The Role of 'Disturbance' for the Origin of Representational Intentionality and for the Announcement of World: Two Sides of the Same Coin?

0. Preliminary Remarks

When we talk about the scientific work of Dreyfus the most striking characteristic which comes to mind is his well-known criticism of the AI approach.[1] In the field of expert systems above all Dreyfus has shown that AI technology is based on several assumptions which give a distorted picture of how experts manage their tasks. Without aspiring to completeness, I want to mention three of them here: representationalism, atomism of meaning and computationalism.

   Representationalism is the assumption that it is possible, at least in principle, to elicit knowledge from an expert in the form of explicit rules and to transfer and implement this knowledge on a computer. It is the task of the so-called knowledge engineer to question the expert about his various intelligent tasks in such a way that his expert knowledge can be modeled into a representational system and - given the transitivity of this process of modeling - can in turn be implemented on a computer. In other words, according to representationalism, every knowing-how can be converted into a knowing-that.

   The other two assumptions, atomism of meaning and computationalism, just to sum them up, maintain that 'knowledge' can be deconstructed into 'chunks' of determinate and context-free units which in turn can be manipulated according to explicit rules. Dreyfus has shown in several illuminating examples what is wrong with these assumptions.

   In regard to the representational account Dreyfus objects that it mistakes a model about our use of knowledge for the knowledge itself. Dreyfus has shown that we have to make a clear distinction between an explanatory theory as to the activity in our brain and the activity itself - the former can never exhaustively substitute the latter. This difference becomes apparent in situations in which reflection on our skills leads to a drastic decrease in our command of the very same skills.

   In regard to the second assumption, i.e. atomism, one can contend that context-free 'chunks' of knowledge emerge only against a background of tacit and transparent know-how with which we must be endowed from the very beginning. Such atomic elements or knowledge-pieces are therefore only theoretical constructs. They owe their existence to a detached mode of contemplation in which the primordial background knowledge has been artificially faded out. For the same reason, it is impossible to reconstruct this primordial knowledge simply by assembling atomic elements which have been formerly deprived of their context.

   Dreyfus' criticism has been highly influential, not only in AI technology, but in other research fields as well. It has become a quasi standard in all disciplines where the idea of representational intentionality occurs. In psychotherapy, just to give one example, the so-

---

[1] Dreyfus 1972.

called manual-driven approach was criticized on the basis of ideas developed by Dreyfus (along with his brother Stuart) in the book 'Mind over Machine'[2].

It is not the aim of this article to belabor all the various aspects of this criticism. Instead I want to outline the alternative view which Dreyfus offers in place of representationalism. First of all, it must be clearly understood that any criticism of representationalism stands and falls with the positive evaluation of the background knowledge which cannot be substituted with explicit rules. Put in other words, we must have an alternative in order to criticize successfully the representational account.

Dreyfus has given a clear idea of such an alternative view in his commentary on *Being and Time*.[3] Please note that, although the following ideas are drawn from Dreyfus commentary on Being on Time, they are depicted here in a specific way according to my own preference. So I will take responsibility for all possible misunderstandings.

Coming back to Dreyfus criticism of representationalism, two basic questions have to be answered: 1) How can the tacit and transparent background knowledge be phenomenologically revealed? 2) If it can be shown that the representational account is grounded in that background knowledge how could we ever take it into our heads to try and explain knowledge in reverse order? How could it ever occur to us to explain the original from the derived? In short, how can the representational account be explained? In the following I shall answer these two questions, but in reverse order.

1. The Emergence of the Representational Account

Before proceeding with the second question, one preliminary remark may be in order. In our skillful coping we normally do not take notice of the equipment we are dealing with. We are not aware of the availableness of the equipment, instead it has - Dreyfus treats this point carefully in his commentary - a tendency to 'disappear'.

This invisibility of equipment can be made clear by elaborating the distinction of the *periphery* and the *center* - as psychology of perception has pointed out. Let me give three short examples. The first is the often mentioned example of the blind man´s cane. At the beginning - when we hand the man a cane - it is the cane itself with its special properties (e.g. whether it is curved, how heavy it is) which is in the center of his perception. But after a while of getting used to it the stick will disappear from perception and become part of the man´s peripheral perception - like his eyes or his finger tips. This means that the medium *must* be invisible and inconspicuous in order to fulfil its functional role: in order to reveal the objects which are touched by the cane it ceases to be the center of attention. A second rather old example of the psychology of perception may illustrate that shift of a medium from the center of attention to the periphery of perception: Erismann and Kohler´s example of reversed eyeglasses from some decades ago.[4] If we wear such glasses for several days the

---

[2] Dreyfus and Dreyfus 1986.
[3] Dreyfus 1991.
[4] Kohler 1951.

perceived surroundings flip into their original position. So after a period of habituation these lenses themselves become part of the inconspicuous periphery. One further and perhaps more familiar example may illuminate this circumstance. When we learn to drive a car we initially focus our attention to the medium by which we drive, e.g. the gearshift (if there is any). But as soon as we become familiar with the medium we will no longer take notice of it, instead we will pay attention to the road, the traffic, the next exit and so on.

What lesson can we draw from this transparency of a medium to equipment itself? Take the example of the blind man´s cane mentioned above: The stick disappears from perception in that very moment when it takes over its functional role, namely to work as an additional sense of direction. Taking over its functional role essentially means to become something *available* (something ´in-order-to´). Availableness - the ontological character of the available - and invisibility are two related and inseparable aspects of the available. In order to understand this invisibility of equipment thoroughly we must take into consideration that the (unnoticed) periphery through which one thing comes to the center of perception is not an isolable equipment, instead it is a whole peripheral system of available things. For something to function as equiment, there must be a whole context of other equiment, its interrelations and human purposes: a world.[5] A good way to understand this notion is to consider an expression which is commonly used in contemporary German. When we are in a situation in which we have difficulty mastering a task (when we change our job, for example) we sometimes say: This is not my world! With this figure of speech we simply want to say that we are in the wrong context. Similarly, available things are always encountered in a context and it is this context which constitutes the availableness of the equipment. Children, for example, have their own world. The availableness of the things they deal with is quite different from that of the adult. So the world which makes up the availableness of the equipment is by no means a totality of occurrent facts.

Now it is this essential characteristic of the available - belonging to a world - which normally remains invisible and inconspicuous.[6] We begin to reflect on characteristics of equipment only in situations in which it becomes *conspicuous*. Becoming conspicuous in turn requires that the equipment ceases to be available. The gearshift, for example, moves into the focus of attention only if it doesn´t fulfil its functional role any more. So we take notice of the being of the available - its availableness (which in turn is grounded in its belonging to a world) - only when there is some kind of disturbance in our daily coping with the available. In case of disturbance a new mode of encountering things emerges: When the coping activity is *disrupted* the equipment is deprived of its availableness and, as a consequence, the sheer occurrentness of the available comes to the fore.

This analysis of disturbance sheds light on two aspects: On the one hand it shows that the ontological character of equipment - namely its availableness - must remain in the background (recognizing it results in the elimination of the same). On the other hand it explains the special situations in which we encounter decontextualized objects.

---

[5] Dreyfus 1991: 97.
[6] Dreyfus 1991: 99.

Dreyfus uses such situations of breakdown to explain where the idea of a detached 'subject' and an isolable 'object' comes in and how this leads to the mistakes of the representational account. Dreyfus' analysis of breakdown shows in particular that encountering objects 'outside of the mind' is by no means the way we deal with things under normal conditions. He writes: "We shall see that there are subjects and objects but that the tradition has introduced them too early in the analysis and, moreover, has mischaracterized them so as to give them a foundational function they cannot perform."[7] Unlike Heidegger, who does not explicitly connect breakdown with the emergence of the representational account, Dreyfus elaborates in minutious detail how different situations of breakdown, juxtaposed as increasingly serious disturbances of skillful coping, bring the subject/object relation to the fore.[8]

In order to correctly understand the significance of such situations of breakdown for the traditional account of intentionality two remarks may be in order: 1) The shift from an involved way of encountering entities to detached reflection must be grounded in additional theoretical considerations independent of experiences we might gather when our skillful coping is disrupted. To encounter entities in situations of breakdown which seem to be only occurrent is *one* thing, to interpret the directedness of human being towards entities as a relationship between a detached subject and an independent object is *another* thing. But in order to achieve such a theory we must in a *first* step encounter entities deprived of their availableness. 2) This deprivation is not an event which already has been terminated, instead the transition of involved skillful coping to detached deliberation is an *on-going* process. For the same reason the availableness does not simply disappear in situations of breakdown, it only temporarily takes its leave. So availableness does not vanish completely, it only gets lost during the time of transition when the breakdown takes place.

2. How the Phenomenon of World is Revealed

Now that I have shown how Dreyfus explains the emergence of the representational account we can switch to the second basic question I mentioned at the beginning: How can the whole of the context, on the basis of which every available thing is conceivable, be made explicit? As Dreyfus has shown along with Heidegger - I mentioned this issue above - it is an intrinsic feature of availableness (the ontological characteristic of the available) to be transparent and invisible. So, how can availableness, whose mode of being is grounded in this invisibleness, ever be revealed? In response to this question Dreyfus offers two possibilities. He mentions two different accesses to the context whole. The first access is the situation of breakdown described above.[9] The second is signs.[10]

---

[7] Dreyfus 1991: 69.
[8] Dreyfus 1991: 71-83.
[9] Dreyfus 1991: 99.
[10] Dreyfus 1991: 100.

a) Disturbance

In the first case, the context whole becomes visible only when our everyday concernful coping is disrupted. There must be a disturbance in the coping activity in order to illuminate the context whole, on the basis of which all our coping takes place. Please note that ´disturbance´ does not inevitably imply that the available has to be destroyed - it simply indicates a *rupture* in our transparent coping with things. This circumstance may be illuminated when we recall the aforementioned examples of the psychology of perception: Simply by refocussing the medium it loses its transparency which in turn is tantamount to a loss of its functional role. But this access to the background of our practical activity can create serious problems when we compare it with the previously made remarks about the emergence of the traditional philosophy of mind. The question arises: How can the same event which brings decontextualization to the fore simultaneously reveal the context whole? In order to understand this point we have to recall what is going on when we encounter situations of breakdown. Such situations are not events which have already been terminated, instead they are states of transition. So the context whole is illuminated at the very moment when it takes its leave. Taking its leave means still being there - but in the mode of withdrawal.

b) Signs

Up to now it seemed as if the context whole announces itself only in situations when the coping activity is disturbed. Such disturbances have, as we have seen, two faces: In the very moment when the context whole is illuminated the mere occurrentness of things comes to the fore. But Dreyfus mentions another access to the context whole - signs. Signs are themselves something available and function in such a way that they make the context whole explicit and thereby indicate the ontological structure of the available. Unlike disturbances, in which the announcement of the context whole is a consequence of an increasing loss of the very same context, signs reveal the context only against a background of practical activity - a *successful* dealing with things.[11] Signs are not context-free 'indicator-things' which occur. It is therefore consistent when Dreyfus adds the following argument, which Heidegger himself did not make explicit: We can cope with signs without ever becoming explicitly aware of them.[12]

In the following I propound an hypothesis which may be the most controversial issue of this article. What I want to say, to put it in a nutshell, is: there must be some kind of disturbance even in our coping activity with signs in order to illuminate the context whole, and, the reverse side of this hypothesis, signs are - at least in an embryonic state - also prone

---

[11] Ibid.
[12] Dreyfus 1991: 101.

to the afore-mentioned reinterpretation of the available into atomic and decontextualized facts.

In order to understand this hypothesis we have for the present to take into account that signs announce the context whole thanks to their ability to make this wholeness *explicit*. Making something explicit requires that signs have the characteristic of *conspicuousness* - a characteristic which emerges in situations of breakdown. Becoming conspicuous requires that our daily coping with things be *disrupted*. There must be a break in the context whole in order to light up the context. We can illustrate this phenomenon with the following well-known example from *Being and Time*.

If we want to keep something in mind we make a mark - for example a knot in a handkerchief.[13] The handkerchief becomes a mark only in a situation in which the practical background against which it functions successfully is disrupted!

At first glance this assumption seems to be the direct opposite of Dreyfus' own view, according to which signs light up the context only in the course of a successful - and not disturbed - coping activity in which they are employed. But this contradiction, I think, is only superficial and vanishes when one takes a closer look.

I totally agree with Dreyfus that it is possible to cope with signs without becoming thematically aware of them (this is, by the way, the mode in which children normally deal with signs). But I would nevertheless maintain that the case of a mere transparent coping with signs is not a vindicating situation in which the context whole announces itself. In order to announce the context whole signs have to be conspicuous - a characteristic which comprises the ability to focus one´s attention on the signs we are coping with. In addition to this we should recall to mind that even the interpretation of signs as breaks in our working activity does not imply that signs mutate to mere occurrent indicator-things. As we have just seen, disturbances do *not* completely extinguish availableness. What is actually going on might be better characterized as a complicated and persistent period of transition which begins with the transparent coping with signs and terminates as an encounter with meaningless and context-free symbols (as modern cognitivists would maintain).

3. The Two Faces of Disturbance

Let me now sum up the basic point of my arguments. If we accept the last hypothesis concerning signs we are confronted with the strange phenomenon that we can become aware of the context whole only at the heavy price of being deprived of it (because the context whole is revealed only by disturbance and signs). Formulated in an oversubtilized way we can elaborate the underlying idea like this:
The revelation of the context whole is always accompanied by, and coupled with, a break in that whole which in turn is the starting point of decontextualizing.

---

[13] Heidegger 1962:112.

To express the present idea in the most drastic manner possible, we can also say: Heidegger could only write his book *Being and Time* and Dreyfus could only criticize the representational account because for both of them the context whole is already revealing itself and - this is the other side of the coin - the process of decontextualizing has begun to take its course. Metaphorically speaking, we can ask: Must human society, in order to become aware of its 'soundness', first fall into 'sickness'? Does the emergence of peril simultaneously indicate the possibility of its own reparation?

These considerations entail a crucial point which could evoke the most serious misunderstandings. In order to prevent such misunderstandings we have to distinguish carefully between two different ways of revealing: the *disclosedness* of world on the one hand and its *announcement* in situations of breakdown on the other. While the former is the general condition on the basis of which every directedness takes place (even our transparent coping with the available presupposes such a disclosedness)[14] and is something which we normally do not recognize, the latter emerges only in situations of breakdown which explicitly point out this disclosedness. To formulate it as concisely as possible: disclosedness of world is one thing, to become aware of this disclosedness (resp. lighting up or announcing this disclosedness in case of disturbance) is quite another.

If we would mistake the latter for the first, there would be no understanding of being at all without disturbance, not even an encountering with the available could be made intelligible. Disturbance as one source of decontextualizing (I am using the expression 'source' in the sense of a seminal state) would be an intrinsic and built-in characteristic of mankind. I will come back to this point below. For the present I want to record only the following. The afore-mentioned interconnection between the revelation of world and situations of breakdown is related only to the announcement of world and has no reference to the (precognitive) disclosedness of world. Keeping this difference in mind I come back now to the earlier question: Why can we become aware of the context whole only at the heavy price of being deprived of it? Let me illustrate this idea with the following example:

An expellee who has lost his land as the result of a military conflict - an example of immediate interest could be a farmer from the former Yugoslavia - would begin to realize only in the course of his expulsion the real meaning of 'being at home'. 'Being at home' is normally a pattern of a lot of inconspicuous reference points which make up the daily world of the farmer. Some of these reference points might be: Where can I buy fodder? Where can I meet other people? Where should my children go to school? How must I deal with administrative channels? And so on. This whole context of reference points makes up the world of the farmer in such an inconspicuous way that he normally does not recognize it. Now let us suppose that in a further step our farmer - after a number of years - finds new land in a foreign country, resumes farming, and settles down with his family. The more familiar he becomes with his new life and the more the earlier expulsion recedes into the background, the more the memory of his old world begins to dim. But in the very moment in which the process of expulsion comes to an end all those little reference points which

---

[14] Dreyfus 1991: 89, 102.

previously made up the world in his old country decontextualize into context-free facts without further relevance for the farmer.

What I want to demonstrate with this example is the following: the meaning of 'being at home' becomes apparent only in the course of the expulsion - not before (before the expulsion the farmer does not take any deliberate notice of his world), but also not afterwards (when the expulsion comes to an end the context whole will have faded out). It is the very moment of the expulsion in which the awareness of what 'being at home' means emerges - the tilting point (Kippunkt) between inconspiscuous context and its disintegration. 'Being at home' announces itself whilst it is expiring - not after it has expired!

What I am describing here is nothing other than an old intuition already expressed in the Bible: It is not a mere accident that mankind, tasting the tree of knowledge, was expelled from paradise. But unlike in the Bible, in which this expulsion is described in chronological order as a course of different and separate events, the announcement of the context whole, as described above in the case of the farmer's expulsion can only be made intelligible as a transitional period.

This transitional period in turn might be comprehended, metaphorically expressed, as a sort of magnetic field with two opposite 'poles' - the context whole on the one end and the decontextualization on the other. If we artificially try to cut off one of the two poles the whole magnetic field collapses.

Against that close binding of the announcement of the context whole to the event of its expiration the following argument may be raised. A brief retrospective review at history shows that most works of art are *not* produced in epochs of decay but instead in very highly developed civilizations. Now the very same works are indicators of the world in which people lived in those times. In order to refute this objection two arguments concerning art have to be juxtaposed: the first one is a remark of Mark Weiser concerning computer art and the second one a remark of Heidegger. Weiser argues that one key function of art is to *hint at hidden peripheries* [15] (in case of computer technology art can function as an indicator of the new - and hidden - peripheries which are reframed by the computer as a medium). As has been shown above, such peripheries move into the center of attention in case of a *rupture* in our absorbed and transparent coping with things. This argument leads us directly to Heidegger´s own interpretation of art. A work of art functions in such a way as to indicate the mode of being in which things are encountered. Van Gogh´s painting of the peasant woman´s shoes, for example, indicate the *availableness* of the equiment. It is interesting that Heidegger calls this revelation of ways of being by products of art - even in the case of a greek temple - a *rupture* between the tendency of the being to disappear and its appearance in a work of the artist. Moreover, he characterizes this rupture not as a stable state, instead he interprets it as an ongoing conflict between the two inseparable aspects of all ways of being: to reveal and simultaneously to withdraw.[16]

4. Conclusion

---
[15] Weiser 1997: 143.
[16] Heidegger 1971: pp. 55ff.

Now that I have given this interpretation of Dreyfus' fundamental idea of disturbance I want to come back to a previously mentioned question: What would happen if disturbance not only paved the way for the announcement of the world but also for its disclosedness? In this case we would have shifted the border of disturbance from a later stage in the development of mankind to a structural account which comprises all stages of mankind (because world must be disclosed along with Dasein). Please recall that disturbance is - at least in a seminal state - simultaneously the source of decontextualization. I cannot give here an exhaustive answer as to whether such a shift makes sense or not (there are, as I believe, pro- and contraarguments in the various writings of Heidegger). But, as I suppose, such an interpretation would lead us from Heidegger - via Dreyfus' disturbance - to Derrida's 'différance'.[17]

Two last remarks may be in order. There is a lot of secondary literature on Heidegger on the market. But the main problem of most of these readings, at least from my point of view, is that all their wrestling to gain an adequate understanding remains within the narrow taxonomy of Heidegger's own vocabulary. What is missing is an autonomous phenomenological approach which makes Heidegger's text accessible even to the uninitiated. Such a phenomenological access is present in Dreyfus' interpretation of the role of disturbance in *Being and Time*. Heidegger's understanding of the phenomenon of world and his presentation of the traditional account of intentionality becomes plausible if we read it in the light of the different stages of disturbance.

- The second remark is only a suggestion, namely to apply Dreyfus' phenomenological analysis of breakdown to considerations we find in the context of a theory of media. It was Havelock, for example, who maintained that the cultural feats of the ancient Greeks are a direct result of the radical change which took place during that one transition period in which their oral tradition was superseded by literacy. When Havelock describes this revolution he makes a comment which is remarkable if we read it in the light of the analysis of breakdown given above. Only in that one short period of radical change when the oral tradition was in its *decline* did the Greeks become aware of it. It was the very moment of this decline which enabled them to elaborate their oral tradition.[18] Considering the above given examples of the psychology of perception and their application to the indicative role of arts we can say: There must be a revolution of media in order to free hidden peripheries from their transparency and to draw our attention to them. Only in a retrospective view - after literacy has endowed human society with new peripheries - the reflection on (and - at the same time - decontextualization of) the primordial peripheries of the oral tradition could begin. So the breakdown of orality contains two elements - gains and losses.

There is no doubt that the new electronic media too can be interpreted as such a revolution of media in which new peripheries are reframed. It would be a courageous speculation to ask whether this revolution might evoke a new cultural stage of mankind. What could be the benefits and losses of a radical change like that? What new awareness of our Being-in-the-World might we gain and what new kinds of decontextualization might take place?

---

[17] See Derrida 1967.
[18] Havelock 1986: 90.

REFERENCES

Jacques Derrida, *De la grammatologie*, Paris: Les Editions de Minuit 1967

Hubert L. Dreyfus, *Being-in-the-World*, *A commentary on Heidegger´s* Being and Time, *Division I,* Cambridge, MA: MIT Press 1991

Hubert L. Dreyfus & Stuart E. Dreyfus, *Mind over Machine. The Power of Human Inuition and Expertise in the Era of the Computer*, New York: The Free Press 1986

Hubert L. Dreyfus, *What Computers Can´t Do*, New York: Harper & Row 1972; revised edition 1979; 3d edition: *What Computers Still Can´t Do*, Cambridge, MA: MIT Press 1993

Eric, A. Havelock, *Preface to Plato* , Cambridge, MA: Harvard University Press 1963

Eric A. Havelock, *The Muse Learns To Write: Reflections on Orality and Literacy from Antiquity to the Present*, New Haven: Yale University Press 1986

Martin Heidegger, *Being and Time*, New York: Harper & Row 1962

Martin Heidegger, ´The Origin of the Work of Art´, *in* Martin Heidegger, *Poetry, Language, Thought*, New York: Harper & Row 1971

Ivo Kohler: *Über Aufbau und Wandlungen der Wahrnehmungswelt*, Sitzungsberichte der Österreichischen Akademie der Wissenschaften *227*, Wien 1951

Mark Weiser, ´Periphery and the FleshFactor´, *in* Gerfried Stocker and Christine Schöpf, eds, *Fleshfactor: informationsmaschine mensch, Ars electronica 97*, Wien & New York: Springer 1997, pp. 136-147