICES

Shared everyday skills, concerns and practices into which we are socialised, provide the conditions necessary for us to make sense of the world and of the lives which we lead. Knowing is embodied in our social skills rather than in our beliefs and values. These practices need to remain unintelligible, in the background, indeed for Heidegger they cannot be fully articulated. In 'The Origin of the Work of Art'

> 'Every decision.......bases itself on something not mastered, something concealed, confusing; else it would never be a decision.'   (OWA 175)

What is most important in our lives is not and should not be accessible to critical reflection. Critical reflection has a place for example where our ordinary ways of coping is insufficient.

One example of shared practise is how far we stand from people. This is passed on by training or imitation but not really based on rules. Different distances apply to different situations, if we get the distance wrong, we make people uneasy. Our everyday know how, our social practices, involve an understanding of what it is to be a person. They transmit our understanding of what it to be an animal, a plant and object, of what it is to be anything at all. In our modern world we tend to deal with things as resources to be used and then disposed of when no longer needed. Our understanding of a chicken 'nugget' may be very different from the herdsman's understanding of his animals, though both end up on a dinner plate.

Shared practices provide a background understanding of what matters and what it makes sense to do. On the basis of this we direct our actions. This understanding Heidegger calls the *clearing*. It is that in which things and people can show up as mattering and meaningful. Mattering lies not in what we choose but is that on the basis of which we choose. The more we attempt to objectify and articulate these background practices, the less they exert a grip on us.

The way human beings relate to things Heidegger called comportment (*verhalten*). Such intentionality has no mentalistic overtones, comportment is a characteristic not merely of consciousness but of human activity in general. Further all relations of mental states to their objects presuppose a more basic way of being-with-things, a way which does not involve mental activity. Heidegger is not concerned with explaining deliberative action, nor with assigning moral responsibility, such concerns lead either to a focus on the beleifs and desires leading to action, or the intention in action. Heidegger wants to work out an account of everyday, non deliberative coping. 'Being and Time' seeks to show that much of everyday human activity can be described without recourse to deliberate self referential consciousness and that each activity can discover things in it.

Practices offer us solutions to many of the problems which technology throws up. Technology, it is often said, is there to solve problems not create them. However a problem solved is a problem multiplied. A practise is required to counter technology in its patterned pervasivness and to guard what Borgman calls 'focal things' in their depth and integrity. Countering technology through a practise is to take account our susceptibility to

technological distraction, and is also to engage in the particular human strength of comprehension, to take the world in its extent and significance and respond through an enduring commitment.

The analysis of the handling of tools in 'Being and Time' describes a pre-modern technological setting which anticipates the 'thing' analysis in many of his later essays [1]. A hand tool, like the 'thing' is the inconspicuous focus of the 'world'. Man has a world, he is not in it. Such a world constitutes a field of significance, a referential totality, items within it signify or point to each other, thereby forming a network of meanings'. The relation between man and the world is an intentional one. The world is something for a creature. The items in this world are lit up or brought into relief through occupying places within ones everyday practices. A classroom is not something of bricks and mortar but the place where we have history lessons. Heidegger describes a farm with its equipment inhabitants and surroundings as forming a referential totality. [2]. We dwell in fields of significance, a book of signs, those with a practical mastery of the language are able to read it.

As we have seen, there is an increasing tendency for many of our encounters with the world to be at a distance, mediated through our finger tips. We touch the world with instruments when driving, at a computer work desk, watching televisions, or engaged in modern methods of production. As long as reliability and production remain the goals of the workings of technology, as long as people continue to demand the ever increasing consumption of commodities, then production will remain of the same character. The worker who takes no coffee breaks, does not call in sick on Monday, works all the hours god sends and performs faultlessly will become the model to aspire to. If we live as consumers then we must work in a way to pay for it. Labour so concieved is not a practise, it is a means to an end. Yet it is not defensible to describe certain types of activities as 'practices' and others not. It not what you do but the way that you do it.

Through a practise we are able to accomplish what remains unattainable when aimed at in a series of individual decisions or acts. As Aristotle notes [3], the enjoyment of the activity and the enjoyment of achievement are not ends at which the agent aims, but the enjoyment supervenes upon the successful activity in such a way that the activity achieved and the activity enjoyed are one and the same state'. A practise is not a ritual, it comes about and is sustained by resoluteness.

Can a distinction be made between an activity for its own sake and one regarded as a means to an end? Fly fishing and stamp collecting seem good candidates for the former, more mundane tasks such as housework, production lines for the latter. The distinction is not an easy one to maintain, perhaps notions of linearity and circularity may help Human activity makes sense not in terms of long term goals, which I have in mind and try to achieve, rather it is self interpretation which informs and orders all of my activities. Self interpretation rather than roles or goals, describes how human activity makes long term sense.

In the runner, effort and accomplishment, means and ends are reunited, the distinction of leisure and labour is similarly overcome. The very work of running is indistinguishable from pleasure. Body is brought into direct engagement with the world, the runner feels the earth beneath his feet and is embraced by the landscape. Technology is put to selective use, the runner does not go everywhere on foot, but uses a car now and then.

Borgman is hardly a Luddite, devices like cars do provide advantages, even if it just to get you to the start of runs. It is notable that the practices he cites tend to be associated with leisure rather than work, implying perhaps that reform or subversion of technology in this arena is not so easy. Borgman, referring to works by George Sheehan and Peter Wood illustrates this point in relation to running.[4] Reform of technology will come about through activities rather than correct application or use of tools of technology. To concentrate on use takes us back to a view of instrumentality which is true but only partially so. In each case the thing and practise serve as a focus for the world of the practitioner. A focus which engages the practitioner in depth rather producing a sense of distraction so characteristic of 'technological 'leisure. The workshop is for the sake of something, the surroundings are viewed by the blacksmith or mechanic in intentional terms, yet another aspect the workshop as a world and a location of regions stresses the orienting aspect of the workshop rather than that of utility

What then is a practise? The activity of running is a return to full bodily involvement. It alters our perception of time, of how we regard things in general, it imposes restraint and provides us with boundaries. The world is no longer mediated by our fingertips, we are made to feel part of the world in a way in which theory can never do. When you run a marathon you can't be thinking about anything except for the moment, contrast this with the tyranny of the watch. The only rhythm that concerns your heart and the undulations of the road. The focus of attention is on now, the mind is not racing ahead to some distant point. Fitness has been the reason people got interested initially in running, that and to live longer. Real running is not about fitness, such physical benefits are like a bonus, something like a cheque you get from a christmas club.....Its the pleasure of running that's the motivation. It is an activity for its own sake. Sometimes I think the reason you don't just drop dead running is that you don't give a damn if you do. To be rooted to the present, to 'be there' is what counts, not belonging to the past or the future, where many of us tend to spend much of our time.

Heidegger wishes to penetrate the stratum of latent, hidden but familiar relations with the world which he calls everydayness. Being-in-the-world is structured by a background of **practices** which cannot be translated into a set of beliefs, and are not therefore subsumable under a theory. Dreyfus in 'Being in the World': [5] regards the pivotal phenomena as skill. Skill is not explainable as rule application. These practices provide the basis for understanding technology. In 'Being and Time' instrumental activity is the basic way of being in the world. Apart from the activity of producing and making and manipulating, the sole alternative is to treat things abstractly with curiosity or scientific scrutiny. Objects are seen as problematical, they provoke questioning and enquiry, the result of which may be 'use', it may be that they are consigned to oblivion. The ready-to-hand, that which is available provides the means by which Dasein may carry out his purposes. The prominence in terms of the fundamentally assigned to the ready-to-hand in 'Being and Time' seems paint a picture of man as technologist.

A man who is competent and apt at something is engaged upon a practise.

> 'The hammering itself reveals the specific manipulability of the hammer.'
> (BT 15 pp98)

> 'The unifying force which organises my world is one of practical concern.'

The idea that the shared everyday skills and practices provide the conditions necessary for us to make sense of the world and our lives. These background practices function in every aspect of our lives, in our encounters with objects and with people. These practices cannot be spelt out, cannot be represented in any context free way. Practices function only in the background, critical reflection being necessary when our ordinary way of coping is insufficient. Heidegger proposes to start with the understanding exhibited in the shared everyday activities in which we dwell. An understanding which is at once closest to us and at the same time furthest away.

There are no beliefs there are only skills and practices, we don't act by applying principles. The situated use of equipment is on some sense prior to that which is revealed simply by looking at things. What is revealed by use is more fundamental than a contemplation of substances with detached context free properties. What is fundamental is what we agree on, what we see everywhere. Acting from principles though tends to imply difference and discord, a principled stand is one which puts us apart from the others. A rough sketch of a hierarchy of involvement with the world might look something like this :-

- Involved activity, embroiled in everyday practical context.
- When skilfully coping reaches its limit a subject conscious of objects emerges displaying deliberative attention. Theoretical reflection, skilful observation and theorising, a disciplined matrix, wonder
- Disinterested contemplation, staring, entities encountered purely in the way they look curiosity, the lowest of the low has no link with wonder.

Heidegger grounds his thinking in practise, in what people do rather than merely in what they say they do. He attempts to describe what goes on in our everyday skilful coping with things and with people in a shared world. These common coping skills contain a familiarity with the world which orientates and guide us. The simple skills he describes, are for example hammering, walking in a room, using car signals. Part of he impact of technology is to require that we learn a whole host of new and simple skills and that it is a mastery of these new skills which is required to maintain a position in which we do not need guides or maps. By focusing on the objects we create, the work we do, the surfaces and textures of everyday life writers like Borgman are able to point to concrete ways in which we may immerse ourselves in different practices and things. He refers to such activities as fly-fishing, hiking, gardening, running and preparing the great meal. In each case there is the 'thing' in the Heideggerian sense and an associated practise that nurtures the thing in question. In each case this thing and practise serve as a focus for the world of the practitioner. A focus which engages the practitioner in depth rather producing a sense of distraction so characteristic of 'technological 'leisure.

Can equipment in 'Being and Time' be said to be in the form of 'standing-reserve'? The hammer is not something there standing by ready to be used up like a styrofoam cup. There is still talk of taking care of equipment. Equipment is further up the hierarchy than the objects which it produced or helps to produce. Can then equipment be talked of as the thing. Not really a hammer is defined in terms of its function, its in-order-

to, there is rarely discussion of fitting response or its essential nature. Equipment thus corresponds to neither of the following definitions of use.

> 'To use' means, first, to let a thing be what it is and how it is. To let it be this way requires that the used thing be cared for in its essential nature, we do so by responding to the demands which the used thing makes manifest in the given instance. (WCT 187)

> 'Using' does not mean the mere utilising, using up exploiting. Utilisation is not a degenerate and debauched form of use. When we hande a thing, for example, our hand must fit itself to the thing. Use implies fitting response. (WCT 187)

Usage enjoins order and by limiting what is present distributes boundaries. Inherent in skills and practices is destiny, to have a gift for something is to be destined for it. A true cabinetmaker makes himself answer and respond above all to the different kinds of wood and to the shapes slumbering in the wood, to wood as it enters into mans dwelling with all the hidden riches of its nature. In fact, this relatedness to the wood is what maintains the whole craft. What maintains and sustains even this handicraft is not the mere manipulation of tools, but the relatedness to the wood. But where in the manipulation by the industrial worker is there any relatedness to such things as shapes slumbering within the wood? Only perhaps in the observance of a practise and its implied sensitivity to proper limits.

> But where in the manipulations of the industrial worker is there relatedness to such things as shapes slumbering within the wood? (WCT 23)

> Without that relatedness, the craft will never be anything but empty busywork, any occupation with it will be determined exclusively by business concerns. (WCT 21,22)

What is claimed here is a certain insensitivity to the materials, is this true? The realm of practise in which equipment reside, the need we have to use a piece of equipment, place a discipline on us, cause us to exercise restraint, make us exhibit care gives us an implicit awareness of limits.

- If we do not look after a car the chances are it will cease to function in the way we want it to.
- A subsistence farmer who does not plan for the winter may find himself starving for lack of food.
- The construction of a bridge involves an acute appreciation by the engineer and designer of how much force and mass a particular material can bear.

This sensitivity to one aspect of things needs to be acute, highly refined, and by implication specialised. Because man knows how far he can push something does this mean that you know the mystery of something? Does an awarness of the limitations of something help us know it better or not? Does is just show us specific sides or do we get to see deeper into something?

> The unnoticeable law of the earth preserves the earth in the sufficiency of the emerging and perishing of all things in the allotted sphere of the possible which everything follows and yet nothing knows. The birch tree never over steps its possibility. The colony of bees dwells in its possibility. It is first the will which arranges itself everywhere in technology that devours the earth in exhaustion and consumption and change of what is artificial. Technology drives

the earth beyond the sphere of its possibility into such things which are no longer a possibility and thus are impossible. (EPTT 190/90)

According to McIntyre in 'After Virtue' 'public' 'shared' 'historical' are key feature of a practice rather than the isolated individual will.

> 'Any coherent and complex form of socially established co-operative human activity through
> which goods internal to that form of activity are realised in the course of trying to achieve
> those standards of excellence which are appropriate to and partially definitive of, that form of
> activity, with the result that human power to achieve excellence, and human conception of the
> ends and goals involved, are systematically extended.' 6

Such a practise forms a referential totality. A place in which everything is in the right place and at the right time. A place where it is easy to see when something is being pushed beyond its proper limits. Key words used by McIntyre in putting forward this notion of practise are; established, coherent, co-operative, internal goods and excellence. External goods are of a kind, that possession involves depriving someone else, whereas internal goods benefit everyone or the whole community. Every practise requires a certain type of relationship between those who participate in it. Presumably this is a co-operative one. McIntyre it must be said does not extend this relationship to include other (Non human) entities. He is however at pains to point out that a practise does not consist solely in set of technical skills. Concepts are embodied in and draw their lives from forms of social practice. To understand how a particular concept is used, it has to be understood in terms of the activity and in some form of established practise. Concepts are transmitted from generation to generation. The problem with technology is that it tends to cut us off from our past, from a tradition, technlogical progress is by leaps and bounds. Any tradition depends for its survival on retaining shared beliefs and practices.

A practise however necessitates concentration and involvement to the highest degree.   When engaged on on a practise one is not always having to make choices. There are decision to be made but these tend to be small ones. One is free from choice rather than free to choose. McIntyre accords the status of practise to the game of football but not to kicking a ball around, to farming but not to planting a turnip.

Key words used to define a practise are; cooperation, coherence, internal goods, authority and excellence. A distinction is made between goods internal to and goods external to a practise. External goods often an outcome of competition, are found in the form of individual properties or possessions. Generally speaking the more one has of them, the less there is left for others, an assertion more readily accepted where space is limited. Internal goods may also come from competition but it is characteristic of them that the benefits accrue to all those engaged in the practise. Often those engaged in a practise will deny that the goods, even if they are internal ones provide the greatest reward. Claiming rather that the activity is undertaken for its own sake. What are we to make of such claims?

> A practise involves standards of excellence and obedience to rules as well as the achievement
> of goods. To enter into a practise is to accept the authority of those standards as well as the
> in adequacy of my own performance as judged by them 7

To suggest that those goods which are internal are in some sense more worthy of attainment seems fairly plausible, since unlike external goods they do not encroach on others and are an achievement of excellence.

Also in order to have a sense of respect, or reverence, it is helpfull to divide that which is worthy, from that which is not. However consider the following passage from the Tao Te Ching.

> By not honouring worthy persons the people are
> kept from striving after preferment:
> By not prizing rare objects the people are kept from
> becoming thieves:
> By not displaying that which might be coveted the
> desires of the people are not stimulated.

Lack of hesitation, grace, smoothness, self possession are some of the qualities of the dancer, the gymnast, the craftsman at home in his workshop These people are masters both of themselves and of the objects or things which surround them. These activities need not have the status of an art form, the secretary in relation to a word processor the bus driver with respect to the vehicle can show a similar mastery to the craftsman or gymnast.

Do practices then provide a setting with for peace and tranquillity, in which thoughts could proceed freely and calmly without outside interference? Technology is constantly opening up new worlds, creating opportunities and possibilities which have never existed before. This combined with increased complexity and specialisation make it difficult to keep abreast of how things work, how thing are made even though we may use such objects, entities, pieces of equipment on a daily basis in our everyday lives. Against this setting where you meet one hazard after another, with little time to think of anything else, it is important to have a practise which demands decision making and allows for the exercise of skill. When we consider a technological device and the things and practices that it replaces, varied and conflicting intuitions come to mind.

CHAPTER 9

Building Dwelling Thinking

In an interview published posthumously Heidegger insists that only an individual who has his roots in a particular landscape and tradition is capable of truly significant work. Heidegger's very last text, written only a few days before his death, addressed to his friend Bernhard Welte, concludes:- 'The rootedness of man is today threatened at its core' by the age of technology. Similar sentiments had been expressed some time earlier.

> 'For there is a need to deliberate whether and how in the age of technological homogeneous world civilisation, there can still be a homeland (WSP)

Heidegger proclaims his attunement to, rather than observation of, the hourly changes of the landscape, day and night, the great comings and goings of the seasons. Heidegger's vision is of the peasant, secure in his place in the world.

> 'We are plants which - whether we like to admit it to ourselves or not - must with our roots rise out of the earth in order to bloom in the ether and bear fruit. (Inagural presentation to *Hebel)*

> Strictly speaking I myself never observe the landscape. experience its hourly changes, day and night, in the great comings and goings of the seasons....... all of this flows through and penetrates daily existence up there, and not forced moments of aesthetic immersion or artificial empathy... It is the work alone which that opens up space for the reality which is these mountains (WSP)

A similar point is made by Bruce Chatwin in 'The Songlines' about the nomadic desert dewlling Tuareg. Just because the modern urban dweller views the desert as uniform or blank this does not mean that it appears that way to those for whom it is an everyday environment.

> 'Yet to survive at all the desert dweller Tuareg or Aboriginal, must develop a prodigious sense of orientation. He must be forever naming,sifting, comparing a thousand different signs -the tracks of a dung beetle - the ripple of a dune to tell him where he is, where others are, where the next meal is coming from'.

Whilst Heidegger undoubtably had a fondness and nostalgia for his upbringing and home, what is at issue here is not a rural versus urban life style. Both settings require a degree of orientation and familiarity if one is to cope. The urban dweller, for whom the desert is just so much heat, blank horizons and a dazzling sky may feel quite at home in the city a city in which the nomad would have difficulty surviving the traffic

What is it then dwell in harmony with the earth? What is it to 'let beings be'? Heidegger's essay 'Building Dwelling Thinking' is often cited as a guide to these questions. According to Heidegger 'to be' means to be present or manifest. Prescencing however requires an 'abscencing' or a clearing, an opening in which to occur.

> We, human beings, Dasein are that opening. This opening is a gift. To be open we have to be responsive, prepared to listen, aware of our own mortality and the limits of that which we build. (WCT p142).

Zimmerman claims that we are so entrenched in the contents of awareness that we fail to notice awareness or openness as such. Awareness is not a thing, rather it constitutes the open realm in which things can be revealed. I am not an enclosed ego subject, nor am I self contained body, I am the clearing or opening in which

my ego object and space can appear. I am not in my body, my body is in me as the clearing. There is a tendency to regard the self as something unique, something encased within a human skull. The Bororo Indians, a tribe of Indians who live along the Vermelho river in the Amazon jungles of Brazil, believe that the mind is an open cavity like a cave or tunnel or an arcade in which the entire village dwells and the jungle grows.

> 'When I go towards the door of the lecture hall, I am already there, and I could not go to it at all if I were not such that I am there. I am never here only, as this encapsulated body; rather I am there, that is, I already pervade the room and only thus can I go through it. (BDT p157)

Does the above passage refer to mans ability to collapse distance and time, a facility which is a pronounced feature of technology. Heidegger interprets Heraclitus as a guide for spiritual practices which will help us hear the *Logos* if and when it speaks through. The essence of such practices is that they are no actions which can save us from death. Learning to be mortal is the essence of home coming and dwelling. This learning implies that one is not the enemy of events that occur within the clearing. Seamon quotes Heidegger from his book 'Dwelling Place and Environment'. 'Mortals dwell in that they initiate their own nature their being capable of death as death.' 1

Appropriation embodies the dual notion of care for the world and taking from the world. As caring, appropriation speaks of our primordial involvement in the world. Caring thus conceived is not a moral attitude, rather it is ontological, a fundamental aspect of our existence. It is through care that the world is disclosed to us. As taking, appropriation involves making ones own, an incorporation of things into ourselves. Appropriation becomes closely linked to the process of identification. As we open ourselves to the world of things and places so we bring meaning through care and concern, at the same time these places lend to us a sense of identity.

In the 'The Songlines', Chatwin writes of the ancient paths which the Aborigines have used to go walk about. In a mythical age at the start of time the ancestors sang the world into existence. Each ancestor who travelled through the country scattered a trail of musical note and words along the line of his footprints. These tracks provide a way of communication between those subsequent following them. The tracks also act as both map and direction finder.

> 'Each step corresponded to a note.
> The descendant who went 'walk about' would follow the ancestors trail and sing the ancestors stanza without changing a word or note and by so doing would re-enact the creation. the country did not exist until it could be seen and sung'.2

Chatwin recalled the story of an aborigine who inadvertantly found himself being driven along his songline, immediately he started singing the verses of the song in a sort of demented and speeded up way. There was a correspondence not just between the notes and the rocks but also with the speed at which they were traversed.

In Anne Cameron's *Daughter of the Copper Women*, an old Nootka women describes how her forbears would navigate their ocean going canoes. '

> Everything we knew about the movement of the sea was preserved in the verses of a song.
> For a thousand years we went where we wanted and came back safe because of the song......

There was a song for going to China and song for going to Japan, a song for the big Island
and a song for the smaller one. All she had to know was the song and she knew where she
was. To get back she just sang the song in reverse. 3

There is an identity between the environment and the language. An identity which demands a certain order.
An identity which suggests an echo or response rather than emulation or representation. A common perception
perhaps is that it is in the nature of language to make sense of something in terms of something else. Nothing
can be determined purely in itself or by itself alone. The one must always be there with the indeterminate two.
The understanding of something as a dialectical process, an endless back and forth, or give and take between
one and many, determinance and indeterminacy, perplexity and insight. Heidegger does not wish to ground
language in something other than itself, nor is it to be used as a means to explain other things.

'Man acts as though he were the shaper and maker of language, while in fact language
remains the shaper of man. Perhaps it is before anything else man's subversion of this
relation of dominance that forms his nature of alienation' 4

By language Heidegger does not mean merely words and propositions but the primordial *Logos*, that gathering
which opens up a world in which beings manifest themselves.

A great poem reminds us to bear witness to prescencing (Being) and think things that are
present (beings). 5

Language withdraws from man its simple and high speech. But its primal call does not
therefore become incapable of speech; it merely falls silent. (BDT p148)

Man though fails to heed this silence. In other words we cannot hear the *Logos* because it has withdrawn itself
and because we are caught up in the use of language as a device of the ego. Far from heeding the silence we
usually flee from it into the many distractions of everyday life.

Heidegger uses iterations, such as speech speaks, things thing, the world worlds. These iterations stress the
verbal over the substantive. The stress is on a uniqueness which is at once universal. Emphasis is on the
phenomena itself, its unique essence and its essential uniqueness. *Speech speaks* in order to summon the
worlds and things to their uniqueness or essence. The 'thing things' and in doing so draws the world near and
gathers it. The 'world worlds' by granting the thing its nexus for gathering. 'Language is language' is not
meant as a tautology or meaningless iteration. It is designed to remove any grounding that we are tempted to
give language. The phrase opens an abyss, one into which perversely we fall not downward but upward to a
height. 'Language is language', the two span a realm which provides a homecoming, a dwelling place.

'To dwell, to learn to be this open realm. We learn to let beings bring themselves to
appearance by giving voice to themselves through us.'6

This process Heidegger calls 'releasement' *(Gelassenheit)* or 'letting go'. The same term is used in 'The Essence
of Truth' where freedom is described in terms of 'letting beings be', here it could mean 'let language speak'.
In 'Echoes' John Sallis quotes the story of Echo from Ovid's 'Metamorphosis' who was destined to repeat the
words spoken to her again and again. 7

She liked to chatter,
But had no power of speech except the power

to answer in the words she had last heard.6

Heidegger believes that all language has been debased in this way and it is for philosophers and poets to rescue it.

> 'In the end the business of Philosophy is to preserve the force of the most elemental words in
> which Dasein expresses itself, and to keep the common understanding from levelling off to
> that level of unintelligibleness which functions as a source for pseudo problems' (BT p261)

Words and language are not wrappings in which things are packed for the commerce of those who write and speak. It is in the word, in language, that things first come to being and are. Therefore the misuse of language destroys our genuine relations to things. Words used in our tradition are used interchangeably and are doomed to be of less importance than the propositions they express. Words are a means of trying to organise the world, not windows through which we look at the world. Words like letters get their meaning from the way in which they are organised, from conventions. There are no inherent meanings. A red light at a traffic lights has a meaning because of its place within a system of traffic signs. Representations are just that, they are not the things themselves. By playing with language systems we can draw attention to how they work. A mindless repetition of words strips them of meaning. Words are not the things they represent, they are other, part of on organisational system. To concentrate solely on words in their resemblance to other words rather than to things. Words can mean so many different things. We do not master language it masters us, imposing a pattern on us. Verbal language unlike mathematical language is ambiguous. For example if we say that the glass is half empty or half full there is a completely different emphasis in both utterances.

Language is a place in which we live, it does our thinking for us. The connection of a word to a thing is arbitrary, though the organisational system is not. The world of words is a public world, we inherit words with attached assumptions and prejudices. If you have to struggle to recognise something as something, a plant for instance then after the effort you have made more of the plant than before. 'The Sick Rose' by William Blake presents us with multiple meanings of words precisely in order to question received ideas with their attached meanings, to put in historical context rather than everydayness.

The Western tradition tells us that it isn't the word but that which it signifies which matters, Heidegger believes that it is the words which matter. For Heidegger the proper function of words is not just to stand for or to signify. Rather they point beyond themselves. To name a thing is to call it to summon it. Heidegger does not want us to think of language as an externalisation of inner feeling, or as an activity of man. More fundamentally language holds the power to reveal, to 'let beings be'. For Heidegger the gift of language leads to a difference in kind not merely in degree between humans and animals. Man is the 'shepherd of Being'

> 'Man does not decide whether and how beings appear, whether and how God and the gods or
> history and nature come forward into the lightening of Being, come to presence and depart.
> The advent of being lies in the destiny of Being. But for man it is ever a question of finding
> what is fitting in his essence which corresponds to such a destiny; for in accord with this
> destiny man as ek-isting has to guard the truth of Being. Man is the shepherd of Being,
> (LH 210/161-162)

Human existence does not possess or project temporal openness, but instead is possessed by it. This openness is articulated by language, which is the self, expression, abode or house of Being. 8 Language is a gift which imposes on us the supreme obligation of bearing witness to beings. Bearing witness or letting Beings be may mean an active engagement to reveal them or letting them alone to pursue their own course. No human experience of beings can occur outside the context and limits of language. Language and tradition provide the clearing in which beings can present themselves though sometimes in restricted ways.

> 'A great hidden stream which moves all things along and makes way for everything. All is way' (OWL 92/198)

The language of a tradition teaches us our proper limits, thereby enabling us to co-operate with beings and to tread but lightly on them. Technology is particularly restrictive for it only lets beings show themselves as objects for human use.

> 'An instrument for mastery over beings'.....beings become encountered now 'with explanations and proofs' (PLT 60)

In order first to become an instrument it must itself however have been subject to mans mastery. An instrument which like the mathematical, scientific, technological project has its ground in the instituting activity of the subject and which prescribes to things in advance how they are to be spoken about.

A discussion of Heidegger's conception of language is important since it points to certain key terms such as truth and releasement. It is central to 'Being and Time' that the world of equipment or equipmentality is grounded upon structures of intelligibility which are constituted by the essence of language (discourse). Art forms are dependent on the structures of intelligibility constituted by discourse. This leads to the question or enquiry into how linguistic or language concepts inform our experience of things in everyday life. In a large part Heidegger's language seeks to recover lost meanings to Greek words. Concerned often to divulge what was implicitly known and experienced but not thematised. It is perhaps in this area that future work should be directed.

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