Ways of Being of Equipment:
A Heideggerian Enquiry into Design Process

Honeylal Puthussery*

Abstract

The paper lays out an ontological enquiry into the ways of 'being of equipment' as analysed by Heidegger and its role in understanding the design process. Equipments are things that make up our world. It is hard to imagine living without things because our existence is *thingly* textured. Heidegger's analytics of equipment far exceeds the ontic sense of things. The argument is that there is a danger when designers limit themselves with the ontic understanding of equipment. Such an understanding coaxes us to believe in the half-baked truth about equipment - an isolated instance of a piece of artifact and leaves us ignorant of the equipment's character as a part of an equipment structure. An ontological reflection on equipment brings forth its relational nature and can be rewarding in several ways in improving its design process.

Keywords: Equipment, Tool Analysis, Ontology, Ready-to-hand, Being, Design, Metaphysics of Presence, Applied Heidegger

1. Introduction

Traditional ontology was interested in finding out the different kinds of entities in the world. For example, Aristotle in his *Categories* was interested in classifying the beings (onta) there are

*Satya Nilayam Research Institute (University of Madras); antoputhu1976@gmail.com

and wanted to identify the beings that are most fundamental and real within that classification (Shields, 2007). Instead of asking *what are the kinds of entities*, in *Being and Time,* Heidegger asked the question differently: "what are the kinds of *ways that entities can be in the world?*"(Riemer & Johnston, 2014, p. 276). Heideggerian method is not focussed on giving a list of different *kinds* of entities like Aristotle did but looks at the way they are. Our world is constituted of many different kinds of beings: humans, artefacts, plants, animals, water and so on. According to Heidegger, it is possible for these entities to have multiple ways of 'being' in the world. He discusses the different ways of Dasein's being-in-the-world in *Being and Time*.[1] Heidegger takes effort in *Being and Time* to make his readers understand the unitary relationship that exists between the different components of Dasein's being-in-the-world. They are (1) the notion of "being-in" 2) the concept of "the world" in which existence is located (3) that which is in the world, namely "the who" or "the self". According to Heidegger, the best way to study Dasein's existential constitution is by turning to what is "ontically closest" to us, that is, our everyday situations (Heidegger, 1962, p. 69). We must try to understand ourselves in the act of everyday existence, in Heideggerian terms, in our *everydayness* (p. 69). But this is a challenging task because the moment we look at ourselves, we are likely to misinterpret ourselves. A common error is viewing oneself as essentially detached; Heidegger considers this as a consequence of a long ontologically misleading Cartesian tradition that has been accepted over a period of time without questioning.

The first job Heidegger takes up in *Being and Time* is to deconstruct this idea and establish that humans are not spectators, but *engaged actors* in everyday situations which is best expressed through the expression, Dasein-being-in-the-world (p. 69). This implies that humans are engaged beings immersed in a living context which comprises things, people, other living beings, culture and so on. The content may vary from person to person as well as from context to context. Nevertheless, a defining characteristic of human existence is that humans are at all-time actively engaged with their world.[2]It entails that if Dasein is being-in-the-world then the world itself is a part of the essential constitution of our existence. Further on, 'equipment' is a constitutive element of Dasein's world. To

consider 'equipment' as mere free-floating entities is a contradiction to its very nature. Rather, the equipment is Dasein's way of being. However, Dasein's mode of existence is different from the kind of existence of equipment in the world, characterised by spatiotemporal features (Heidegger, 1962, p. 121 & Heidegger, 1988, p. 28). Heidegger makes this distinction very explicit when he says that only Dasein can *touch* while a chair cannot *touch* though it touches the wall. The wall and the chair cannot engage each other in the way Dasein encounters the chair (Heidegger, 1962, p.155). It is Dasein who can encounter entities within the world. If we follow the Heideggerian logic, the chairs, walls, computers, cars, hammers, tables are being encountered in Dasein's dealings with the world. They come into picture only on account of Dasein's engaged practices though they may exist as inert and independent of Dasein's practices.[3]

2. Ready-to-Hand and Present-at-Hand

Heidegger argues that artefacts can be in the world in two ways on the basis of how they are being encountered by Dasein in the course of his dealings with the world. Dasein usually encounters entities in its everyday world as ready-to-hand (*Zuhandenheit*) while at other times as present-at-hand (*Vorhandenheit*). In our everyday context, we encounter things mostly as ready-to-hand. The ready-to-hand describes our practical relation to things that are handy or useful; entities are encountered as a continuous whole of interconnected relationships. This is our primordial relationship with the world, our lived experience.

In Heideggerian analysis, when entities are encountered as "tools, objects of use, cultural products, things of value and significance," (McDaniel, 2013, p. 332) they are called equipment. Heidegger writes, "we shall call those entities which we encounter in concern 'equipment'. In our dealings, we come across equipment for writing, sewing, working, transportation, measurement" (Heidegger, 1962, p. 97). Equipment is a technical term in Heideggerian framework and is understood not in ontic but in an ontological sense and its meaning is not limited to physical tools alone, although Heidegger uses a hammer to elaborate this concept. Equipment then could be non-physical, a service mechanism, a sign

or an environment. He writes that equipment taken in this ontological sense is not only equipment for writing or sewing, but "it includes everything we make use of domestically or in public life. In this broad ontological sense streets, street lamps are also items of equipment" (Heidegger, 1988, p. 292).

Imagine a carpenter who is engaged in his work of hammering encounters a hammer as equipment. The carpenter in his familiarity with the hammer as well as the work which he is involved in, namely hammering, encounters it as a means, as an *in-order-to* (Heidegger, 1962, p. 97 & Riemer, 2014, p. 276). This 'in-order-to' describes a relationship where one uses equipment to achieve a particular task; in the case of a carpenter, it is for driving nails in, removing nails, preening, or shaping. While in action, hardly does one encounter a hammer as a wooden shaft with a metallic spherical blob. The hammer as a tool conceals itself and its properties when it is ready-to-hand. In the everyday practical use of hammering, the hammer withdraws from our direct attention and remains inconspicuous. It is its absence that makes it ready-to-hand. Through the example of a hammer, Heidegger wants to demonstrate that in our everyday interactions, we encounter equipment not in a theoretical way but as an in-order-to.

It is also possible that the same entity may appear for Dasein as present-at-hand when it is approached in a disengaged reflection. One may approach the entity out of mere curiosity, as an object of the first encounter, as an object of design, as an object of scientific enquiry and so on. In all these instances, the entity is present-at-hand for Dasein and the focus of attention gets shifted from the practical activity to the object itself through its properties. At present-at-hand, an entity is viewed by us as lying inert, determinate and isolable (McDaniel, 2013, p. 334).

Heidegger's point is that the being of the equipment is not fully revealed in one particular mode of its existence. The hammer has the being of *Zuhandenheit*, disclosed through its performance and at the same time its being of *Vorhandenheit* is disclosed through disengaged observation or analysis. Nevertheless, they are not two different kinds of entities but the same entity being encountered either as ready-to-hand or present-at-hand modes of being (p. 334). In Boedeker's (2005) words:

> Presence-to-hand is neither a super-property nor a formal structure common to everything existent. Instead, it is one of the several ways in which we can *encounter* entities. It is to be contrasted, for example, with "readiness-at-hand" (*Zuhandenheit*), in which we encounter entities in terms of their usefulness (or uselessness) to our practical projects. Crucially, because 'presence-to-hand' and 'readiness-at-hand' are just different *ways of encountering* what Heidegger calls "intraworldly entities" – a term coextensive with "physical objects" – they are *not* different kinds of *entities*. (p. 159)

The error of modern science, Heidegger complains, is that it placed the 'present-at-hand' mode of being as fundamental and superior while in reality, it is only one of the several ways in which we can encounter entities. Heidegger (1962) contrasts the practical understanding with a disinterested theoretical understanding:

> 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…Dealings with equipment subordinate themselves to the manifold assignments of the 'in-order-to'. (p. 98)

Heidegger calls such sight circumspection *Umsicht*; the original seeing is always in the context of our projects, its uses, as function as something in-order-to do something, and as something that points beyond itself according to the task at hand. Every entity that is first grasped by our circumspection is 'ready-to-hand' *(Zuhandenheit)* before the possibility of its being perceived or intuited as present-at-hand (*Vorhandenheit*) (Inwood, 1999, p. 129 & Riemer, 2011, p. 8).When the entities are looked at only as present-at-hand, it loses its intrinsic meaning and warmth of relationship with other beings. It becomes a de-contextualised material, counted as one among the batch having only numerical representations. Such representations miss the richness and complexity of life to which the equipment is associated.

3. The Paradox of Invisibility

Heidegger points out that 'present-at-hand mode' of being is not what defines our everyday lives. We are not beings who spend most of our everyday life in detached contemplation. Rather, we are beings often absorbed in certain practices. When we are engaged in such practices "the world and all its contents, including things, artifacts, our body and others, are both invisible and subordinate to our practices" (Riemer, 2014, p. 277). In other words, an entity withdraws into invisibility while being in use but becomes visible when there is a failure in its performance or when there is a detached observation.[4]

Take the example of the world of a medical doctor who listens to a patient's heartbeats through a stethoscope. The stethoscope is so much part of her that it appears to her not as an object made of a certain definable substance extended over a geographical location in space and time but as something which is useful for carrying out her work. The stethoscope shapes her view of reality. In the words of Don Ihde, she develops an embodiment relation (Ihde, 2009. pp.42-44). That is, when she listens to a patient's heartbeat through a stethoscope, the stethoscope has an influence on the way she perceives the patient's medical condition. Partially, the stethoscope disappears from her awareness, as the hammer did in Heidegger's example. We can state this relationship as (doctor - stethoscope) world. The parentheses indicate that the stethoscope has become a part of herself in her viewing of the outside world. The stethoscope withdraws from her awareness and becomes embodied in her.

It is also possible to have a hermeneutic relation (Ihde, 2009, p. 42-44). When a doctor wants to have information about what happens inside the patient's body, she reads the X-ray and MRI reports. It is then taken for granted that what is read is closely connected to the patient's body. In this case, the medical reports as tools for observing do not become a part of the doctor's body but of the world she observes. The relationship can then be presented asdoctor (medical report-world). Heidegger (1988) writes:

> We do not always and continually have explicit perception
> of the things surrounding us in a familiar environment,
> certainly not in such a way that we would be aware of them

> expressly as handy. It is precisely because an explicit awareness and assurance of their being at hand does not occur that we have them around us in a peculiar way, just as they are in themselves. (p. 309)

This invisibility of equipment in a familiar context or when the equipment functions well is the paradox of equipment. The equipment hides or remains inconspicuous when in use. Heidegger says the equipment withdraws as we concern ourselves in the work (Heidegger, 1962, p. 98). When the doctor is fully absorbed in listening to the heartbeat of the patient, she hardly notices the stethoscope because she is preoccupied in her act of listening or caring. This invisibility is exactly the paradoxical nature of a thing encountered by us as ready-to-hand. Invisibility is not presented as anything less desirable here but as a positive feature of equipment. An equipment's ready-to-hand is revealed not when we look at it or when we study it reflectively but only when we use it. As Kai Reimer puts it, "equipment is truly encountered as what it is only when it is not experienced at all"(Riemer, 2014, p. 277). Only a broken, malfunctioned equipment announces itself of its presence. A broken hammer, hanged computer, missing tool, misplaced spectacles, a failed system of service network and so on, loudly announce their presence.

As long as the stethoscope functions normally, it allows the doctor to be fully engaged in her ministry of healing. Good equipment always withdraws and remains unobtrusive. In such an engagement, "the distinction between self and external world (including others) fades; we are absorbed with the task at hand in such a way that we 'lose ourselves' in what we do"(p. 277). Heidegger writes, "the self must forget itself, if lost in the world of equipment, it's able to actually go to work and manipulate something" (Heidegger, 1962, p. 405).

4. Equipment as a System

Dasein encounters equipment in his everyday world not as a separate isolable determinate object or collection of objects. It is always encountered as a system with an 'in-order-to' structure as Heidegger calls it. Heidegger (1962) says:

> 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. Equipment is essentially 'something in-order-to...'. A totality of equipment is constituted by various ways of the 'in-order-to', such as serviceability, conduciveness, usability, manipulability. (p. 97)

This in-order-to is an essential structure of equipment that is present within the world which Heidegger calls *an assignment*. Dasein discovers what an equipment is in its 'in-order-to', that is, in its 'ready-at-hand' mode. In that sense, a stethoscope is encountered not as metal wires and diaphragm, but as a '*to-listen-to-heartbeat*'. A smart mobile phone appears as that which allows me to make calls and send text messages. A car, even if it is an old clunker, is encountered first of all as a medium of transportation and then as freedom, empowerment, independence, status and so on. No matter how fashionable a car is, if it does not function as an automobile that helps transportation, it cannot be called a car. This is because one encounters a car primordially in everyday dealings as an equipment 'in-order-to'-transport. This reveals to us a fundamental truth about the ways of being of equipment. Equipments are often encountered by Dasein not on the basis of its scientific or metaphysical properties but by its use in a particular situation constituted by other equipments and human practices.

Every single piece of equipment is part of a system of equipment and therefore, constituted by the members of the system. Just like Dasein is always 'being-in-the-world', equipment is 'being-in-totality' of equipment. Heidegger brings forth a different understanding of equipment that there is no such 'thing' as a piece of equipment (p. 97). Equipment, when viewed in material terms, appears as a mere 'thing'. The ontic understanding of equipment ignores completely that the being of any equipment is constituted by a totality of equipment (Heidegger, 1962, p. 98 & Munday, 2006). In fact, every individual item of equipment is understood as belonging to another equipment.

Consider the example of encountering a room. My room is a piece of equipment and it is also beyond a single piece in the sense that it is a collection of other equipment that come together to constitute a

room. It is not just encountered as a geometrical space 'between four walls' but as an equipment for residing constituted by other equipments and human practices such as paper, pen, table, lamp, furniture, computer, printer, router, wires, windows, doors, room and so on. It also includes certain accepted behaviours in personal rooms. That an 'individual' item of equipment shows itself in a totality of equipment has already been discovered (Heidegger, 1962, p. 98 & Munday, 2009).

Each tool in the totality of equipment occupies a specific position in the system. The system or the totality of equipment (according to Heidegger) is similar to the *world* of Heidegger. While the ontic understanding of the world is a collection of entities, with each entity having a predetermined structure, the ontological understanding of the world is relational in nature where the world is not fixed or absolute but emerges as a result of a heterogeneous network of entities rather than an assemblage. The individual tools computers, wires, mobiles, printers, tables and electricity are part of this world but these artifacts are not considered equipment in the Heideggerian sense. Even the sum of all the individual items of tools does not make up the totality of equipment. The equipment as a network of related entities, which is also constituted by the assignment for which the individual piece of equipment stands, remains concealed when the focus is only on just an artefact. For example, the hammer as a tool by itself is a mere constituent of *hammering*. Harman (2002) summarises Heidegger's point very well:

> All possibility of independent objects existing in a vacuum outside the world of relations, functions, significations. For him, the tool in the reality of its labor belongs to a world-system, one that has swallowed up all individual components into a single world-effect. It is only from out of this system that specific beings can ever emerge. (p. 24)

Heidegger calls the systemic feature of the equipment *totality*. The metal wires, diaphragm, a sound transducer, the audio codec electronics, the speakers, binaural tubes, batteries, and so on in a stethoscope if taken alone do not mean the same. It is in combination with many other minutely engineered pieces together. Stethoscope always bears for what it is on other equipment with

which it is constituted. A stethoscope is a tool 'to-listen-to' heartbeats only in and through its relation to various other tool-pieces. So, the first insight is that no individual item of equipment stands alone but is drawn into a system of tool-pieces making an equipment. The task of *stethoscopping* cannot come about without this totality of equipment, nevertheless, in our ontic consideration, we are hardly conscious of this totality. Equipment, in fact, functions "by vanishing in favor of the visible reality that it brings about"(Harman, 2002, p. 25) - metal wires and diaphragm in favor of stethoscope and carpenter's tools in favor of the visible house. Every withdrawal equipment "allows the ultimate reference to swallow all of its component forces into an invisible system or network lying silently beneath it"(p. 25). Present-at-hand is what is visible of equipment and what is behind the visible reality is ready-to-hand. Behind every equipment there is an *anonymous labour,* as Harman calls it (p. 26).

The second insight is that equipment gains its identity and meaning only in our concernful dealings and in the context of its use. Equipment always draws its particular 'in-order-to' from its place in the referential whole (Heidegger, 1962, p. 99 & Riemer, 2011, p. 7). Heidegger says "the structure of the Being of what is ready-to-hand as equipment is determined by references or assignments (*Verweisung*)" (Heidegger, 1962, p. 105). These references or assignments have an "in-order-to" structure (p. 97). By *referential totality,* Heidegger implies that an individual item of equipment appears as referring to other entities within a totality of equipment (Sinclair, 2006, p. 57). The stethoscope is a part of a doctor's everyday tools; it refers to the user. It has a purpose-an "in-order-to". It also refers to various material things with which it is made of. As Mark Sinclair puts it: "These references are not the 'things' themselves but rather constitute the horizon in which they can appear, a horizon of meaning or sense by virtue of which items of equipment can be encountered as referring to one another." These web of references or assignments themselves are not explicitly noticed but "they are rather 'there' when we concernfully submit ourselves to them…". It becomes explicit only when the "assignment has been disturbed-when something is unusable for some purpose"(Heidegger, 1962, p. 105).

Heidegger writes on such occasions, "the context of equipment is lit up…With this totality, however, the world announces itself" (p. 105). The structure of this referential totality is an *a priori* transcendental horizon, which Heidegger calls 'worldhood'. "'Worldhood' is an ontological concept and stands for the structure of one of the constitutive items of Being-in-the-world…moreover, that assignments and referential totalities could in some sense become constitutive for worldhood itself"(p. 92 & 107).   This horizon, according to Heidegger is a system of relations which is the constitutive structure of the equipment's way of being (p. 121). We often consider an equipment as a mere *thing* and forget about the totality of the equipment.   However, the important thing, as Harman points out is not our finding that "equipment is always found in conjunction with related items…but (*sic*) what is essential is that at the level of readiness-to-hand, the idea of a single tool reposing in its solitary effect is shown to be untenable.   Instead, individual equipment is already dissolved into a global tool-empire"(p. 22).

5. Contextuality of Equipment

Equipment is always encountered in the background of some "specific familiarities" and "competencies for dealing things and others" (Hall, 1993, p. 131).   For example, a stethoscope becomes equipment for someone as 'ready-to-hand' only if that person is familiar with the practical environment specific to health care and a "network of practical relations" associated with it.   To a person not acquainted with medical practices, the stethoscope is only present-at-hand.   Along with the specific familiarities and coping skills associated with healthcare activities and practical settings, the user still needs a broader range of familiarities which are more basic and fundamental to deal with any tools (p. 132).   Dreyfus calls it the suitability and appropriateness of equipment (Dreyfus, 2007); that is, if an artefact has to become a piece of equipment, first of all, it needs to be suitable for a project. The suitability comes only when it has all the required material properties enabling it to do the project. But this kind of suitability alone is not sufficient though it is a necessary condition for something to be an equipment (Riemer, 2014, p. 279).

The appropriateness of equipment depends upon its relation to the totality of other equipment, shared practices involved in it, user competencies and other broader social orthodoxies which can be meaningful only in specific contexts (Reimer, 2014, p. 280 & Dreyfus, 1980, pp. 7-9).Dreyfus calls these *practical holism*, a broader horizon which is a prerequisite for interpreting what it means to be a human being, a tool, dining in a party, participating in Eucharistic celebration, citizen, student, doctor, employee, and so on. One acquires these social background practices by being brought up in a specific context and not by forming beliefs and learning rules. Heidegger calls it *"befindlichkeiten"* translated as "attunement" - a state one finds oneself in without any deliberate doing, finding oneself in a context before one settles into it, "the state in which one may be found". (Liberman, 2012, p. 53 & Heidegger, 1962, p. 172) This background cannot be made explicit in a theoretical form through a detached analysis (Dreyfus, 1980, p. 8). One may contest that a certain amount of rule learning is requireed even for the basic skills like body movements or language speaking let alone encountering equipment. It is accepted while at the same time once the user becomes proficient "*such rules*, (sic) are left behind and a single unified, flexible, purposive pattern of behaviour is all that remains;" and it is a futile effort to formalise these procedures (p. 8). Heidegger (1962) writes:

> The context of assignments or references, which, as significance, 'is constitutive for worldhood, can be taken formally in the sense of a system of Relations…The phenomenal content of these 'Relations' and 'Relata'… resist any sort of mathematical functionalization ; nor are they merely something thought, first posited in an 'act of thinking.' They are rather relationships in which concernful circumspection as such already dwells. (p. 122)

An entity in its explicit form is discovered only in the background of network of relations-familiarity and expertise, which are often non-representable (Hall, 1993, pp. 131-32). Heidegger calls it primordial truth or primordial understanding. These different background practices enable the user to encounter the equipment differently. This is the reason why in our concernful dealing with

the equipment, certain features become relevant or irrelevant (p. 134).

No equipment is self-evident. Rather, everything is trapped in supplimentarity. Therefore, the appropriateness of an individual piece of equipment is subjective to the shared background practices; the system of relations. Individual tools like screws, bolts, spans, decks, girders, rails, pile footings and so on gain identity and meaning by getting swallowed into the larger system of the bridge. Thus, the meaning of an individual tool is discovered in its use, and meaning of equipment is discovered in the wider context of what it is being used for in its larger equipmental way of being in the world. So there is no terminal point to its ultimate finality. It can rather be said that it is circular in nature (Munday, 2006 & Heidegger, 1962, p. 107).

The same artefacts need not be considered appropriate in another context. For instance, a cell phone is generally used by Gen X'ers or Baby Boomers only to make calls or texts. But the same smart phone may appear to a millennial as that which allows gaming, web browsing, photography and creating and maintaining virtual communities or the automobile signals become meaningful in the context of vehicles and traffic regulations (Heidegger, 1962, p. 109). Harman puts it rightly, "for Heidegger equipment *is* its context" (Harman, 2002, p. 23). A piece of equipment always remains opaque outside of its proper context (Munday, 2006).

The insight we must draw from this discussion is not that individual item of equipment gains its meaning and value depending upon the context but the key insight is that every tool is drawn into a certain system of relations which defines and determines its ways of being. Thus each tool occupies a certain unique position in the system of relations which is constitutive of the equipmental structure. This totality of equipment is not just a sum total of ontic entities or a place where tool-pieces are situated but it is a unitary phenomenon where the entire individual realm is already dissolved while in act (Harman, 2002, p. 22). Heidegger calls it an equipmental way of being (Heidegger, 1962, p. 146 & Munday, 2006).

6. Seeing Beyond the Present

This section re-engages with the previous themes that we discussed by placing them in relation to design. Design in terms of functional performance, ergonomic comfort and aesthetic value is closer and familiar to us while the ontological conditions behind design remain far removed from us. There is a danger in limiting ourselves with the ontic understanding of equipment because it hides from us the true nature of equipment's character and makes us believe that it is an isolated instance of a piece of artefact helping us to do some function. What this paper tries to point out is that the current design concerns should extend far beyond the physical and measurable ontic features to include the forgotten ontological sphere which organises and structures our thinking and experiences. Overlooking the ontological basis of equipment is a *krisis* situation of the design practice of our times[5] (Buckley, 1992, p. 9).

The enigma of design field today is the forgetfulness of its original unity between ontic and ontological design, ignoring the relational dimension of design. This has come about because we are being trapped in a particular metaphysical tradition often referred to under various nomenclatures such as 'rationalistic,' 'Cartesian,' 'objectivist,' and often associated with related terms such as 'mechanistic' (worldview), 'reductionistic' (science), 'positivistic' (epistemologically) and, more recently, computationalist" (Escobar, p. 16).Heidegger would call it machination or at other times in his later writings as *gestell*[6] (Joronen, 2012, p. 373). Machination is the emergence of the manipulative power as a possessive and coercive force of ordering and *gestell* is the technological *enframing* of things into standing in reserve. It is the outgrowth of a long western metaphysical tradition called *metaphysics of presence* globally expanding its willful orderings manifested in our everyday lived experience, market mechanisms, business rationalities including design practices (p. 373).

Any attempt to reduce equipment only to its immediate utility or physical appearance is a fallen state. Heidegger calls it the forgetfulness of the real nature of being. The being of artefacts withdraws and therefore will always be more than whatever we

see or say about it. It is elusive and not directly available to us, therefore, needing interpretation. Trying to know them only by what is *present* is a kind of reductionism. In *Being and Time,* Heidegger criticises this interpretation of being that has come about since the time of Greeks "without any explicit knowledge of the clues which function here, without any acquaintance with the fundamental ontological function of time or even any understanding of it and without any insight into the reason why this function is possible"(Heidegger, 1962, p. 48). Heidegger cautions us about the consequence of metaphysics of *presence* when he says, "entities are grasped in their Being as 'presence'; this means that they are understood with regard to a definite mode of time; the 'Present'"(p. 47).The equipment appears to me in my temporality and gains its meaning as the totality of my existential possibilities. Equipment, therefore, must be defined by more than "what is present". It gains its identity by belonging to an "equipmental totality" that is shaped by its *ways to be* in time. So, the equipment is more than what it appears to us.

In a certain sense, Heidegger spent the whole of his philosophic career to clarify this insight that *being is not presence*. Being is not *presence* because being is *time* as Heidegger writes, "being is understandable only by way of time. If we are to think being and speak of being, and do it properly without confusing being with any beings, then we have to think and speak of it in temporal concepts and terms."(Heidegger, 1988, p. xxv).The primordial ontological basis of human's existentiality is time or temporality. Time is a unitary phenomenon continuously extended to the past and future and cannot be limited to the present. Heidegger prefers to call it *ecstatic* nature of time in the sense of reaching out beyond itself. This *ecstatical* nature of time is foundational to human's way of being. We stand out into our future possibilities, into a past heritage, and into a present world. The *krisis* in design practice of our time is that we have forgotten the basic ecstatical nature and confined ourselves with only the *present* while the future is the primary dimension of our existence. So, the *krisis* lies in human's failure to see our own existential possibilities (Rojcewicz, 2006, pp. 141-43). Human may progress in perfecting our scientific seeing and yet be blind to our own conditions that would make us fixated in the ecstasy of the *present*.

At the first glance, *being is not presence* seems to be a technical jargon but a closer look would tell us that it is something that happens in our everyday world. We normally consider a thing to be what appears to us in terms of how useful it is to us or its physical body. This is very obvious in the case of, say, mobile or the fluorescent lamps that we often use. But Heidegger would say that to describe a mobile or fluorescent lamp by referring only to its usage, outer appearance, or by concepts, is a misrepresentation because there is always something more to it than whatever we see or say. The being of things such as mobiles and fluorescent lamp lights is not fully present before us. Heidegger calls it "ways to be", in other words, *being* (Heidegger, 1962, p. 172 & 418).

We use a fluorescent lamp or a mobile without noticing it. Whenever I switch on the lamp in my room, my focus is only on the light that helps me see things in my room. My attention turns to the lamp only when it fails to provide me with enough light. The same is the case with the mobile. We notice it only when it breaks down. The true being of things is actually a kind of absence. Since things can never be directly or completely present to us, we are always interpreting more than seeing.

But absence does not engulf the fluorescent lamp or the mobile. It is only one side of it. Had it not been so, we would not have seen anything. Thus, there are many visible aspects of the mobile or the lamp to which I see and relate to. These visible aspects vary depending on who encounters it. Every time I encounter a thing, certain aspects of its being remain hidden from me; for example, it's past. While the others come present to me as having features to be "interpreted as tools, weapons, or items of entertainment." The presence of every object is a dynamic interplay of presence and absence. The description of mobile and fluorescent lamps can be extrapolated to the being of all entities, including human beings. Being discloses itself in this play of presence and absence. Heidegger calls this experience 'event' (*ereignis*) by which he meant *happening, occurrence, becoming visible* (Inwood, 1999, pp. 54-57). We understand this experience in our concern for the world; identifying it only with cognitive experience and describing it in terms of a subject-object relation is a misunderstanding of what being is.

By saying this, Heidegger does not mean that *presence* is insignificant. Rather, his contention is that though presence is rich and complex it does not exhaust the meaning of Being. Prioritising a certain mode of temporality, that is, understanding the 'being of equipment' only in terms of presencing of things (*Anwesen*)[7] in the present, has devastating consequences. For example, understanding equipment as tools or machines is concrete and easily graspable because it is present before us. While equipment defined as a system is more complex and accommodates many *absent* elements as its constituents such as inventors, operators, recyclers, consumers, user knowledge, marketers, advertisers, government administrators, and so forth, Krippendorff (2006) points out how designers are blinded towards the unintended uses and users of equipment:

> Before a product reaches its intended user group, it passes through the hands of many who use it for a variety of reasons: to solve an engineering problem, to keep jobs in a factory, to profit from increased sales, or to supply supporting gadgets. After its intended use, it may become of interest to repair shops, benefit recycling companies, and become an ecological nightmare for communities that live near dumps. (p. 64)

Limiting design concerns only to the producer's profit or the experience of the end-user at the expense of all the others who are touched by the equipment presents a *krisis* situation. The so-called *end users* are only just one point of contact in the vast network equipmental totality who need to co-operate to bring a design to presence. Designers are surrounded by many factors which have an interest in the outcome of a design process: clients, engineers, labour force, financiers, sales representatives, recyclers, environment, other living beings, researchers and so on. Design practices say little about them while much is written and argued about the end users (p. 63). Accommodating these factors into the design process of a tool or equipment helps design it better and makes the process more democratic and inclusive.

The world we are living in is facing unprecedented challenges which call for new approaches in design than 'business as usual' (Wahl, 2016, p. 9). But our design practices are caught up with

providing quick fix solutions. Our universities, industries, infrastructures, energy systems, water management, health systems, agriculture – all need a new form of knowledge that can guide us to a new way of being in this world, a way of being that is concerned beyond *the present*. The current design practices, as Tony Fry says, take away our future because we do not know how to create conditions for the future.[8]This has come about because we are living in an illusion of permanence which is an outgrowth of the metaphysics of presence. We are glued to the present as if it is permanent. An obsession with *the present* deeply influences our thinking and actions and becomes a hindrance for a collaborative relational culture of design. We design systems with a win-lose mindset which works on the assumption that the other has to be dominated, won over, and subdued. This process is always progressing in a gigantic proportion in the world and the most characteristic of this designing or way of coming-to-presence is the transformation of the world into a totalised network of resources. In this age, it means that beings are given to us configured as standing-in-reserve, as disposables, as stocks; everything around us in the world is seen as something there for us to consume. The entire world becomes a bestand, a stock, existing in a manner which makes it ready for our use.

This has come about, according to Heidegger, because we are being unconsciously trapped in the dehumanising process of everyday normalisation. We are being normalised in a particular ontological tradition which encourages us to pose as masters of the earth, centers of the universe and yet blind to the self - condition that makes us slaves.[9] What we need today is to create conditions for the future by developing systems which necessitates win-win situations for every stakeholder which also ensures the benefit of nature (pp. 8-9).

7. Conclusion

Fostering inclusive design approach to equipment needs questioning an ontological tradition that valorizes *presence* over *absence*. It calls for revisioning a relational ontology which claims that "the relations between entities are ontologically more fundamental than the entities themselves" (Wildman, 2010, p. 55).

If this relational ontology needs to be operationalised in design practices, a significant amount of reconstruction of the current design paradigms is required. This paper is only a discussion about the philosophical phase of this reconstructive process. The bias against relational ways of being is operative in market-based design practices of our time. The notion that a tool exists as a separate entity having its own predetermined structure continues to be one of the "most enduring naturalized, and deleterious fictions" of our cultures these days (Escobar, p. 19 & Dreyfus, 2011, pp. 241-242).

One decisive step towards this is to encourage more and more serious ontological discussions in design practices. Heidegger is one of the contemporary philosophers who has made ontological questioning central to his thought than any other philosopher of our time. Ontological understanding of equipment brings to the fore the relational nature of the equipment's way of being in the world and this interconnectedness of beings has tremendous implication for an understanding design agency, design process and design object. Design practices, then, need to broaden its focus beyond the work of what we might call *proximate designers*- those professionals closest to the design process, such as, engineers, architects, draftsmen, graphical artists, and so on who exercise direct control over the details of design (Feng, 2004, p. 105).Little attention has been paid to the ways in which cultural assumptions and values about the product, the future unintended uses of the product, various stakeholders of the product, ethical issues, the meanings that product forms have for their users, and so forth have the potential to shape the design process. Limiting design agency only to proximate designers is autocratic, one dimensional and exclusive and adds to the *krisis* situation.

Our future depends on creating systems that are interdependent. This is possible only if we have a relational ontology at the back of our mind to inspire our actions. Integrating ontological insights with contemporary popular design methodologies which are market-centric may help us seek the possibilities of how alternative values can be brought into the design process so that designs are sustainable, humane, ethical, liberating and eco-efficient rather than oppressing, controlling and exploitative. It will also help the

design methodologists in translating philosophical insights into conceptual design tools to improve the quality of the designs.

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End notes

[1]Heidegger uses the German word, Dasein to represent human beings. In everyday German, this word would mean "existence", or "being-there".

Heidegger reserves this word to denote only the human existence because it differs ontologically from all other beings.

[2]Being-in-the-world is the first among the existentials that Heidegger analyses. The order of presentation of these existentials tells us that his analysis flows from the general awareness of the way in which the world presents itself to us to the specific existentials.

[3]In Heidegger, it is a debatable issue whether an artefact is inert or work. Heidegger's early writings emphasise the need of Dasein for the entities to be present. But the later Heideggerian writings do not seem to be privileging Dasein among the entities. For example, he redeems the thinghood of jug from Dasein's concernful engagement. The jug may depend upon Dasein for its production but its thinghood is not enslaved to Dasein (Harman, 2013, p. 130 & McDaniel, 2013, p. 332).

[4]Heidegger explains the visible and invisible aspects of an entity in *Being and Time*, (Heidegger, 1962, pp. 95-102).

[5]The Greek word *krisis* is used here to denote a dispute or quarrel, a dividing of original unity.

[6]We find a shift from *Machenschaft* in the 1930s to *Gestell* in the mid- and late-1940s in Heideggerian writings.

[7]Juan Pablo Hernández, argues that Heidegger's conception that being as presencing has undergone changes at different periods of his writing. Heidegger was critical of the Greek conception of being as presence (presence as Anwesenheit); but later he equates the meaning of being with 'anwesen' which signifies presencing (presencing as Anwesen) in his later works(Juan Pablo, 2011).

[8]"Defuturing delivers another agenda of thinking, making and living which recognises that the future is not a vast void, but a time and place constituted by directional forces of design set in train in the past and the present and which flows into the future"(Fry, 1999, p. IX).

[9]The slavish attitude which Heidegger talks about could be compared to the prisoners in Plato's Allegory of the Cave. It pictures the metaphysical and epistemological situation of a human.