The World Through Manager's Goals:
A Phenomenological Account of the Etymologies of *Data* and *Information*

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Abstract

The notion, concept, word of information *is at the centre of much knowledge management research and practice. This paper offers a fresh approach to this central notion by questioning the often taken for granted linear relationship from data-to-information-to-knowledge. Relying on Heidegger's work* Being and Time, *as ontological base of the investigation, the paper presents a phenomenological account of the etymologies of* data *and* information, *tracing back their origins and evolution, as a way into the phenomena themselves. It is argued that it is not meaning what distinguishes data from information but rather an ongoing course of action in which one always and already is involved. This analysis, hopefully, opens up a sound alternative route for research the phenomenon of knowledge.*

Key words: action, data, information, phenomenology, ontology, etymology, Heidegger.

"Every inquiry is a seeking.
Every seeking gets guided beforehand by what is sought."

Martin Heidegger
(1962:24)

Introduction

Action, data, information, knowledge, life and world are deeply inter-related notions, ideas, or words, all of them mutually referring to each other. If one tries to give a brief explanation of any of these words it is highly probable that one uses some of the other words of above to point out the meaning one wants to state. In order rigorously to elucidate some of these connections, namely between data and information – which nowadays are at the centre of much of the management concerns – I will ground ontologically the analysis that follows on Heidegger's phenomenological investigations into humanness, the remarkable *Being and Time* (Heidegger 1962). This fundamental theory will serve as background of intelligibility against which I will present a succinct phenomenological account of the etymologies of *data* and *information*.

This paper is motivated by the ongoing debate, either in the academic or in the practitioner's communities, on the nature of information. There is no – and never was – universally accepted definition of information; notwithstanding we live in so called 'information era'. One needs to say that the study of the phenomenon of information, as such, began relatively recently (Borgmann 1999). The beginning of the 'information era' could be dated to just after the Second World War, with the publication of the article "The Mathematical Theory of Communication" (Shannon and Weaver 1949:3-91). The subsequent rise of the notion of information can be conceived of as "an answer to problems that were born at just about the time the word 'information' was" (Borgmann 1999:9). Those problems, deeply related to the rise of science and modern technology (Giddens 1999, Castells 2000, Beck 1992, Borgmann 1999, Walsham 2000), link directly to the topic of this conference – knowledge management.

Much management or information systems thinking usually tend to take for granted a kind of a linear relationship between data, information and knowledge. Information is the central notion at stake. Information *without meaning* would be data – [data is? "any representation such as characters or analog quantities to which meaning is, or might be, assigned" (ANSI 1990). Thus, this usual approach gets information caught in a circle: information would be data with meaning – ?information is? "data that has been processed so that it is meaningful to a

decision maker to use in a particular decision" (Hicks 1993:675). From here one adds 'experience' and departs onto the realms of knowledge.

These positions do not stand up to phenomenological scrutiny. In this paper I argue that this kind of classification is untenable because data is already meaningful. Nonetheless, a rigorous phenomenological account of the etymology of *data* and *information* indeed reveal subtle and potentially useful distinctions between the two phenomena under analysis. Those distinctions, hopefully, offer a sound alternative for research the phenomenon of knowledge. Possibly, this route is not as linear and easier to grasp as mainstream actual discourse; but it is no argument against a phenomenological route to observe that the path of questioning does not promise to deliver a clear and simple articulation of *that which is*. Cartwright (1983:53) noted that "[t]here is no reason to think that the principles that best organise will be true, nor that the principles that are true will organise much"; and Nietzsche (1968:273) commented: "The most strongly believed a priori "truths" are for me—*provisional assumptions*; e.g., the law of causality, a very well acquired habit of belief, so much a part of us that not to believe in it would destroy the race. But are they for that reason truth? What a conclusion!"

Bearing this in mind, I submit that besides the rigour of the method of investigation followed and of the ontology on which the paper is based, the findings presented below rely their strength as well on the intuitiveness and self-evidence in which they might appear for those who are familiar with the phenomena of data and information.

The paper is structured as follows: first I very briefly review some of Heidegger's (1962) arguments, establishing the primacy of action as ground. This is followed by the presentation of the findings of the phenomenological analysis of the etymology of data and information. Finally, the paper concludes by briefly elaborating on its empirical relevance.

In-the-World

Let me very briefly review some of Heidegger's (1962) central findings. *Being and Time* tries to give an account of the world as it is, i.e., it tries do uncover the world as always and already previously experienced by us, before empiricism or intellectualism elaborate any explanations whatsoever. The world *is* instead of is not, and because we are always and already in the world, the beings we ourselves are, are revealed as *beings-in-the-world*. In-the-world we are experts in acting because action as such is primary.

Man is the kind of being whose *Being*, that is, whose essence, is an issue for himself. Thus, *caring* for ourselves and the world, we are essentially *ahead* of ourselves, always and already projecting into the future. In this projecting we are revealed as beings *thrown* into the world, because always with a past and a future in which we are to make something of ourselves. Thus, as a *having been* in-the-

world, we care: things matter to us. As beings-in-the-world we are *with-others*. Most commonly we act, choose, think, live, mainly as *they* do it.

Immersed in-the-world we always and already understand the world and ourselves. Intuitively, dealing with beings, we choose, abandon and fulfil the possibilities we open up for ourselves. The having-been that we are and the possibilities in which we are immersed shape ourselves, mould our dispositions, and as such they open specific possibilities for us in the future. The congruence that leads us to repeat what has worked is the instinctive behaviour to maintain ourselves as what we are for ourselves, that is, in *mineness* as projecting and explicitly or implicitly assuming possibilities for being in the future. Always involved we take stands, choose, and go along with others, on account of the *throwness* and the projections we *are*.

Hence, in-the-world, as a projecting having-been, we are grounded in the future. It is the future, the possibilities for being in which we always and already are projecting ourselves that makes us the kind of beings we are. Thus, the future *per se* belongs to the essence of man. The future grounds the present and the past. In action we are primary directed towards the future; in this directedness we are again directed towards a successful adaptation to our environment, which is something accessed in our own terms, that is, according to our identity, or mineness in Heidegger's (1962) phenomenological technical terminology.

A logical and equiprimordial feature of being-in-the-world, as ontological ground, is an assumption that action is primary; that it precedes reflection. This primacy of action has its oldest claims in Heraclitus' thesis of a forever changing reality. Action is that which always and already is. We are always and already acting within our own history against the background of temporality: we are action in structural terms. Being-in-the-world is essential to *who* we are. It is important to note that this *being-in* (Heidegger 1962) is formally indicated as a verb, and that a verb is the disclosure of an already in place action because it points to movement, a change, a deed, a result, an action. A verb indicates what a person or a thing does. It can describe an action (e.g. run, hit), the occurrence of an event (e.g. raining, happening), a state (e.g., having something, appearing something), or a change (e.g. become, grow) (OPDT:860). A verb means an action that is occurring, or the results of an action that has happened.

The English word action has its origins in the Middle English –*acioun*. This comes from the Old French -*ation*, which in its turn comes from the Latin -*ation*, -*atio*, *actio*, *actiônis*, which meant action or process (MW), "a putting in motion; a doing, performing, acting, action, act" (Crane 2000). *Actio, actiônis* meant "a doing, performing, acting, action, act" (Crane 2000). Action means "a movement" and "something done" (CD). It also means energy and liveliness (OPDT:8). Therefore, this being-in signifies all these distinctions. It is an acting that is a living movement, thus action-in-the-world. To be in the world as man means to be always and already acting-in-the-world. This argument has important implications. It indicates that we, as the beings we are, are always acting without reflecting on what we are doing before, during, or after the action (Introna and

Costea 2001). In many cases we do not reflect on what we should do, but on what we have done—trying to articulate reasons or motives to justify a course of actions (Introna 1997). Of course, in other cases we stop acting for a period of reflection only, when we think and analyse what decisions to make and then choose a particular path; to some extent, we therefore analyse and then act. Yet, in this latter case, the whole situation tends to change once action begins—we then detect new nuances, fresh opportunities, and some threats we did not see beforehand. We always continue to adapt the kind of decisions we make. In-the-world "our basic attitude is always a practical one of doing, of acting, of having some aim in mind" (Mingers 1995:79). Our being and doing are inseparable.

The way the world is self-evident is first revealed *as we live in the world*—as we are already going on in our dealings in and with the world. World, firstly and primordially, reveals itself in the background practices in which we dwell. *Being-there* is an embodied understanding of the world in-the-world. The modes of being we encounter in the world—the *ready-to-hand*, that is, the transparency of an thing while we use it, and the *present-at-hand*, that is, the thing as we analyse it and look at it—are founded upon an always and already unfolding acting-in-the-world (Heidegger 1962). The present-at-hand is founded on a primordial ready-to-hand that world as such already is. It is on the basis of a *withdrawn* world, a ready-to-hand background, that something present-at-hand can show itself. Either modes of being presuppose the unfolding of action. We are always already being-alongside-the-world-the-others-the-objects-and-nature, involved, deciding, moving, choosing, going, standing, taking sides, fulfilling possibilities, happening; in short, we are *acting(being)-in-the-world*.

Having been thrown, we are always and already taking a stand in the process of having been—"I take action" (Heidegger 1962:367). Absorbed in coping in day-to-day activities, a manager, for example, is always acting either appropriating possibilities for being or putting them aside. PCs, mobile phones, desks, cars, books, memos, and other devices—either ready-to-hand or present-at-hand—presuppose a context of action-in-the-world. A manager's dealings in the world constitute the background on which he himself distinguishes any entity. The modes of being of entities he encounters come from his own already acting; not from some specific action, but from himself as action. All the phenomena of data, information, meaning, and knowledge rely on this ground. We are always already involved, acting; the manager as such is the *involved manager* (Introna 1997). The manager is thus action as such, and it is from that perspective that one has to make sense of his acting.

Data and Information

Having Heidegger's (1962) ontology as a background, the paper presents below a phenomenological account of the etymologies of *data* and *information*. The origins of both words, and the ways in which their meanings have evolved up to now, are rich enough for us to pay close attention. In a Heideggerian manner (e.g., Heidegger 1962, 1977, 1984), my task is to trace back the origins of the

words identifying the phenomena of data and of information. This analysis is not destined to bring back the meaning of the words *per se*, but rather to bring forth the meaning of *things*, "in the ante-predicative life of consciousness" (Merleau-Ponty 1962:xv). "In the silence of primary consciousness can be seen appearing not only what words mean, but also what things mean: the core of primary meaning round which the acts of naming and expression take shape" (Merleau-Ponty 1962:xv).

This kind of phenomenological work shares some concerns with linguistic analysis, but goes beyond it. What is at stake here is the recalling of the relationships of our experiencing of the phenomena, that is, bringing back the things, *as things themselves* (e.g., Husserl 1982, Heidegger 1962, Merleau-Ponty 1962). It is a looking for what is a fact for us, before any thematisation, even before any articulation in language took place. What counts is the "reliance on the early meaning of a word and its changes, to catch sight of the realm penetrating to the matter in question into which the word speaks" (Heidegger 1977:159).

The current meaning of information can be synthesised as: "what is told; news" (OPDT:388). The English word information, a noun, was coined in the 14th century (MW) and has come to have two connected meanings. One refers to the communication of something, for instance an event, a fact, a story—"the communication or reception of knowledge or intelligence" (MW). The other meaning points to the gathering of data—"knowledge obtained from investigation, study, or instruction: intelligence, news, facts, data" or "a signal or character (as in a communication system or computer) representing data" (MW).

The essence of the phenomenon of information, according to Boland (1983:363), is revealed to us in the word itself—"The essence of information is revealed to us in its name. Information is an inward-forming". The meaning of inward-forming comes from the Latin origins of the word information—*in-formo* (Crane 2000; Cunha 1982:436, 364, 429). According to Crane (2001), the Latin verb *in-formo*, which joins the expressions *in* and *forma*, means "to give form to a thing, to shape, form, mould, fashion (…) To form an idea of a thing, to represent, sketch, delineate (…) To inform, instruct, educate". The verb *formo*, to which the noun *forma* is related, means to shape, to fashion, to form, to adjust, to regulate, to dispose, to direct, to prepare, to compose. *Forma*, a feminine noun, means "form, in the most comprehensive sense of the word, contour, figure, shape, appearance". In general, it means shape, form, nature, manner, or kind.

Form has been an English word since the 13th century. It has its origins in the Middle English *forme*, which in its turn has its roots in that Latin word *forma* (MW). Form has nowadays a plurality of meanings. Amongst the most used and relevant for our purpose, are the following: "the shape and structure of something as distinguished from its material"; "a prescribed and set order of words", "a manner or style of performing or accomplishing according to recognized standards of technique", "an orderly method of arrangement (as in the presentation of ideas)", "a manner of coordinating elements". In its transitive

sense, 'to form' means "to give a particular shape to", "to model by instruction and discipline", "to arrange in order". The intransitive sense 'to take form' means to "come into existence" (MW).

This tracing back of some original meanings of the word information discloses the notion of a thing, or idea, or indeed a person, that receives a form, a shaping, or a contour. The Latin word *informare*, from the verb *in-formo* (Crane 2001), "as Cicero (106-43 BC) used it, meant to impose a form on some thing, particularly on the mind, in order to instruct and improve it" (Borgmann 1999:9).

At this point, the question of how, and by whom, this *form* is achieved should be addressed. The answer lies in the way the Latin word *informare* includes the Latin *in*. *In* is a Latin preposition akin to the Sanskrit *an* and to the Greek *en*. It means "within, on, upon, among, at, into, to, towards". It "denotes either rest or motion within or into a place or thing" (Crane 2001). The English preposition 'in' comes from this Latin root and is used "as a function word to indicate inclusion, location, or position within limits" (MW).

The *in* of information thus means that a form, a shaping, a contour, is imposed on a thing, an idea, or a person; this person, either myself or other one, is shaped in that he, she or I am/is informed. In a deeper sense, a form or contour is imposed on a difference. This difference, distinguished from the environment by a person, is brought in/into who imposes those same contours or that form; the person who captures the difference is the entity that is the *in*. It is the human being who, while perturbed by a distinction, brings the new element that was distinguished "within ?the? limits" (MW) he himself is. A form derived from within is therefore imposed on a distinction. These limits are thus bounded by throwness. Information is the bringing forth of the sense of a distinction, through a process that is, strictly speaking, dependent and determined by the very *own terms* of myself, by mineness. The limits are the context on the grounds of which a new element comes to be distinguished and gets a first sense. To grasp this phenomenon fully, I examine now the etymology of the word data.

Data has been part of the English language since the 17th century. It comes from the Latin, where it was the plural of *datum* (MW), which means what is given: "to give, offer, convey, offer, donate, furnish" (LEDH 2001).

The Portuguese language, for example, still preserves this characteristic of something *given* in the word data. The word data is translated in Portuguese as *dados*, which is also a form of the verb *dar*—meaning to give. Data is not only something given, but it is *essentially* given. It is something we access, obtain, get without effort; data comes to us, as something given: "*data* is plentiful and easily available" (H. A. Gleason, Jr., quoted in MW). Data is the difference a being distinguishes from its environment as such. As beings-in-the-world we are always and already immersed in data.

Nowadays, with the worldwide spread of IT devices, this given-ness of data supports its utilisation as "factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation" (MV). This factual

information, "information in numerical form that can be digitally transmitted or processed" (ibid.), is thus that which is given – data. As such, this kind of data also is part of our dealing-ness in-the-world.

This analysis raises a question about whether it points to recognition that the notions, the distinctions, of data and information are synonymous. The answer is both yes and no. I stress that a distinction is always a distinction for someone; someone already immersed in a whole of references (Heidegger 1962), engaged in his own life, involved in-the-world, aiming at something (ibid.). Always-and-already in the world, anything a person can distinguish from a background already has some sense. Thus, from the individual perspective of the human being as she lives her life, both data and information are always an inward-forming. Thus, in fundamental terms there is no difference between data and information, as both are meaningful because they were distinguished from their backgrounds. However, differences between them were identified because they were revealed in their difference-ness, and they were inwardly formed by the being's own access to them. So, from a theoretical perspective, keeping in mind the unity of the phenomenon, it might be useful to distinguish these notions.

A subtle distinction should be highlighted here. Human beings are self-observers. As such, we observe the behaviour of ourselves performing the kinds of reactions triggered while we act immersed in an always and already capturing of differences. Thus, from an observer's standpoint—even if the observation is a self-observation—a stricter signification of the inward-forming is its relevance to a particular course of action, for example, to a pattern of intentionality united in a manager's goals. A person relates his or her behaviour to the particular form, shape, or contours of some specific distinction he or she has made; the captured difference stresses its inward nature as it is a forming, a specific intentional involvement that that person takes as relevant to his own action and goals. From this perspective, the difference is appropriately called information.

Data is the kind of difference whose fundamental meaning relies on its given-ness. It is the difference that is given as such. Analysed from this perspective, data does not necessarily affect the current behaviour of a person, from the point of view of an observer or self-observer. Data is strictly that which is given. Taking into account the above description of information, data thus can be said to be decontextualised information, that is, information that does not inform the particular course of action in which the person already is involved.

On the other hand, information is the kind of difference whose fundamental meaning relies on its *forming* nature. It is the difference formed inwardly in a meaningful manner that affects the current behaviour of the person as testified from the perspective of an observer or self-observer. Information is thus mainly that which is formed. So, from an *ex post* perspective, data is fundamentally *given* and information is fundamentally *formed*. These notions arise against the grounding criterion of action. The difference is formally indicated as information or as data in terms of the course of action in which a manager, for example, is

involved. The manager's goals are thus the guiding criterion that enables one to distinguish the characteristics, value, and uses of data and information.

With these distinctions in mind, I will conclude this etymological discussion by clarifying the notion of meaning already touched upon in the above argument. In our always and already involvement in the world, entities show up to us already referring one to another. Their showing up is essentially their referentiality. Differences are the showing up of something *as* something (Heidegger 1962). An entity is its relationships with other entities. A difference must have a sense that enables it to be the difference it is. This sense of the new distinction or difference is its own meaning.

That something has meaning indicates a relationship between it and another something. This relationship is disclosed in terms of our involvement whole. It is our involvement whole, the world of references and involvements that we are, that gives meaning to what we distinguish. For a distinction to be a distinction, therefore, it must already have meaning. Data as it is distinguished already is meaningful. Its meaningfulness, that is, its sense, is precisely that which enables the operation of distinction. "Everything has meaning" (Merleau-Ponty 1962:xx), because to be distinguished is precisely to enter the grounds of meaning. Meaning is the references and assignments of a distinction; it is the sense that a distinction has to have in order to be a distinction.

Meaning is already there in-the-world, and we cannot decide on what such and such means or does not mean to us. "Meaning is that wherein the understandability of something maintains itself—even of something which does not come into view explicitly and thematically" (ibid.:370-1). So, there is no meaningless data. "Just as we do not see pure meaningless sense data which then must be interpreted, so we do not hear pure meaningless sounds" (Dreyfus 1991:218). "We hear the door shut in the house and never hear acoustical sensations or even mere sounds" (Heidegger 1971:26). "What we 'first' hear is never noises or complexes sounds, but the creaking wagon, the motorcycle… It requires a very artificial and complicated frame of mind to 'hear' a 'pure noise'" (Heidegger 1962:207). In-the-world, the things themselves, in their meaningfulness, are much closer to us than all sensations (Heidegger 1971:26).

When managers refer to 'meaningless data', they are just stating that what they were given is not what they are seeking, in terms of the kind of behaviour in which they are engaged; *a contrario*, this analysis highlights that information reveals itself as the *right* data for the course of action foresighted in advance. The inward formation of information is thus driven by action, by manager's goals. The appropriation of data in its usefulness, in our engagement in a situation, informs us about specific courses of action or decisions which could be taken. The meaning of information, that is, its relevance in terms of action, is embodied by the manager as he or she relies on it within a background of intelligibility to act and perform *in-order-to* achieve some result *for-the-sake-of* (Heidegger 1962) being a good manager, or of getting a good evaluation from his or her superior.

In-the-world, information is thus the realisation of the meaningfulness of data in a situation. It is an action-based *making present* of the sense of the distinctions within the referential whole in which we dwell. By making present data, a manager-in-the-world, in a situation, within a projection he himself is, opens possibilities that make sense for who he is, as a *having-been*. He uses data to perform some activity because that data *informs* his actions; as this data is relied on in action, it can be referred to as information. The making present of data receives its meaning from the taking up of a possibility for action. Data shows up as the right data for the relevant course of action; for the course of action that is meaningful for the manager. Information thus receives its meaning from the primordial understanding man is of himself or herself in-the-world: a ceaseless chooser, on accounts of what he or she has been and what he or she is projecting himself or herself to be, taking informed action.

This analysis is supported by a further twist in the etymology of the word information. To the Latin words *in* and *forma*, the English word information joined the suffix *-ation,* whose etymology I analysed above. Action is the meaning pointed to by joining the suffix *-ation* to the expressions *in* and *form*; this *in-form-ation* indicates an action that informs. This action that informs has its fundamental meaning in that action as such in the ground on the basis of which data informs. Data informs us, thus being information, because action is the ground. Information is what it is because it is primary destined to action, that is, to inform our ongoing action in-the-world. So, information gets the meaning from and is directed to action. Action is therefore the initial criterion for a distinction to be distinguished. It provides the grounding that makes it possible to distinguish something *as* something. To conclude, information can be formally indicated as data grasped from the action nature of the situation. It is the action-*ation* of data by myself.

Concluding Remarks

This paper does not look for definitions. That is neither the aim nor the possibility of phenomenology. In the phenomenological manner of investigation this paper is focused on uncovering the essential contours of the phenomena data and information.

According to the ontology on which this investigation is based the most important impact of this findings is the potentiality of their very readiness-to-hand (Heidegger 1962); that is, of the kind of effects they might bring to action as, having been understood and apprehended, that is, understood and arrested within us (OPDT:32), embodied (Introna 1997, Dreyfus 1991, Merleau-Ponty 1962, Maturana and Varela 1980, 1992), they might unfold intuitively and instinctively with*in* our ongoing action in-the-world. The way in which in a particular situation one might take advantage of these findings to enhance understanding and to assist his or her action in-the-world, that is, the readiness-to-hand of this findings, is the key empirical implication of the investigation. The opening up of the essential contours of the phenomena of data and information, in

itself, is the central answer to the question of the empirical relevance of this investigation.

The paper points out the relevance of the course of action in which a manager, for example, already is involved. This means that new opportunities, threats, or intelligence do not rely mainly on the kind of data a manager comes across, but instead they rely on the manager's already set kind of goals. From here there are many implications one can draw for management, either on training and education, on marketing and innovation, on team work and group routines, on consultancy and outsourcing, on strategy and change, and so forth. Still, being ontologically consistent, I stress that these implications would emerge mainly and fundamentally from action and in action.

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