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Some Remarks on Agent Perception

In: Herzberg L. and Pietarinen, J. (ed.), *Perspectives on Human Conduct*. Leiden, 1988.

The drift of what I shall be saying is that we are poor observers of whatever activities we are not ourselves familiar with as agents. This has to do with the way our activities in the world shape our concepts of the world and with the way our concepts of the world shape our perception of it.

Given the strong division of work within each of the countries that the members of this seminar come from, and given the shortness of human life, it follows that we are poor observers of what goes on in most walks of life. My guess is that this is true of each one of us. University teachers do not, as a rule, have a great deal of experience from the diverse areas of working life outside the university. And where we are poor observes, we are also poor agents. What we are then strangers to, or else at home in, I shall construe as a *conceptual space*, or an *activity space*.

I shall sketch a few examples to illustrate these concepts, and the concept of *agent perception*. There will be no more to those concepts than can be worked out from these and similar examples. The two first examples will be drawn from the realm of man-made orderings of man-made objects, the first from *chess*, as a game, and the second from a *kitchen*, as a place of work. The third example will be of a slice of nature, a *rock face*.

My examples are of this form: one person is observing what another person is doing, where the acting person may be either a single agent, acting alone, or one of two agents acting with respect to each other, as in buying and selling. Or my examples are embedded in some example of this form. Some such scenes are: One person working out a proof on the blackboard while a second person is observing the steps. (The second person may be a fellow mathematician or the three year old son of the first.) Two people playing chess and a third looking on. Or a scene like this: I am in a shop, waiting to be served. The customer ahead of me is paying for his goods. He has just been told that it costs 8 Marks altogether. I see him pay with a 50-Mark note and receiving 2 Marks change. Or this: I am in a boatbuilder's yard observing one of the workers clinking a wooden boat. Etc.

In each one of these examples, the agent is also an observer, not of his own actions, but, in the chess example, of the situation on the board. And in the shop example, of the goods that he receives, of the note that he pays with, of the change that he receives in return, etc. (The manner in which these objects enter into the customer's dealings, should be discussed. We should perhaps not make it a conceptual truth that whatever the agent observes is not part of what the agent is doing.)

The character that I call "the observer" is not himself engaged in the activity he observes. That, and that only, is what makes him *an observer* of that activity, whether he is just observing or also engaged in some other activity (which permits his eyes to stray while his hands are working).

But there is this connection between the observer of an agent in action and that same agent, that if the observer is not able to take the place of the agent, then that observer is not a skilled observer of that agent in action. The skilled observer of a fisherman at work is another fisherman. The skilled observer of a surgeon at work is another surgeon. Etc. And these statements should be viewed as conceptual truths, if you agree that we do not master the various concepts of a fisherman's skills, unless we recognize them when we see them (if, for example, we are not able to assess the quality of his maneuvering the boat while hauling the net). And if you agree that we learn to recognize such skills (to recognize, for example, which practical difficulties (due to wind, current, the slow speed of the boat, etc.) are being mastered, or not mastered well enough) by practising the same art ourselves.

I. The concept of agent perception

There is a lot that a chess player may observe during a game of chess, and the customer in a shop may notice a lot more than that the goods that he receives are what he asked for or that it is a 50-Mark note that he pays with. He may study the general layout of the store or notice the colour of the shop assistant's hair, etc. But when I speak about *agent perception*, or *agent observation*, I speak only of those *observations that guide the agent's operations*, such (operations) as reaching out to receive the goods that is being handed him, and reaching out to receive it where it is being handed him, accepting it as what he asked for, on a short inspection of it, etc. And when the agent is a customer, I treat him as a customer only. That is, whatever he does that does not serve his errand as a customer, is left out. And with those (additional) doings of his left out, we also leave out whatever observations of his that guide those (additional) doings. They are agent observations, but not customer observations.

There is a sense of the word "observe" where it means *let oneself be guided by*, or *abide by*, and that sense should be brought into the sense of "seeing" or "hearing", when it is what the agent is seeing or hearing that we talk about.

Some of the agent's observations I read off from what the agent is saying or doing. If the customer says to the shop assistant, after having received the 2 Marks, "You still owe me 40 Marks", I know that he has observed that it was a 50-mark note that he paid with. If he seems satisfied with the return of 2 Marks, I take it he did not observe that it was not a 10-Mark note that he paid with. When White moves one of her pawns in between her own Queen and Black's Bishop, Black reads off from that move that White has observed that her Queen was being threatened by his own Bishop. And so do I, observing the two of them.

But if Black knows that White is a more practised player than he is, he also knows that the moves White makes may well be guided by observations that go beyond his own, and that he therefore may not be able to read off her observations from her moves. (With chess, it is the skill of the eyes, rather than the skill of the hand, that improves with practice.)

II. To see what there is to see

If White is a lot more practised than Black, then White can take it that she will be able to read off from Black's moves which observations guided them — and which did not (and which of her own observations Black did not make).

That is, White can take it that she is in a position *to see what there is to see* in the moves Black makes. The concept of *what there is to see*, when what is observed is some agent in action, goes together with a concept of the action being *well-defined*, e.g. such that it can be construed as the carrying out of a well-defined instruction that the agent has given himself. Such well-defined instructions can only exist within a conceptual space, or within an activity space, that is itself well-ordered. Well-ordered activity spaces exist, e.g. in some workshops. There, ''What did the agent understand himself to be doing?", asked of a skilled craftsman, is

a less apt question than ”What did he do?”. Whether trivial or dramatic, it is such actions that make up the prose of life. And we should study the grammar of prose before we embark upon the grammar of poetry.

Here is an example of seeing what there is to see. Let us say that this is what Black does: he moves his Bishop so as to threaten White’s Queen, taking it that White will then move her nearest pawn in between, to protect her Queen, and so vacating a square where Black can then place his Knight. This is the short project of which moving his Bishop to threaten White’s Queen is the first step. Now, if White, asked to describe Black’s move, describes it as the first step in the two-step project we have just described, then White sees what there is to see in the move Black makes.

III. Not seeing what there is to see

There are two ways of not seeing what there is to see. One is where you locate the action to its proper activity space, but you are not experienced enough, or not (as yet) conceptually equipped, to catch its richness. You don’t see enough of it. The other, more dramatic, is where you allocate it to the wrong activity space. You are blind to it.

Let White be a lot less experienced than Black. White may then be too shortsighted to see this one move as the first in a two-move project. She observes that her Queen is now being threatened and that’s all. She does not see what there is to see in Black’s move. If the very point of that move was to get his Knight into a better position, then that move was essentially the first move in a sequence of two.

In this sense of not seeing what there is to see, we are most of us poor observers of each other’s doings — outside our own workshops.

Now let the observer of the game between White and Black be ignorant about chess, even to the existence of the game. But let him also be an experienced fisherman and navigator. He knows his whereabouts, and he observes that the board is oriented roughly 45° along the 1 to 8 line, so that when a piece is moved parallel to that line and in the direction from 1 to 8, the direction of its movement is 45°. When it is moved along a perpendicular to that line, in the direction from A to H, the direction of its movement is 135°. Etc. He notes that the man moves the black pieces and the woman the white ones. A black piece is now being moved steadily 90°. It travels roughly 20 centimetres. A smaller white piece (the pieces should really be numbered, as fishing boats are) is then moved 45°, roughly 5 centimetres. Etc. He also takes down the direction and distance that a piece travels when it is moved off the board.

This observer does not report on a game of chess. If the form of his reports matches the form of his observations, then he does not see what the players are doing. He is blind to it.

It is not that he makes any false statements. But, as a report about what the two players are doing, his truths are about the wrong objects, the wrong places and the wrong movements. When Black moves his Bishop to threaten White’s Queen, that move is not informed either by direction in terms of degrees or by distance in terms of centimetres. The concepts of navigation have no existence within the game of chess.

What is wrong about this observer’s reports, is that they construct the wrong space for these objects to travel in. The sequence of moves comes out as just that, a chronologically ordered sequence of otherwise disconnected moves. There is a true report on each move, but between no two such reports can we intelligibly insert a "therefore”, ”so wisely”, etc. To make room for such connections, we must give these pieces their proper space to move in.

IV. Activity spaces

When the fisherman has learnt to play chess, he has also learnt to observe the moves that his opponent makes, and the situations that those moves create. And only then can he take on the

position of a non-playing observer and count on seeing what there is to see, or some ordered slice of it.

The game of chess has come alive as a drama, where the pieces have taken on the character of agents, each with a well-defined set of basic actions. The space of chess is a fictional space, where the fiction is that of a feudal battle, where you win if you capture your antagonist's King. The concepts of navigation do not attach to this fiction. What is wrong about reporting that Black moves his Rook straight North-East, is not the misrepresentation of what Black is now doing that stems from Black's not knowing that he moves the Rook straight North-East. If it is the fisherman that plays Black, he may well know. What is wrong is that the concept of the direction North-East has no existence in chess. There is no place for it within that conceptual space.

We may speak of chess as a conceptual space, or as an activity space. Within that space the pieces take on the character of agents, the moves take on the character of actions, and the squares take on the character of positions (from where to act).

The objects that belong to an activity space are defined by the activities constituting that space. The Queen is defined by what she can do in the battle, and her colour tells us whose Queen she is. But she is not made of oak, as distinct from pinewood or copper. She is not 10 centimetres tall, or 11 or 12, not within that space. There is no action defined for her in terms of such measurements.

Within chess, there is no description of a situation, and no perception of a situation, that is not in terms of the chess-action it asks for, or invites, or warns against, or in terms of the chess-actions it opens up for or rules out.

White's Queen is *being threatened* by Black's Bishop. That is a perception of a situation in chess, or a description of it. And that *situation invites* White *to protect* her Queen. Black's Bishop is 18 centimetres away from White's Queen, as measured from top center to top center. Even if that description is true, it does not invite any chess action. But then that description, or that perception, has no existence within chess.

And that ends the chess example. The point of that exercise is to sketch a model activity space.

I shall now sketch two other examples of activity spaces. But I shall not try to work them so as to match each point in the chess example. I leave that as an exercise.

Buying and selling can be construed as an activity space of its own, or buying and selling within a particular culture can. A net fishing boat in operation, with a particular technology and perhaps within a particular economy, defines an activity space of its own. And so does a kitchen of a particular make, that is, the kitchen with its complement.

V. The kitchen

The order there is to the objects in the kitchen, the pans and the cauldrons, the plates and the glasses, the utensils, the chairs and the table and the work bench, etc., exists as that order only as viewed from within the activities of that kitchen. Imagine those activities removed, and there is no particular order to it — since there is then no particular point to any of its objects. The glasses in the cupboard are not placed there upside-down, because a glass no longer has any particular orientation. The frying pan has preserved its geometrical shape, but lost its handle. The chairs have preserved their shapes, but lost their backs, their seats and their legs. The stool at the workbench is no more connected to the bench than to any cup in the cupboard, and it is of no particular orientation. Etc.

My guess is that most of us, the philosophers in this room, do not see much of what there is to see in a kitchen. My guess is also that most of us have no experience of not seeing what there is to see there. (Being able to pick out separately movable objects to inspect their colour

and geometrical shape, does not count for much when it comes to seeing what there is to see.) But if we have laid the table and washed the dishes, we are not completely blind to its objects and their order.

Not seeing and not knowing that we are not seeing (what there is to see) is a kind of non-existence. If I am blind to chess or mathematics, chess and mathematics do not exist in my world. And so I do not exist in that world where chess and mathematics exist. (It is a terrible thought, and more so for more humdrum examples.)

If we are blind to the objects in the kitchen, and to the various materials in it, such as what is in the flour bags, the syrup boxes, the margarine packages, etc., we are blind to the activities that involve these objects and materials. Seeing that some of these objects are being handled and moved around does not count for much when it comes to seeing what there is to see of the activities of the kitchen. ”He is malting bread” isn’t much of an observation either, if that is all I see. It doesn’t touch the art of breadmaking.

The kitchen is a man-made structure. Its objects and their arrangement have been made to fit our activities in it. And so, perhaps, it comes as no surprise that we should perceive those objects in terms of our activities in it.

But what about unworked nature?

VI. The rock face

As a student I practised some rock climbing on a particular rock West of Oslo. When a novice was brought to that rock, I was surprised to notice how little he saw of what there was to see on the rock face.

The rock climber sees the rock face in terms of routes. A route is made up of fingerholds and footholds, distributed in a manner that fits the human body, from the bottom of the rock face to its top. And here, that something is a *good fingerhold* means two things: it means that it is well fitted for your fingers to hold on to and also that it lies within a possible route. What is a possible route is determined by the operative shape and size of the human body and by the climber’s climbing-technique. Something isn’t a good fingerhold if there isn’t a good foothold in the neighbourhood, somewhere beneath. Where it has to be and what it has to look like to be a good foothold again depends on the human body and the climbing-technique.

That is, the description of the terrain in which we move must be made in terms of the possibilities of movement that it offers — if the description of the terrain is to make our movements in it intelligible. For the one who moves in a terrain, his eyes guide his feet, and they do so because he perceives the terrain in terms of how to move in it. And that is how the observer of his movements must see the terrain as well, if he is to make good sense of what he sees.