# Cyberspace and Heidegger's pragmatics

**Richard Coyne** 

338

Department of Architecture, University of Edinburgh, Edinburgh, UK

Much information technology (IT) commentary is but an exaggerated expression of key Enlightenment themes: identity (changed identities on the Net), proximity (the world becoming smaller due to electronic communications), community (virtual communities, melding minds in data space), disembodiment (transcending body constraints, wearing data suits, electronic prosthesis), pattern (digital symbol sequences, information), representation (correspondences between data and things), and utopia (the quest for a better world through information). In this article I will show how Heideggerian study transforms such concerns, and opens a space for us to consider information technology in ways that break with the romantic/Enlightenment emphasis dominant in popular IT commentary. Heidegger's phenomenology constructs its frame on the basis of an understanding that comes before notions of identity, proximity, community, embodiment, pattern, representation and utopia. Phenomenology attempts to transform the researcher's concerns from the abstract, technological concern to the "everyday" concerns with *Dasein*, care, being-with, corporality, praxis, disclosure and the not-yet. From the Heideggerian perspective the phenomenological method seeks a return to the everyday that had been all but obscured by the dominance of the technological world view. I will demonstrate that at each transformation, Heidegger points to understandings of information technology that are pragmatic, situated in human action.

#### From identity to Dasein

According to certain IT commentary, the Internet and other computerised communications networks have the "potential to free us from hierarchical structures, allow for individual expression, and enable the ultimate definition of our individual and collective humanity" (Pearce, 1995, p. 7). For Stefik, the information superhighway the "I-way", entails "a search for ourselves and the future we choose to inhabit" (Stefik, 1996, p. xxiii). As pointed out by Whitley (1997), other commentary identifies the dislocation engendered by information technology, claiming that IT allows a multiplication, fracturing, and dislocation of selves, that is at the vanguard of a new postmodern sensibility. In computer-mediated worlds, according to Turkle, "the self is multiplied, fluid, and constituted in interaction with machine connections" (Turkle, 1995, p. 15). In electronic role games she meets characters who put her in "a new relationship" with her own identity. For Poster as well, electronic media "cultivate new configurations of individuality" (Poster, 1995, p. 80). For such commentators this understanding is at odds with the modernist one, which apparently misses

Information Technology & People, Vol. 11 No. 4, 1998, pp. 338-350, © MCB University Press, 0959-3845 the cultural significance of IT. Whereas modern society fostered "an individual who is rational, autonomous, centred and stable", according to Poster, "a postmodern society is emerging which nurtures forms of identity different from, or even opposite to those of modernity", and electronic communications technologies may be enhancing "these postmodern possibilities" (Poster, 1995).

For Heidegger, the "self" already has this indeterminacy about it, which is to say it is grounded in practice and contingency. Heidegger challenges Descartes' concept of the self (subject), replacing the primacy of reflection with engagement. Our most typical moments are those when we are absorbed in an undifferentiated world of involvement. We are busily going about our business of doing and making. In fact Heidegger replaces the notion of the subject with a term that acts as a place holder for whatever is the entity that inquires after its own being (Heidegger, 1962, p. 27). This entity is "*Dasein*", which has the property of being-in-the world, a mode of being that is engaged before it is reflective. The character of *Dasein* is always fluid, situated and non-determinate. Furthermore, what we say about *Dasein*, the narratives of identity that we construct, is contingent, which is to say pragmatic: what constitutes identity at any moment, and the stories we construct about the self, emerge within particular contexts of practical engagement.

From a Heideggerian perspective the language of contingency is more appropriate to the task of accounting for our place in the world of information than the language of unity and fragmentation of the cyberspace apologists. In fact, in spite of the apparent radicality of the rhetoric of fracture, writers such as Turkle constantly appeal to abstract notions of integration and wholeness. Turkle affirms that in playing networked computer games one can assume various identities, "the self is not only decentered but multiplied without limit" (Turkle, 1995, p. 185), and in such role games "we shall soon encounter slippages". However, these slippages are not the sites of radical disjunction, discontinuity, and non-determinacy, but "places where persona and self merge" (Turkle, 1995). She points to the ability of the Internet to "help us develop models of psychological well-being" (Turkle, 1995, p. 263), new identities as "multiple yet coherent" (p. 259), the importance of exploring the dilemma of identifying the "real self" on the Internet (p. 241), the scope for MUDs to provide room "for individuals to express unexplored parts of themselves" (p. 185), and she indicates that "postmodernism" teaches us of the need for an "openness to multiple viewpoints" (p. 268). On the subject of the newly emerging virtual community we are apparently presented with a challenge: "Will it be a separate world where people get lost in the surfaces or will we learn to see how the real and the virtual can be made permeable, each having the potential for enriching and expanding the other?" (p. 268). In this romantic cyberspace narrative, the language of rupture is converted into the language of essences, wholeness, recombination, and an affirmation of unity and integration, ideas promoted through the popularity of "ego psychology" (Fromm, 1956).

Heidegger's formulation of *Dasein* was influential in the radical psychoanalytic theories of Lacan (Zizek, 1993) (which Turkle has expounded

Cyberspace and Heidegger's pragmatics

ITP 11,4

340

elsewhere (Turkle, 1979) but apparently not applied), which plays on the radicality of non-determinacy. But the pragmatic application of Heidegger's concept of *Dasein* is also revealing. Amongst other things *Dasein* points to the contingency of concepts of the self. We can concede that developments in network communications are accompanied by radical change, but what is the nature of that change? The pragmatic concept of *Dasein* supports a substitution of the language of changed identities with that of narrative construction, as expounded by Giddens and others. Giddens (1992) identifies the need to construct personal narratives as one of the conditions of late modernity, or post-traditional society. Unlike the conditions in "traditional societies", where people knew their place, the definition and maintenance of identity is today a matter of working things out for yourself: "The self today is for everyone a reflexive project – a more or less continuous interrogation of past, present and future. It is a project carried on amid a profusion of reflexive resources: therapy and self-help manuals of all kinds, television programmes and magazine articles" (Giddens, 1992, p. 30). We can add the self-help media of the Internet, cyberculture, computer games, and MUDs. Identity is now a matter of negotiation: "where large areas of a person's life are no longer set by pre-existing patterns and habits, the individual is continually obliged to negotiate life-style options" (Giddens, 1992, p. 74). Intimacies also have to be negotiated: "in modern social life, self-identity, including sexual identity, is a reflexive achievement" (p. 147). In this light we are engaged in the work of constructing narratives of the self, establishing new spheres of legitimacy and intimacy. This is the character of *Dasein* in the late modern age. It is not that identities are being ruptured by information technology, but we are constantly engaged in the process of redefinition, an inevitable consequence of *Dasein*'s primordial state of being-in-the-world. From a Heideggerian perspective, it is on an understanding of this restless state of indeterminate engagement in practice that other conceptions of identity, self and person are built.

#### From proximity to care

Cyberspace commentary claims that IT reduces distance and time. It brings things closer together and makes events happen faster: cyberspace is "a boundless universe in which people can interact regardless of time and location" (Rushkoff, 1995, p. 13). Negroponte predicts that soon we "will socialize in digital neighborhoods in which physical space will be irrelevant and time will play a different role" (Negroponte, 1995, p. 7). Eventually, space will diminish to nothing at all, and the "digital planet will look and feel like the head of a pin" (p. 6).

Much of Heidegger's analysis in *Being and Time* focuses on the theme of proximity as an issue of care. Care is a primordial disposition of *Dasein*. According to Heidegger: "reality is referred back to the phenomenon of care" (Heidegger, 1962, p. 255). So, as concerned beings engaged in the world, the proximal is that about which we exhibit care, which is not to be confused with the psychological concepts of intention, will, wish, addiction, or urge: "care cannot be derived from these, since they themselves are founded upon it" (p. 227). Care is not simply an individual disposition of philanthropy or a

concern for people and things, but a disposition of *Dasein* towards the world as it presents itself to us at any moment. Within our experience of being in the world, there is a pragmatic understanding of proximity or closeness, and this closeness precedes any notion of measurable distance. So that about which we care the most at any particular moment is the closest to us. In our walking down the street, the pavement is as near as anything could be (measurably), yet it is remote compared with the nearness of an acquaintance one encounters several paces away. The commuter on her mobile phone is measurably close to her fellow travellers in the railway carriage, but nearer ontologically to the person on the end of the phone. By this reading, computer networks are interventions into the fluid "networks of care" that already exist, though clearly each is implicated in the formation of the other. But even prior to the notion of caring for someone or something is the notion of care itself, as a disposition of Dasein. In this light the information age is characterised by a reforming of networks of care, otherwise understood in terms of changing relationships between the local and the global, as also suggested by certain sociologists (Giddens, 1990).

#### From community to being-with

Much of the discourse on virtual communities suggests that access to community resides in communication, which in turn relies on the passage of information from one person to another. According to this view, as paradigmatic conduits of bits and bytes, networked computers grant privileged access to the formation of communities. For Rheingold, information technology assists towards the Enlightenment aim of diminishing inequality and prejudice: "because we cannot see one another in cyberspace, gender, age, national origin, and physical appearance are not apparent unless a person wants to make such characteristics public. People whose physical handicaps make it difficult to form new friendships find that virtual communities treat them as they always wanted to be treated – as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of walking and talking (or not walking and not talking)" (Rheingold, 1993, p. 26). This passage reflects many Enlightenment themes, including the distanciation of mind from body. For these narratives the essential person is the being who thinks, not the mere body with all its imperfections that houses the mind. Information technology is a technology of the mind and allows the transmission of aspects of the essential self.

For Heidegger, there is a collectivity to *Dasein* that precedes the notion of many selves, society, or intersubjectivity. "Being-with" is another indication of the nature of human practice. We cannot act and do things in isolation. We always take over practices from within a community context. There is no such thing as doing and making in isolation. There is no such thing as a *Dasein* on its own. Even the most ardent materialist would agree with this proposition. Everything about human biology points to a shared being. We are so much creatures of our environment. Species develop as societies interacting within themselves, between each other, and within an environment. But according to phenomenology, we do not need to presume biology, behaviour, evolution or the existence of a natural

Cyberspace and Heidegger's pragmatics

environment before we can grasp *Dasein* as "being-with". We are already "with", and the construction that is biology (or even sociology) is a derived understanding to account for it in particular ways. Digital communities are not to be understood primarily as formed from isolated selves communicating through networks, but there is already a solidarity, a being-with that is the human condition, into which we introduce various technologies, such as meeting rooms, transportation systems, telephones and computer networks. Seen in this light, information technology does not foster community. At most it is implicated in various modifications in the fabric of our communal practices, and the rhetoric of democratisation through information technology makes explicit how entrenched is the concept of community in concepts of technological control.

#### From disembodiment to corporality

Wiener, who coined the term "science of cybernetics", was one of the first to seriously posit the prospect of reducing the body, as well as the mind, to information so that bodies might conceivably "travel by telegraph" as well as by train or aeroplane: "there is no fundamental absolute line between the types of transmission which we can use for sending a telegram from country to country and the types of transmission which at least are theoretically possible for a living organism such as a human being" (Wiener, 1950, p. 109). In an extensive summary of "cyberculture", Dery (1996) reports on the common theme of "discorporation" to be found in writing about cyberspace, and provides numerous examples of the theme of bodily entrapment and eventual release in a new world through computers. Apparently we already have a prescience of this in that "growing numbers spend their days in 'static observation mode', scrolling through screenfuls of data. Bit by digital bit, we are becoming alienated from our increasingly irrelevant bodies" (Dery, 1996, p. 234). There is a "body loathing, a combination of mistrust and contempt for the cumbersome flesh that accounts for the drag coefficient in technological environments ... The software of our minds is maddeningly dependent on the hardware that houses it, our bodies" (p. 234).

In contrast to techno-culture's distancing from the body, Heidegger's account of being-in-the-world implicates the body. For example, he describes the way we are engaged in the world as that in which we encounter things as ready-to-hand. But for Heidegger *Dasein* has a further characteristic that is prior to having a body. This is corporality, or embodiment (Heidegger, 1971). There is a way of being-in-the-world that is orientated, a further aspect of care. One cannot be oriented equally to everything, that is, to all the equipment within one's sphere of concern or action all of the time. We face that about which we are concerned. Heidegger identifies corporality as a characteristic of *Dasein* that is prior to the notion of a body. This is not a reference to an idealistic, rarefied, other worldly, disembodied kind of body, but is one that is more situated and more engaged than the abstract body of empiricism, as a channel for sense data, an object for dissection and study, or an object that can be reconstructed from its "information content".

342

ITP

11,4

Elsewhere I have attempted to align Heidegger's concepts of being-in-theworld with Lakoff and Johnson's (1980) notions of embodiment, in the context of computer systems design (Coyne, 1995). The invention of the cyborg identity (Haraway, 1991) is also an attempt to bring the body back into a consideration of information technology, radicalising the relationship between machines and the body. That the computer problematises the body in new ways is in keeping with Heidegger's concepts of disclosure to be explored below. Needless to say, Heidegger provides no support for notions of bodily transcendence. In our use of any equipment, a hammer or a computer, we are pragmatically oriented, and that orientation implicates corporality.

#### From pattern to practice

Cyberspace appeals to the techno-rationalist in so far as it deals in patterns, the repeatable characteristics of everyday objects and contingencies, as exemplified in the writing of Moravec in the field of robotics. Moravec scorns what he regards as the "body-identity-position" which "assumes that a person is defined by the stuff of which a human body is made" (Moravec, 1988, p. 117). Following Wiener, he proposes the concept of "pattern-identity", which defines the "essence of a person" as "the pattern and process going on in my head and body, not the machinery supporting that process. If the process is preserved, I am preserved. The rest is mere jelly" (Moravec, 1988). As a technology for the reproduction, manipulation, and transmission of patterns, computers provide a means of manipulating matter and creating it anew, setting in place new laws, extending the scope of the universe, and drawing us in to it, or at least absorbing our essential, collective selves.

Complexity theory contributes further to the theme of the primacy of pattern, through the exploration of the particular properties of numbers and algorithms by which patterns of stability and instability emerge and recede as if by complex laws, though there are no such laws to be found in the simple algorithms used. The most potent icons of complexity theory are the fractal diagrams of Mandelbrot and others, showing infinitely recursive computer generated filigree patterns. Penrose (1989), Gell-Mann (1994) and others link the fractal properties of number series to the concepts of stability and instability in nature, and also to quantum theory. According to Gell-Mann, by "reflecting on questions of simplicity and complexity, we perceive connections that help to link together all the phenomena of nature, from the simplest to the most complex" (Gell-Mann, 1994, p. x). Jencks also declares that quantum physics and chaos science contribute to the rediscovery of the "aesthetic and spiritual meanings of nature": "the more we discover via these new sciences, the more we find our connectedness to a creative and mysterious universe" (Jencks, 1995, p. 23).

For phenomenology on the other hand, the concept of repetition is preceded by practice, or praxis. According to the empirical tradition practice requires repetition, as in the practice of music, or in acquiring typing, drawing or sporting skills. But this is a very limited view of practice which, from the phenomenological viewpoint, should be understood more primordially as a Cyberspace and Heidegger's pragmatics

ITP 11,4

344

process of "taking over". We take over our various practices by virtue of beingin-the-world. We acquire the practices of using a computer system: the procedures for using a wordprocessor or a CAD (computer-aided design) system as explained in training manuals. But we also acquire myriad undocumented practices: file naming conventions, reading e-mail at particular times of the day, organising network aliases in directories, methods of navigating through the Web, and these interface with other practices. In the case of the office there are the practices of using post-it labels, filing paper copies of important e-mail messages, using the fax machine, and so on. Heidegger summarises this phenomenological position in *Being and Time* by referring to the ancient Greek word for "things" as *pragmata*, "that which one has to do with in one's concernful dealings (praxis)" (Heidegger, 1962, pp. 66-7). In so far as we regard things as things, we are engaged with them practically.

If information technology pertains to practices ahead of patterns then its practices, norms and procedures are situated. The reduction to pattern is not a means to gaining access to the essentials of communication, matter, nature or being-in-the-world. Such reductive notions are themselves prone to the workings of practice and interpretation. The identification of a pattern sequence is to a purpose. Any pattern only makes sense in particular contexts of practice. In this light, computer systems do not grant special access to the nature of life, intelligence, space or communication. Computers have been developed in certain practice contexts which in turn engender certain practices, pertaining to computer operations, binary logic, symbol manipulation and programming.

### From representation to disclosure

Representation is a central theme in IT commentary. Architects, engineers, designers, planners, geographers and the creators of computer games and simulators use computers to represent objects in space, as in computer-aided design, virtual reality and geographical information systems. Such systems employ databases in which are stored numerical and other attribute data based on some co-ordinate system or other, which can be manipulated according to rules of mathematics and geometry. Representing objects in space by computer commonly appeals to the concept of correspondence. That there is a relationship of correspondence between a symbol and an object seems to provide a key notion within drawing practice. According to a seminal text on architectural geometry: "the draughtsman plots selected points of the real building, such as roof lines and the corners of openings, and 'maps' these onto his drawing. There is in this instance a one-to-one correspondence between the points in reality and their representation on the drawing, and vice versa" (March and Steadman, 1971, p. 13). In precision drafting, and in CAD models, the points and lines of the model in Cartesian space correspond to the corners and edges of the object in physical space. The obvious benefit of these mapping functions is that their effects are reproducible, so that at different times and in different contexts, one can achieve similar mappings following the same procedures and using the same technologies. Much virtual reality (VR) discourse assumes that we can construct correspondences between the world we inhabit and geometrical worlds defined using spatial co-ordinates, and immerse ourselves in such spaces so that we are there in ways that mean as much as, and possibly more than, being in a physical place.

In *Being and Time* Heidegger addressed the issue of correspondence through the notion of truth. Before we can make a statement that something corresponds to some state of affairs there must be a particular comportment or disposition towards the thing or the state of affairs we are talking about. Heidegger argues that what makes the identification of a correspondence first possible is a disposition of freedom to be open to the nature of things. We are possessed by this freedom for things to disclose (i.e. reveal) themselves (Kockelmans, 1985, p. 27). According to Heidegger this idea of disclosure was evident in the original meaning of the Greek word for truth (aletheia). In "The origin of the work of art", Heidegger (1971) uses the example of a Greek temple. A modern analysis might be that there is firstly a context of people, plants and topography, that these are stable and that they may have constituted a fitting environment for the building of a temple (Kockelmans, 1985, p. 143). The temple was subsequently added to this environment at a particular moment in time. However, appreciating the disclosive nature of the temple (a consideration of "how truth is at work" in the temple) compels us to looks at the environment/artefact relationship in reverse order. According to Heidegger, the temple first "discloses a world". It brings the physical environment (earth) into presence (it reveals something about the earth), and provides an identity for the people using it (an outlook on themselves) (world). The solidity of the temple reveals the ephemeral nature of the trees and the ocean. It brings them into presence in their many attributes. The columns catch the sun's rays at dawn, and thereby reveal the nature of the sky. Similarly, a bridge discloses (brings into presence) the banks of the river, and the movement of the water itself.

Similarly, as I have explored elsewhere (Coyne, 1995), the orthodox account of a computer model, such as a building in a CAD system, is that it conveys information about objects, materials, sizes and spatial configurations as instructions from the designer to the builder. There is a correspondence between what is in the model and how the structure is to be manifested. But from the phenomenological point of view we begin with practices. There are construction practices – the activities of builders and tradespeople, who, left to their own devices, will skilfully build temples, bridges and office buildings in keeping with their practices. CAD models (and the documentation produced from them) are interventions into those practices. Such models make sense through familiarity with the skilled practices of producing and reading construction drawings, and of local construction practices. As such the computer model and drawings produced from it contain cues or correctives to habitual practice: rather than continue the brickwork over the door extend the door frame to the ceiling line to create a window; rather than support the floor slab with a column make it cantilever over the entrance. As interventions into construction practice, the CAD model reveals aspects of the builder's own

Cyberspace and Heidegger's pragmatics

practice to the builder, and, hopefully, to the designer. Successful architects are able to develop this rapport with local construction practice, and builders have been known to change their practice through working with architects. In this light the CAD model can be said to disclose a changing world of practice. This revealing constitutes a predisposition within which it is possible to adopt the shorthand language of "these lines correspond to a window", and "locate door A in wall X". According to this Heideggerian understanding of CAD models, unless the models first disclose such a world, we cannot see them as corresponding to anything, nor as providing sets of instructions. If this applies to CAD models it also applies to conventional drawings.

Disclosure also seems to operate through negation as well as positive correspondences. For example, it is precisely the lack of correspondence that seems to provide the impetus for VR research: being able to walk through walls, excavating rock samples in remote locations (Paulos and Canny, 1997), and performing medical operations at a distance (Solaiyappan *et al*, 1996). The VR endeavour reveals something about current practice by emphasising the impermeability of walls, the intricate texture of rock held by a human hand, the colour and elasticity of human tissue, and our dependence on touch, but also in presenting familiar objects of walls, rocks, and human tissue, as strange. When seen as such we are able to deal with them in new ways, shape walls into new arrangements, collect rocks on Mars, and undertake operations in hospitals we have never visited.

Technologies, devices, and things have this capacity to disclose, not just simply to give us information, but to reveal something about the world in a way that presumes neither uncovering something pre-existing nor creating something new. Specific technologies, such as computers, disclose practices, and prompt us to construct narratives around such disclosures. Elsewhere I and colleagues have explored how the introduction of computerisation, CAD, multimedia, and network communications into the workplace of the architect discloses aspects of the architectural practice (Coyne et al., 1996a; 1996b). The introduction of the technologies shows up some firms as custodians of databases, image-makers, publicists, and dealers in texts. Even small firms are disclosed as "multinational" as they position themselves in the global network economy. These disclosures appear in the way practitioners now talk about themselves, and the narratives they construct and in which they position themselves. Whether these firms now do business differently than they used to is another question, but they tend to see their business in different ways, and they construct new narratives, not least around issues of computing needs.

Computer technologies also provide spaces in which we can dare to think what has hitherto been unthought. Similar processes are at work in what computer networks disclose about the operations of language and texts, disclosing that texts have always been interconnected, that speech is always understood in terms we use to describe texts, that the author was always an illusive concept, and that authority, authenticity, and originality have always depended on social practices and agreements, rather than notions of empirical

346

ITP

11,4

fact, proof, or truth propositions. Similarly, if the self now appears multiple, uncertain, diffused, fractured, and contingent then information technology may have provided a space, disclosed something about the world, but there is a sense in which what it discloses is what was there all along. In fact it is equally valid to say that information technology is the product of the working of language and texts, and successive generations of thinking about identity and the self, which have paved the way for information technology to disclose their character, and who knows what will be further revealed.

#### From utopia to the not-yet

IT commentary seems ever expectant, anticipating harmonious digital communities, immersion in cyberspace, holistic life-like systems, the unity of the animate and the inanimate. The grand narrative is of time-dependent progress, a surplus of expectation. Digital utopias commonly take the form of extravagant predictions of unlikely outcomes, such as appeared in an article identifying developments in virtual reality: "within a decade people will be taking utterly realistic virtual vacations to other countries - or even other worlds" (Lemonick, 1995, p. 65). In his commentary of virtual reality, rather than focus on the current limited performance of headsets and data gloves, Rheingold rapidly moves on to what he regards as the interesting aspects of the technology: "in the future, less intrusive technologies will be used to create the same experience, and the computers will be both more powerful and less expensive, which means the virtualities will be more realistic and more people will be able to afford to visit them" (Rheingold, 1993, p. 17). His extensive survey of institutions and corporations who are developing virtual reality systems in the here and now (as it was in the early 1990s) does not so much describe current achievements as future ones. And the future promise is of egalitarian access. Such utopias suggest that computer technology will usher in a better future.

Heidegger's phenomenology also deals with the issue of expectation. There is the fore-projection with which we enter the circle of interpretation (the hermeneutical circle). Furthermore, a breakdown in our field of expectations is manifested as a realisation of the "not-yet". In the event of distraction from our concerned dealing with the world we articulate our desires and expectations. At this moment care is translated into anticipations that are unmet, desires that are unrealised. The "not yet" takes many forms, a sense of unease, incompleteness, anxiety, dread, and it is commonly realised as a concern with what we call "time" and "future". Something that is not and that should be resides in the future. (For Heidegger the "not yet" is best exemplified in the anticipation of death, a situation in which being ceases. We do not need to investigate Heidegger's concepts of death here. Also refer to Bloch (1986), who deals with the "not yet" and utopia.)

The "not yet" also implicates the concept of time, or at least of temporality. Heidegger's position is well summarised in a passage in *Being and Time*. In describing temporality, Heidegger states: "In our terminological use of this expression, we must hold ourselves aloof from all those significations of 'future', 'past', and 'present' which thrust themselves upon us from the ordinary

Cyberspace and Heidegger's pragmatics

conception of time. This holds also for conceptions of a 'time' which is 'subjective' or 'objective', 'immanent' or 'transcendent'. Inasmuch as *Dasein* understands itself in a way which, proximally and for the most part, is inauthentic, we may suppose that 'time' as ordinarily understood does indeed represent a genuine phenomenon, but one which is derivative" (Heidegger, 1962, p. 374). The concept of temporality does not foreclose on whether we are speaking of a personal, idiosyncratic or subjective experience, nor on whether we understand time objectively. Temporality comes before psychological interpretations of time, or time as measured.

Following Heidegger's argument, the concept of "future" is one construction we create to accommodate the "not yet". In keeping with our emphasis on the pragmatic aspect of Heidegger's thinking, what constitutes the future depends on the situation. There are many futures, utopias, futures that are reconstructions of the past, and residences of the unrealised promise of information technology. The past is a construction to account for a range of phenomena, including remembering, assessing what is given in a situation, the prejudicial horizon from which we make judgements, and the background of experiences. As we have seen, one of Heidegger's terms for this aspect of temporality is "primordiality". The concept of the thing is more primordial than the concept of the object, unreflective involvement is more primordial than detached theoretical analysis, and temporality is more primordial than time. Heidegger does not mean that one concept came before the other historically or chronologically, though we may be able to put that construction on it. There is a way of preceding something that is more basic than a chronological succession. Dreyfus explains Heidegger's use of "primordial" as indicating our most direct or revealing encounters with things. One interpretation is also more primordial than another if it is more complete, detailed and unified (Dreyfus, 1990, p. 200). So Heidegger's concept of temporality accords more directly with the way we encounter situations at a practical day-today level than the usual concept of time.

The phenomenological position on the "not yet" also embraces the ineffable or anxiety (Heidegger, 1962, p. 67). According to Heidegger, the ineffable aspect of *Dasein*'s relationship to being is anxiety, or *Angst*, sometimes translated as "uneasiness". Anxiety is a disposition of *Dasein* to reach out and find nothing, the "not-at-home", as Heidegger puts it: "that which anxiety is anxious about is being-in-the-world itself" (Heidegger, 1962, p. 232). By this reading, we organise our day-to-day practices to conceal this primordial anxiety, in other words to render the world comfortable and homely. But chinks appear, as when technological narratives attempt to mask our basic disposition towards anxiety by focusing on the objects of rapidly-expanding computer networks and the infinity of virtual spaces. For Heidegger, such concerns are but a pale shadow of the primordial disposition towards anxiety, the seeds of which lie elsewhere.

Such analysis leads to considerations of the computer in terms of the uncanny, about which Freud (1990) also provides some insights pertinent to automation (Coyne, 1999). Heidegger's pragmatism invites reflection on the motivation for the construction of digital futures. It also defuses the utopian claims, so bound to notions of technological progress, of the cybernarrative.

348

ITP

11,4

#### Conclusion

I have shown how several key concepts in information technology discourse (identity, proximity, community, disembodiment, pattern, representation and utopia) are transformed under Heidegger's phenomenology, which turns our attention to the practical, the everyday, the engaged phenomenology of Dasein, care, being-with, corporality, praxis, disclosure and the not-yet. IT commentary seems to be dominated less by the rationalism of early exponents of artificial intelligence. The dominant ethos is now romanticism: a focus on subjectivity, a new metaphysics of proximity, a revival of the early socialist dream of community, a disdain for the constraints imposed by the body, embracing the holistic unitary patterning of chaos theory, the representation of the object world, a hope for its ultimate transcendence through the technologies of cyberspace, and a quest for a better, fairer more democratic future. In this vein, certain writers point to the computer as the harbinger of the postmodern age, which, contrary to Heidegger's radical anti-metaphysical stance, succeeds in reproducing a subjectivist metaphysics, in which, according to Turkle's unregenerate romanticism, the "classical modernist vision of computer intelligence has made room for a romantic postmodern one" (Turkle, 1995, p. 63). The fact that information technology is used by some to mark the culmination, or point of transition to a new epoch, is itself disclosive of the nature of technology and technological thinking. It is apt that "technological thinking" that so interested Heidegger, should become the "cause" of a transition to a "postmodern age". So much of the linguistic invention of Heidegger's later work seems to be bent on implicating being in this mission of transformation, rather than technology itself. The latest disclosure of being is this covering over of itself, concealing its agency under the mantle of technology. And what is being, but the ineffable, the incalculable, the void, the non-ground, which is beyond cause.

#### References

- Bloch, E. (1986), *The Principle of Hope*, (translated by Plaice, N., Plaice, S. and Knight, P.), Basil Blackwell, Oxford.
- Coyne, R.D. (1995), *Designing Information Technology in the Postmodern Age: From Method to Metaphor*, MIT Press, Cambridge, MA.
- Coyne, R.D. (1999), *Technoromanticism: Digital Narrative, Holism and the Romance of the Real,* MIT Press, Cambridge, MA, forthcoming.
- Coyne, R.D., McLaughlin, S. and Newton, S. (1996b), "Information technology and praxis: a survey of computers in design practice", *Environment and Planning B: Planning and Design*, Vol. 23, pp. 515-51.
- Coyne, R.D., Sudweeks, F. and Haynes, D. (1996a), "Who needs the Internet? Computer-mediated communication in design firms", *Environment and Planning B: Planning and Design*, Vol. 23, pp. 749-70.
- Dery, M. (1996), *Escape Velocity: Cyberculture at the End of the Century*, Hodder & Stoughton, London.
- Dreyfus, H.L. (1990), *Being-in-the-World: A Commentary on Heidegger's Being and Time Division I*. MIT Press, Cambridge, MA.
- Freud, S. (1990), "The 'uncanny'", in Dickson, A. (Ed.), *The Penguin Freud Library, Vol. 14: Art and Literature*, Penguin, Harmondsworth, pp. 335-6 (first published in German in 1919).

## Cyberspace and Heidegger's pragmatics

ITP	Fromm, E. (1956), <i>The Sane Society</i> , Routledge and Kegan Paul, London.
11,4	Gell-Mann, M. (1994), The Quark and the Jaguar: Adventures in the Simple and the Complex, Abacus, London.
	Giddens, A. (1990), <i>The Consequences of Modernity</i> , Polity Press, Cambridge.
	Giddens, A. (1992), <i>The Transformation of Intimacy: Sexuality, Love and Eroticism in Modern</i> Societies, Polity Press, Cambridge.
350	Haraway, D.J. (1991), Simians, Cyborgs, and Women: The Reinvention of Nature, FAb, London.
	Heidegger, M. (1962), <i>Being and Time,</i> translated by Macquarrie, J. and Robinson, E. SCM Press, London.
	Heidegger, M. (1971), "The origin of the work of art", in Heidegger, M. (Ed.), <i>Poetry, Language, Thought,</i> translated by Hofstadter, A., Harper & Row, New York, pp. 15-87.
	Jencks, C. (1995), The Architecture of the Jumping Universe: A Polemic: How Complexity Science Is Changing Architecture and Culture, Academy Editions, London.
	Kockelmans, J.J. (1985), Heidegger in Art and Art Works, Martinus Nijhoff, Dordrecht.
	Lakoff, G. and Johnson, M. (1980), <i>Metaphors We Live By</i> , University of Chicago Press, Chicago, IL.
	Lemonick, M.D. (1995), "Future tech is now", <i>Time Australia</i> . July 17, Vol. 28, pp. 44-73.
	March, L. and Steadman, P. (1971), <i>The Geometry of Environment: An Introduction to Spatial Organisation in Design</i> , RIBA, London.
	Moravec, H. (1988), <i>Mind Children: The Future of Robot and Human Intelligence,</i> Harvard University Press, Cambridge, MA.
	Negroponte, N. (1995), <i>Being Digital,</i> Hodder & Stoughton, London.
	Paulos, E. and Canny, J. (1997), "Ubiquitous tele-embodiment: applications and implications", International Journal of Human-Computer Studies, Vol. 46, pp. 861-77.
	Pearce, M. (1995), "From urb to bit", <i>Architectural Design Profile No. 118: Architects in Cyberspace</i> , Vol. 7, Academy Edition, London.
	Penrose, R. (1989), The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics, Vintage, London.
	Poster, M. (1995), "Postmodern virtualities", in Featherstone, M. and Burrows, R. (Eds), <i>Cyberspace, Cyberbodies, Cyberpunk: Cultures of Technological Embodiment,</i> Sage, London, pp. 79-95.
	Rheingold, H. (1993), <i>The Virtual Community: Homesteading on the Electronic Frontier</i> , Addison Wesley, Reading, MA.
	Rushkoff, D. (1995), Cyberia: Life in the Trenches of Hyperspace, HarperCollins, London.
	Solaiyappan, M., Poston, T., Heng, P.A., McVeigh, E.R., Guttman, M.A. and Zerhouni, E.A. (1996), "Interactive visualization for rapid noninvasive cardiac assessment", <i>IEEE Computer</i> , Vol. 29 No. 1, pp. 55-62.
	Stefik, M. (Ed.) (1996), <i>Internet Dreams: Archetypes, Myths, and Metaphors,</i> MIT Press, Cambridge, MA.
	Turkle, S. (1979), Psychoanalytic Politics: Freud's French Revolution, Burnett Books, London.
	Turkle, S. (1995), <i>Life on the Screen: Idein the Age of the Internet,</i> Weidenfeld and Nicolson, London.
	Whitley, E.A. (1997), "In cyberspace all they see is your words: a review of the relationship between body, behaviour and identity drawn from the sociology of knowledge", <i>Information</i> <i>Technology &amp; People</i> , Vol. 10 No. 2, pp. 147-63.
	Wiener, N. (1950), <i>The Human Use of Human Beings: Cybernetics and Society,</i> Houghton Mifflin, Boston, MA.
	Zizek, S. (1993), <i>Tarrying with the Negative: Kant, Hegel, and the Critique of Ideology,</i> Duke University Press, Durham.