The Environing Air:
A Meditation on Communications Structures in Natural Environments

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The hill is shrouded with a dense, smirry rain. Arriving at the car park 300 metres up, I can hardly believe my eyes; it's as if things from space have landed. There are three structures of ascending size, a "family" so to speak, and one of them looks like nothing I have ever seen before.

Three display boards face the towers, so I am hopeful of an explanation. However, it turns out that these describe the flora and fauna of the hill itself as if, by drawing attention to the nesting habits of local Curlew or Red grouse, the enormous looming presence in the foreground might be overlooked.

The growth of communications technology and data transmission systems make masts, antennae, and radar type installations, sometimes of significant scale like the one described above at the *Lomond Hills* in Fife, Scotland, a common and more or less accepted part of even the most remote landscape. Though concerns for the aesthetic impacts of such paraphernalia are sometimes voiced amongst hill-walkers, the possibility that the presence of such technology impairs the experience of temporarily being free from the noise of the contemporary human world is harder to argue. What is particularly intriguing however, and perhaps in relation to the former point, is just *how little* meaningful debate arises as a result of the positioning of certain technologies in natural environments, and as is the case at the *Lomonds*, making them the focus of our attention is in no way encouraged.

Nevertheless, telecommunications installations of all varieties, particularly when contrasted with the surroundings of a natural landscape, invite us to think beyond the visible; to

consider the relationship between the human and the natural realms, and the phenomena that envelop the two. For the purposes of this paper, I intend to put the debate relating to the potential health impacts of electromagnetic technologies momentarily to one side in order to explore the ground, beyond the obvious visual impacts, of the accoutrements of mobile communications systems.

With regard to the methods employed in constructing this essay, I have made much use of first person experiential accounts through which I have tried to allow the poetry of the original experience to materialise[1] and as an invitation to readers to build their own picture. These accounts make their appearance in italics throughout the text, in most cases at the beginning of each section. I have also drawn upon Anthony J. Steinbock's outline of a phenomenological approach that begins with the "facts" of the everyday world or "with the things as they are assumed in the everyday sciences" (see Steinbock 127-135). In this particular case, I have made some reference to basic concepts of physics. I have tried to work between these experiential and factual accounts in pursuit of the general direction of the inquiry, drawing especially on the existentialism of Martin Heidegger as the binding that interweaves between the two positions.

Sections I and II of the paper deal with the visual impact of communications structures before going on to attempt a reading of them through the Heideggerian concept of disclosure. Section III focuses on the "nature" of electromagnetic signals, drawing upon scientific concepts as a way to help recognise that nature. In Section IV the technological nature of contemporary human engagement with the world will be considered; a comportment towards things that Heidegger terms *Ge-stell*. At this point I will attend to some criticisms to the effect that Heidegger may not be the best philosopher to employ for the purposes of this meditation. Section V, the concluding section of the essay, in fact draws no definite conclusions but instead hints that

a tentative acceptance of the uncertainty surrounding these technologies may be the best way to begin to come to terms with our shifting relationship with them, and might even cause us to reflect more fully on our technological attunement to the world.

Doubtless implicit at the centre of this deliberation are the philosophical questions relating to how we use and manage such technologies and, though it is not my primary focus to describe the experience of using them, the description that I do intend to embark upon, that of being near the paraphernalia associated with the reception and transmission of radio signals in a natural environment, I hope may indirectly contribute to the wider debate surrounding the implications of communications technologies for human beings so heavily dependent upon them.[2]

I: A Visual Intrusion

Stoer, Assynt, North-West Scotland, April 2011

It has been a long journey here to this elemental place at the far north west of the land. Only the sounds of the birds, a light wind, and in the distance the sea, are to be heard. And over there (I noticed it as soon as we arrived) a squat structure perched up on a small hill at a distance above the road. It keeps drawing my attention.

The positioning of masts near residential locations is far less strongly contested by the public as was once the case, when indeed the mast is visible, and when it is, concerns are usually related to perceived health risks.[3] In rural or more "natural" environments, though there is often ambiguity about the purpose of an installation which can sometimes give rise to concerns about the power levels involved, in general terms, any officially formulated complaints there tend to centre on the aesthetic impact upon the landscape.[4] Frequently however, responses to telecommunications installations in natural environments are rather flat, almost verging on the pretence that they are not there. Sometimes these objects are disguised; in cities, concealed

within church towers or lamp posts, and in rural locations (badly) as trees. The danger in viewing the mast predominately as an intrusion is that it becomes more likely that it will be dealt with by removing it from view.[5] However, any serious analysis of technological placements in the landscape must necessarily reach beyond the visual, since the mast alters the character of a place in other ways: the phenomenon of the perpetual electromagnetic signal has the power to impair, or enhance, depending on personal opinion, the experience of being in a natural landscape. If such objects are allowed simply to vanish, with them disappears the initial means through which we may begin to negotiate our rather conflicted relationships with the technologies that form such a part of our existence.

II: Disclosure of World

Stoer, Assynt, North-West Scotland, April 2011

The thing is placed in such a way that it's obscured by the slope of the hill the closer one gets to it; its very elusiveness seems to make it more intriguing. I head out early in the evening when there is a feisty wind; it's cold but bright, with fast moving clouds. I can see the structure sitting on the hilltop, which I hope to reach by sunset, but as I arrive at the part of the road that is directly underneath it, it has again disappeared from view.

The path, which is not barred by a gate, is stony and the surrounding ground rough and tussocky. As I climb, the tip of the metal framework begins to appear; it's shaped like a chunky pencil in wireframe, quite wide, with a point at the top. Then the metal-roofed shed-like building in front of it emerges and alternately appears and disappears with the undulations of the landscape as I move, so that the wireframe appears sometimes to protrude strangely from directly out of the rock and then seems to perch atop the level, grey, corrugated roof. I can see five drums of different sizes attached to the frame with their flat surfaces facing outwards, though apart from the one facing me, the white surface of which is catching the light, it's difficult to tell in which direction exactly each of these point.

I am aware that this object depends upon the phenomenon of electromagnetism, within that part of the electromagnetic spectrum that is comprised of "radio waves." However, since I cannot see this part of the spectrum, as I can the part

comprised of "light waves," this information is of limited use towards gaining a fuller appraisal of what is in front of me.

My eye follows grey plastic covered wires winding along the struts and crossbars of the structure and along metal ducting, to disappear into a grey steel box. I take in the way that each metal leg of the thing is "earthed" to the ground against a lightning strike, aware of the gathered potential power that I am next to. I sit on with this presence.

Heidegger explains how it is that we can be aware of the world through a piece of equipment; such as the hammer he shows us in *Being and Time* in 1926. By its appearance, its weight, how it feels in the hand, the hammer speaks of hammering. It is an object so fit for purpose that it does not get in the way of our focus on the task in hand, that of hammering (Heidegger, *Being and Time* 99). Our concern then lies with the work, rather than the tool because it withdraws as it is encountered within the referential totality the work bears; through this totality the world announces itself to us (99; 105). "Readiness-to-hand" (*Zuhandenheit*) is the mode of Being that Heidegger assigns to such equipment; we are aware of the being of the world through the worldly characteristics of the object (99; 102). It is possible to see how the phone mast or communications tower conforms to this in some ways; its situation high up on a hill creating a relationship with the sky, the absence of any physical objects in the space around its higher points, the orientation of those points, drums, bars or wire aerials attached to it, all seem to allude to the immateriality of what may be taking place around it. In fact, it is hard to associate the structure with any purpose other than communication.[6] It has the look then of being fit for purpose but it is still a problematic object in the sense that it is difficult to work out the exact variety of that purpose, and in this respect the thing can sometimes seem to take on sinister aspects.[7] In addition, I myself have no natural wave awareness; I need to be in possession of another piece of equipment, a mobile phone handset connected to the appropriate network, for there to be even a possibility that I might make use of this installation. Certainly the structure

itself, and even the handset, withdraws as we speak to a friend or listen to a broadcast, but we are not brought in closer proximity to the world by way of the object. In fact, apart from the content of the conversation in which I am engaging, it may have the opposite effect by contributing to the closing off of the world to our concern. It is only if the signal fades, is cut, or if there is interference, that the equipment begs any consideration at all. We may then question the origination of the signal, the weather conditions, or what lies between us and the place the signal may be travelling from that might be blocking it, for instance the walls of the tunnel that the train I am on is passing through. What is happening through this process of "malfunction," Heidegger concludes, is that ready-to-hand equipment is made conspicuous by the fact that it has lost its readiness-to-hand and has attained the property of "un-readiness-to-hand" or presence-to-hand (*Vorhandenheit*); the thing is present as equipment but it is un-useable (102), something humans find very frustrating. Heidegger assigns missing equipment to this category also; the hammer is nowhere to be found when it is required (103). I can apply this to the occasions on which my phone "loses" the signal, or there is no signal (it is "missing") because one does not exist at the place where I am standing: there is no handy mast.

When in the midst of a natural, possibly remote, landscape, my concern will most likely lie with the qualities of the landscape itself and what it is like to be there. I am an experienced hill-walker and I sometimes just want to be on my own with only the landscape for company, to go for a walk just for the sake of walking and to hear nothing but the breeze, water, birds or other, perhaps unidentifiable, sounds that make up a place that is not teeming with human activity. If I come upon a mast at this time, the equipment seems not to belong there. Unless I have need of it at this particular moment, it does not fit with my mindset and simply creates disturbance by standing in the way of my primary concern. I may feel annoyed, or I may try to

ignore that part of what is in front of me. Equipment that is ready-to-hand therefore always also harbours the possibility of being present-to-hand; the two overlap, and are dependent upon one another (101). This overlap is unfixed and equipment can change state at any time; the environment that I am in may become inhospitable, or worse, my walking partner or I may suffer an injury severe enough to warrant calling for assistance. At such times I may hope fervently for access to the spectrum even if one of us has to walk some distance to locate it, and once connected, the equipment, both handset and mast, withdraws again to become part of the referential totality of securing help. In this way the mast holds the potential of disclosing the previously unseen world of warmth, support, comfort, safety, and healing. So, though I may long to separate myself for a while from the clamour of human society by setting forth out onto the hills, where I might once have done this with little thought other than that required in the way of common "hill sense," I now must make a further consideration: whether to remain connected while I am gone, by way of my mobile phone. I do not expect to encounter trouble, but I am acutely aware of how quickly weather conditions on the hills can change to make progress across their summits potentially perilous.[8]

The ways in which the mast harbours the qualities of both readiness-to-hand and presence-to-hand seem quite clear then, but in terms of disclosing the world to us in any way akin to the sense that Heidegger meant, it appears that the structure fails. Indeed it is difficult to see anything of the environing nature of the mast in the way, to quote two of Heidegger's examples, that a covered railway platform correlates with bad weather, or lighting accounts for the absence of daylight (100). The materials of the structure may seem somehow to fit with the changeable Scottish weather; its light reflecting steel; its whites and greys against the colours of the sky, clouds and water, but this at most complements the thing's natural surroundings. The

mast itself fails to appear to as any sort of "extension of the natural world" (Picon 66), seeming only to furnish a connection with the human world from which we have been attempting to temporarily retreat. The peace of mind that may come about at the sight of the equipment in relation to a possible accident, is gained at a cost; the disturbance of both my opportunity to experience fully my natural environing, and my sense of solitude.

III: The Environing Air

Stoer, Assynt, North-West Scotland, April 2011

As I get closer, the mast still eludes my perceptual grasp; I somehow find myself even further beneath it, so that its squatness appears to be getting taller. With every step, I need to bend my head back further to see the top. I reach its foot and try to register all its physical features. What is most striking, however, is that as I step around the side of the equipment building, the sound of the wind is immediately cut, and all that remains in the stillness around me is the sound it makes as it plays in and around the structure. It occurs to me that the timbre and variations of this sound are quite unique, dependent as they are on the speed, strength and direction of the wind, the form of the construction, and my sheltered position. I notice the sounds change as I move my head. It is only when the wind subsides momentarily, that I become aware of a low electrical hum.

On account of the wind, and the clouds behind and above the structure, everything appears to be moving, restless. The sun, low in the sky now and blinding to look into, plays off the structure casting its shadow onto the gneissy moorland and the image shimmers as the grass beneath it is tousled by the wind and the sun moves on its course. There is a marked contrast between the fixity of the steel construction and the restlessness around it. The movement, and of course the sound, seems to speak of the energy that the mast gathers and transmits, of natural phenomena harnessed, directed, redirected, while the mast itself remains rooted to the ground, set in its concrete platform laid square into the moor and beginning to take on the colours and crumbled edges of the ancient rock surfaces around it. Strangely, for an item of contemporary technology, it appears to own an aura of permanence, solidity and dependability in contrast to its vague functionality; the shrieking, whistling sounds, making its resistance to the wind audible, carry echoes of those stronger than this that it must previously have endured. There is the impression that the pulsed signals must be wrested from the teeth of this wind before they are sent on their way.

Of course not all technologically generated electromagnetic activity is mapped, but a survey of the UK coverage maps of the major domestic mobile phone network operators, discounting radio broadcasts and emergency or military transmissions, shows that few "holes" are apparent.[9] On even the calmest of days, present upon the apparently still environing air, are likely to be a confusion of pulsing electromagnetic fields operating at various frequencies.

The Earth has its own natural magnetic field that I can "see" with a compass, which is part of the protective system of the planet, and many other natural oscillating atmospheric electromagnetic fields, of varying intensities, are present around us all the time (see Warnke 7). The interconnectedness of these naturally occurring fields, which are very much weaker than those that are technologically produced, and the biological processes of life on this planet, is well established[10] and it is for this reason that concerns about the impact of artificially generated electrical and magnetic fields has arisen (see Warnke 11). The presence of such fields, those that emanate from a mast for instance, or around the electrical wiring of a house, can also be detected by way of a compass, the needle of which tends to deflect to a point perpendicular to the direction of the current; and of course our televisions, radios and mobile phones all generate their own electromagnetic fields.

Since, as the mast has shown, any encounter with nature through contemporary technologies is made more difficult by the invisibility of the phenomena involved, I will momentarily, make recourse to some of the scientific facts. The most incredible aspects of radio transmission lie in its relationship to natural phenomena. When I speak, the reason that the sound reaches the ears of another person and is heard, is because the sound's vibrations are carried on the air. When my upstairs neighbour thumps across his floor, his footfall can be felt by placing my hand on the wall of the room beneath. If I whisk my arm in front of me through the air, I feel

resistance, so clearly *something*, rather than nothing, is there. That this *something*, like the bricks and mortar of the wall, may be comprised of atoms need not prefigure my understanding of the fact that the transmission of sound occurs as a result of the transference of vibrations through a medium, be it air, bricks, or other media. Indeed, although by way of a different kind of vibration, electromagnetic waves can be used to make sound manifest as if through the air. Even a very basic explanation of radio transmission can open up something that, in marked contrast to the times of its discovery, is very often in the present day taken for granted: such an explanation follows.

The act of signalling by radio, for broadcasting or telecommunications, relies upon the transference of vibrations via an electromagnetic field: causing the movement of a large group of electrons in one place (the transmitting aerial) so that they have a detectable effect on electrons in another place (the receiving aerial) (Sinclair 2). Such transmissions occur by subjecting electrons, the smallest and lightest subatomic particles, to an electrical current that is constantly changing, pushing them in, and then out, of an aerial in a repeated cycle. This pulsing activity results in the creation of the electromagnetic field that carries the transmission, and the number of completed cycles that takes place each second is what is known as the "frequency" of the transmission, which is commonly measured in *megahertz* (5). The principle in operation for both listening to a radio programme or for mobile data transmission, including that of my friend's voice over my mobile telephone, is the same, except that different transmission frequencies are used.

Radio transmissions depend upon natural phenomena. As previously stated, the most incredible aspects of radio transmission lie in its relationship to natural phenomena, but we completely fail to notice this fact as we engage with our personal paraphernalia. Indeed, we fail

to see the equipment at all, unless it shifts from being ready, to merely being present, to hand, if it stops working, in other words.

IV: A Natural World Enframed

We encountered the two terms of ready to hand (*Zuhandenheit)* and present to hand (*Vorhandenheit*) earlier, standing in Heidegger's workshop, considering the hammer. We began to see then that there could be more to technology than we might at first have assumed. Nearly thirty years on, in his 1954 essay, "The Question Concerning Technology,*"* Heidegger develops the notions of *Zuhandenheit* and *Vorhandenheit* further in order to address what he sees as the fundamentally different phenomenon of modern technology. To see what it is that is different about it, we need to question beyond our general assumption as to what technology is. This assumption, simply put, might be that we employ technology to make stuff. We make material objects, we make power, we make the means by which we physically move from one place to another, and the means to communicate over distance in real time, in words, and in pictures. All manufacturing, by hand as in earlier times, or by machine or power plant via modern technologies is, Heidegger contends, "a means to an end" (Heidegger "The Question Concerning Technology" 5). However, this is only to state "the instrumental and anthropological definition of technology" (5) and, though accurate, it doesn't take us any closer to its *essence* (6).[11] Its essence has less to do with what it is (i.e., a means to an end) than with what it *means*. In the encounter with the hammer, if we remember, Heidegger takes us beyond the thing as an object, to a point where the world is opened to us by way of the task in which we employ it. In "The Question Concerning Technology," he goes on to link the activity of making to the Greek term of *technē*; making things is a human activity in the course of which a process is undertaken by a

craftsman to bring something into existence: a house, a ship, a chalice, from a material that the maker knows and has come to understand (13). This way of "bringing something forth" is not, however, simply the manufacturing of a thing but is a sort of revealing: of the material, the maker's engagement with it, and the world to which they both belong, and it amounts to a sort of poetry (*poiēsis*) (10). It is this capacity of revealing that is the important aspect of technology. But modern technology reveals the world differently from such earlier modes of production: it doesn't just reveal more; it reveals in a dramatically different way. This revealing "challenges" the earth to supply energy that we can extract and store for use later in making the things that we want. The processes of modern technologies then, are not the *technē* of *poiēsis* in the way that were earlier means to ends.

> This setting-upon that challenges forth the energies of nature is an expediting [Fördern], and in two ways. It expedites in that it unlocks and exposes. Yet that expediting is always itself directed from the beginning toward furthering something else, i.e., toward driving on to the maximum yield at the minimum expense. (15)

So the distinction to be drawn between older and newer technologies is not to do with the paraphernalia of the technologies themselves; though "a radar station is of course less simple than a weather vane" they are still both means that meet ends (5). The difference, rather, lies in the way that we have come to view the world and its natural processes; as resources, there to be uncovered, extracted, challenged to meet our increasing "needs" and desires. Thus, to quote Heidegger's example, we see a fast flowing river as a source of hydropower, the essence here tied to the idea of the power plant, not the river (16).[12] In addition, we don't just take or make only what we need at the time, but we store up extracted power for later use, set it aside as "standing-reserve" (*Bestand*) (17). And we continue to do this, keeping an eye on "the maximum yield at the minimum expense" (15). Modern technology then, changes our relationship to nature; we no longer regard the earth and the things around us with awe and reverence but

instead as a series of things to be brought under our control. This way of challenging the natural into standing-reserve is now less of a conscious choice than it is a disposition towards the world and, lacking the perspective to see what we are doing, we are part of the problem, stuck in the same pattern of what we have become, and unable to opt out of what we have brought about. It is not that technology is a force in itself that has us in its grip; rather, it is this pattern of what Heidegger refers to as *Ge-stell* or "enframing" that holds us fast and seemingly powerless (19).[13] However, this is not the worst of the situation; this way of ordering the world, through its "unlocking, transforming, storing, distributing, and switching about" (112) is a form of revealing that causes all the other potential ways that our world might reveal itself to us to recede, along with the possibility of our having any grasp of our part within that world (26).

I am not unaware of the fact that there may be a tinge of irony, in an essay that has so much to do with this concept of enframing, in having leant so much on physical science as the underpinning of the foregoing section of this work, given that Heidegger holds the rise of the physical sciences as a major component in holding that enframing in place; it is the way that modern science represents nature that turns it into something orderable and measurable (21). Nevertheless, I hope that this will be seen to be a relevant part of constructing an approach to technology that takes into account both its "instrumental and anthropological" conception, which can hardly be separated from physical science, *as well as* the ways that Heidegger is encouraging us to attend to it.[14]

> *I look up at the mast, considering its invisible field, the crossings and overlaps with other fields, and wonder what these would look like were I only able to see them, and if I were, would this furnish any better understanding of their 'ordering'? My eyes and lungs perceive the air here to be so clear, but it seems that the very space above my head has itself become "standing-reserve."*

I'd now like to turn to the concern that Heidegger's approach does not help us to identify, and in fact may even obscure, which things in the world are technological and which not.[15] I can deal with this point swiftly and simply by stating that Heidegger's account of technology had to do with the way that we relate to technology and was never intended to help distinguish between it and nature. But this comment of course then begs the further question of whether anything exists at all in our world that is *not* technological, bearing in mind that the category of nature is itself a human category.[16] My first response to this criticism was to wonder just how much of a distinction between these things is needed for my purposes here; as long as I am certain that a mobile phone mast (as well as other antennae) is a piece of man-made equipment that "unlocks, transforms, stores, distributes and switches about" natural phenomena, is further distinction needed? Well, yes, as things turn out; I suggested earlier that there are times when I "may long to separate myself for a while from the clamour of human society by setting forth out onto the hills," but is it possible for me to leave that human world behind, albeit temporarily, while there is even a shadow of an argument that for a hill-walker "a landscape could be said to be a piece of equipment"?[17] Such a comment may seem extreme, but I think that it may be of unfolding importance and I'm certain it could form the subject of another paper. However, I will for the moment confine myself to brief comments. The definition of nature is of course one that fluctuates; there is no neat division between what is natural and what is not; it may well be subjective and the matter is only likely to increase in complexity. To answer this particular criticism within the context of this essay then, I intend simply to make recourse to the use of inverted commas around the word "nature" to denote the things we commonly understand as part of the natural world before we begin to dig deeper, and to contend that, however pervasive the argument of the equipmentisation of hills (one that is actually quite well served by the practice of

Munro-bagging[18]) it is still the case for the vast majority of hill-walkers that the hills represent some form of retreat from day to day human concerns. I realise that even here there is still something of a flavour of instrumentalism, but I will leave it hanging there unsatisfactorily while I shift focus to the charge that we simply cannot leave behind our "technological attunements" when we "enter nature."[19] On this latter point I agree; what is clear, with relation to magnetic fields and radio transmission, is the ways in which the technology, made visible by way of its paraphernalia—the phone mast, the radio antenna—exists as part of both the natural *and* the human worlds, leading to "the inescapable co-mingling of these worlds."[20] It is essential that we recognise this co-mingling, and even if we cannot "leave our technological attunements behind," to question where the boundaries might lie or at least where they might once have lain, in order that we understand the value and the extraordinariness of what is around us. Indeed, Heidegger wants to "awaken us into absolute fascination that things are as they are, that they even *are* at all," both natural and man-made (O'Brien 4). The charge against Heidegger's effectiveness in addressing this matter, the concern that his thinking in fact obscures for us what technology really is, can be countered by testing it out on the *quasi objects* of our everyday lives (see Picon 11). The technologies that instrumentalise the phenomena of the electromagnetic wave, the harnessed power of the microwave frequencies that carry broadcasts, conversation or data, have already been brought about and the only thing to be done now is to approach these technologies and their attendant natural phenomena by letting them be, as if the combination of the natural and human that is the broadcast signal is an *entity* in itself. That it is vital that we do this is confirmed by the fact that, if we really think about it, everything around us today exists in this combination. For Heidegger, the nature of being human is not that we ourselves form entities but rather that we are *Dasein*; the clearing through which entities may disclose themselves (*BT* 27).

The trouble is that we habitually disclose entities technologically, viewing them in the manner mentioned earlier, as standing-reserve, and perhaps this includes hills. It is all we know, our destiny, in fact. But Heidegger points us towards the possibility of a realignment of being which is not at odds with the way things are for us now. Even such an unlikely object as the phone mast then, perhaps particularly when contrasted against its location in a "natural" landscape, may present the opportunity for an expanded disclosure of our own technologically entwined being.

Every time an electron moves, it has an effect on other electrons by bumping into them. Theoretically, each such movement has the power to affect "every other electron in the universe," but there is such a degree of movement of electrons happening constantly in our universe, that such shifts are generally only detectable by those nearest to one another (Sinclair 2). With the awareness of this potentiality nevertheless, we are reminded in the simplest of terms, that literally everything has an impact on everything else and that a reverent acknowledgement of this fact ought to form a central tenet of our existence on this planet. Such an acknowledgement might guard against the taking for granted of any of the natural elements of our world, which may mean that we again regard with wonder and appreciation the technological advancement that comes about through the disclosure of those elements, and would support a human comportment of care, ethical concern, and humility as primary motivations within what it is that we are doing when we push natural processes in order to yield power.[21] For Heidegger, the very being of *Dasein* can be defined as *care*; to be human means to be concerned about the things and the people the world contains (see *BT* 235-244).

It sometimes seems that technological development has taken on a life of its own, that it is unstoppable. Of course technology is not an independent force, but humanity could currently be described as being in its thrall; we are in the grip of *Ge-stell*, to the extent, as Heidegger has

argued, that this has become the "defining characteristic" of what it is to be human ("QCT") 120). In current times, this is evident to many of us as we feel pulled along by the imperative that would have technology take care of all our needs and furnish all of our desires, even those we are not yet aware that we have. Indeed, it is always interesting to consider who, exactly, this "we" refers to, but in this context it throws into relief the aspect of unequal access to digital technologies that exists across our world.

V: Anxious Times

Stoer, Assynt, North-West Scotland, April 2011

> *As I stand on at the foot of this thing, it almost seems to my wind whipped eyes, to vibrate, which of course parts of it do, though not visibly. I feel an uneasiness creep over me, a change of atmosphere that I have noticed in similar places before. I am not sure whether this is because the charged air can, after all, in some way, be sensed, or if it is simply that one is somewhere one really should not be; after all this thing might harbour danger, even though I'm on the outside of the gate that carries the alarming warning signs. Even though I know that it is "permitted" to be here, it's as if one oughtn't to show any curiosity, which might be construed as suspicious behaviour, as if a pretence that the thing is not there is the correct comportment. Without doubt, proximity to such things brings about a sort of unseatedness, an anxiety.*

Aside from being a seemingly intrusive reminder of the human world, the mast seems bound up with things that appear beyond our control; such technologies seem limitless, it is difficult to ascertain where their edges are; they "leak" across boundaries (see Dunne and Raby 18). Humans do not enjoy the discomfiture of anxiety, but we may have to accept that it accompanies the invisible clouds of electromagnetic presence that sustain the communications technologies we have made so central to our existence, and that it may indeed be a general facet of technologically bound contemporary life.[22]

Maintaining a level of openness, enough to act as the *clearing*, through which entities may disclose themselves, is not second nature for most humans. We are more comfortable when we are filling the gaps with things and stuff and noise, that we might muffle the anxiety of the emptiness at the centre of our being. However, Heidegger maintains that this anxiousness itself can hold us open (see *BT* 228-235) in such a way that we are able to allow things to manifest themselves in ways "consistent with their own possibilities" (see Zimmerman) and not simply in terms of their instrumental value. If we are able to allow this form of manifestation, this, in turn, consolidates our openness as the clearing for such manifestations to continue to occur and deepen.[23] We need then, to learn to pay closer attention to the things around us and perhaps especially to the things that we make, but we have to accept technology *as it is now*; there is no going back to some bygone age, when our relationship to it seemed simpler, by *putting the genie back into the bottle* ("QCT" 25-26).[24] Heidegger encourages us to this acceptance; we accept technology in its instrumental sense, appreciating what it can do for us practically. At the same time, however, just like the earlier concepts of *Zuhandenheit* and *Vorhandenheit*, these two senses of technology are not exclusive of one another, rather they are co-dependent, and sometimes they may even overlap. Therefore, it is only by first paying full attention to technology in its instrumental sense that we can begin to move beyond this variety of revealing to reach its deeper meanings. To mount a struggle against, or regard as an enemy or the work of the devil, the contemporary tide of technological development in whose swell we find ourselves, will not help to solve the problems we face (see "QCT" 26). Nor should we, however, see it as neutral since, closed to its essence, we remain "unfree and chained" to it (4).

It emerged earlier that we cannot really any longer separate the natural and the technological and indeed, it has been one of the main purposes of this phenomenology of

communication structures to show the ways in which these pieces of equipment might encourage us to begin to reflect upon this fact of our being. I have reported my own first-hand accounts of such installations as they have been encountered in the natural landscape, and through Heidegger's accounts of *Zuhandenheit* and *Vorhandenheit*, as well as his later articulations on nature as subjected to the ordering principles of *Ge-stell,* I have attempted to make some alignment between the utilitarian sense of this experience and the nature hidden within, or possibly obscured by, the scientific facts of the technology, even if by drawing, at least partially, on some of these very facts!

I hope that by testing Heidegger's thought towards these ends, I have shown the pursuit of this sort of understanding as being worthwhile in the attempts to disclose the fuller meanings of the world and its implications for our own human Being, and that in fact the agency of such attempts gains import for the contemporary human in the face of increasing technological dependency and uncertainty. Such understandings are even harder to reach, however, when the technology is characterised by invisibility, so the opportunities presented by visual cues need to be seized wherever they are still available.[25] In terms of our relationship to technology, nothing is fixed and we are perhaps in the midst of anxious times. Randall Teal articulates Heidegger's insights on anxiety in beautifully optimistic terms:

> it brings back our astonishment with things as they are … one's hearing regains its acuity, and with renewed sensitivity, the individual becomes receptive to the shifting nature of a situation. With this experience, one is brought back into one's own possibilities. As a result the "world" resonates again at its fullest. (18)

Notes

[1] Any charge that these accounts verge too much on the "idiosyncratic" can be defended by reference to the endorsement of such descriptions as a valuable phenomenological starting point by David Seamon in "A Way of Seeing People and Place: Phenomenology in Environment-

[2] A very small sampling of such reflection might include for instance; Albert Borgmann; *Technology and the Character of Contemporary Life*, Andrew Feenberg; *Questioning Technology*, or Paul Virilio; *Polar Inertia*.

[3] UK *Mast Sanity* campaign. Web. 12th March 2013. See also UK Mobile Telecommunications and Health Research. *Telecommunications and Health Research Programme Report* 2007. Web. 12th March 2013.

[4] See especially the arguments of *PLACE* artworks and initiatives. Web. 12th March 2013.

[5] *PLACE* actively campaign for the "visual intrusions" of mobile phone installations to be minimised through "innovative mast designs." Web. 12th March 2013.

[6] One difference between modern and contemporary or postmodern technology is that the latter category consists of what Antoine Picon refers to as "quasi-objects of terminals, connectors and networks" in "Anxious Landscapes" *Grey Room* 01 (73).

[7] In the UK, such installations may be labelled with the host operator's name as well as a reference number, but mast sharing is encouraged and it is often impossible to discover what each individual piece of apparatus is for.

[8] By some twist of fate during the revision process of this paper, I had the uncomfortable opportunity of experiencing something akin to what I have been trying to articulate in this paragraph. On a walking trip to the remote area of Loch Ossian in Scotland, after a day on the hills in perfect conditions, I slipped on some ice at low level, breaking my wrist (though I was not aware of the full extent of the damage until my return home a couple of days later). Only myself and one other member of our party of seventeen, could obtain a mobile phone signal, via a mast located at the town of Fort William approximately 52 kilometres away. I became acutely aware of my dependency on this signal, as well as on the intermittent and very slow internet connection at the *Loch Ossian Hostel* warden's office to disclose, in this location, the previously distant world of work, shifted deadlines, order, transport, and care that I needed to access in order to make the necessary arrangements for dealing with my daily life back home without, for an unspecified time, the use of my dominant hand.

[9] UK Mobile Coverage. Web. 12th March 2012.

[10] The ability of animals and birds to sense the earth's magnetic field is known as magnetoception or magnetoreception and the possibility that humans may also be able to perceive this field is the subject of ongoing research; see "Magnetoreception and Electromagnetic Field Effects: Sensory Perception of the Geomagnetic Field in Animals and Humans" in *Electromagnetic Fields: Biological Interactions and Mechanisms*.

[11] I am grateful to one of my anonymous reviewers for suggesting that an earlier draft of this section might be expanded to address this distinction more fully.

[12] It is this notion in Heidegger's thinking that makes its application to postmodern digital technologies so fitting; for instance, our knowledge of the properties of electromagnetism grew from the observable phenomena of magnetism, by way of the physical sciences. The electromagnetic fields that carry radio signals are not visible so, we only experience them in their instrumental sense, by listening to what is being carried upon them. The essence here then, is to do with the signal and not the phenomenon that carries the broadcast and allows it to be brought about in the first place.

[13] Heidegger moves the word "frame" on to become enframing. In this way he captures the sense of something that is looked through in order to get a certain view of something but also extends its meaning to articulate the way that humans are drawn or "called forth" into this way of ordering and viewing the world.

[14] I'm grateful to one of this paper's anonymous *PhaenEx* reviewers for suggesting that I stress my deliberate use of these two conceptions of technology.

[15] This concern was raised by Chris Nagel in his commentary on the first version of this paper delivered at the workshop *BTTTT!* (University of Waterloo, May 2012).

[16] This notion that nothing in the world is natural or independent of human influence any longer is thoroughly explored, particularly with regard to climate, by Bill McKibben in *The End of Nature*.

[17] This claim is again indebted to Chris Nagel's original commentary on the first version of this paper.

[18] In Scotland, mountains over 3000feet/914 metres are known as Munros, after Sir Hugh Munro who first listed them. "Munro bagging" refers to the aim some hill-walkers have of ascending as many of these as possible.

[19] I owe this insight to ongoing correspondence with Chris Nagel.

[20] Again, this thought is indebted to Chris Nagel's commentary.

[21] On the possibility that wonder may have an ethical import see Ronald Hepburn, *Wonder and Other Essays*.

[22] With reference to this point, consider the pressure to keep up with technologies that we do not understand, the threat of cyber crimes against us, the awareness that terrorism somehow thrives on the use of digital technologies (though of course we may not fully understand in what ways) or the fear of new developments in bio-technology, to name but a few examples.

[23] The concepts under discussion here clearly illustrate Heidegger's interest in certain strands of Buddhism, an interest that is well documented. See particularly Michael E. Zimmerman and Simon P. James.

[24] Heidegger is sometimes charged with romanticising rural life of the past and the ways of the peasants of the land but he does not want us to hark back to the past, or regard technology as something we should fight; rather his hope is that we find a way to live in acceptance with it, understanding it for what it is so that we are not chained to it.

[25] I am grateful to one of this paper's anonymous *PhaenEx* reviewers for raising the question of whether telecommunications equipment disguised as for instance, trees or lamp-posts, or concealed within church towers, disclose differently. In response to this I'd say that it's certain that they do, though I will have to leave a fuller analysis of the reasons why this is to the subject of another paper.

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