An organism is an environmental interaction that continuously regenerates itself. It does not follow from the past, but it does take account of it. We can show that the regenerating is a kind of precision. We call it 'implicit precision'.

What the organism brings to the present interaction has been called the 'background,' though the background has previously been considered as if it were a static thing rather than part of a regenerating process.

There is general agreement that the background is 'implicit', but what 'implicit' means has remained mysterious. It is often said to mean 'unconscious', but of course not really unconscious as from a blow on the head. But if we approach the implicit background as part of the present process, it may become evident how it functions in that process. I want to show exactly how something implicit functions and that it functions precisely, as well as exactly how regenerating takes account of its past.

There are two kinds of precision, a logical and an implicit kind. They are inherently connected and can be understood in relation to each other. This inherent connection can be seen in how the organism's accounting for its past generates new logic. The organism's taking account of its past is a regenerative process; this regenerative process is the implicit precision.

Implicit precision is not unlogical. It generates logical precision. Logical precision depends on defined units — objects — with necessary relations, as in mathematics. In contrast, the implicit precision functions neither as units nor as a whole, but as a process, to which body and environment always both contribute. This process generates and regenerates the background objects and their relationships, including logical scientific units. We can move between the two kinds of precision, keeping the science of logical units steady, but also considering the wider process of generating such units.

There is need for an alternative model to change some old assumptions. The old model starts from 'perception' which is a 'here' about an 'over there,' something supposedly 'inside' the body about something 'outside'. Perception leads us to assume the split between organism and environment. But organism and environment are always inherently one interaction, starting with primitive organisms before perception ever develops. The alternative I propose is a model of process. I have developed this model in detail elsewhere; here I use it to discuss three questions in the current philosophy about neurology.

I want to thank Mary Hendricks, Kye Nelson, Rob Parker, and Zdravko Radman for very helpful readings and comments.
1. Three current questions

Question 1: What is the environment of the active organism?

The organism seems confronted by an environment that is strange to it. Things it cannot deal with may strike it. But it responds very appropriately to a large variety of things. The question as usually stated is: How does the organism ‘select and interpret’ what is relevant to it. The question applies not only to humans, but to animals, trees, and single-cell organisms.

Selection and interpretation would not be necessary if by ‘environment’ we meant the organism’s own which it actively participates in generating. Recently some authors speak of organism and environment as mutually causing each other (Gallagher, 2007). We need distinctions so that we can use the word ‘environment’ in several ways.

Currently it is said that the organism is ‘active in its own formation’. I think this is a great advance. But we can ask: Just what is the active role of the organism in relation to its own environment? How are they originally linked, and why do they seem to be two things?

Question 2: The background is said to be ‘implicit,’ but how does something implicit function?

To explain what the organism makes of the environment, some authors invoke a ‘background’, but this consists of entities that do not really occur. Past experiences function in some way but not by occurring again. The background includes a great number of experiences and items of knowledge, many more than could ever be enumerated. How does the organism take them into account without running through them all again each time?

The background may seem to be a ‘holistic’ merger as if without distinctions. But we find an organism’s process always stubbornly precise, just this particular intricacy and not something else. It functions neither as separate occurrences nor as a merged whole.

The background is said to function ‘implicitly’. We need to spell out what this means. How does something function when it functions implicitly?

Polanyi (1958) said that the ‘tacit’ (the implicit) is like a skill, like knowing how to ride a bicycle. It is like ‘knowing-how’ to do something, not like ‘knowing-that’ such and such is so. Since we don’t run through the ‘internal’ contents again each time, some authors (Rowlands, 2007; Clark, 2010) argue that only what is ‘external’ functions in action. I think these authors might mean rather that every kind of knowledge does function, but like a skill, that is, implicitly. But can we spell out how something functions implicitly?

Question 3: How can a body have cultural patterns?

Currently many authors feature our human interactions as the source of what we know and feel (for example, Gallagher, Margolis, and Stuart, this volume). I think this is another great advance. But if our interactions are attributed to ‘culture’, we may seem culturally programmed since we are born into a world of language, art, and human relationships. Culture may seem imposed on
human bodies. But we can ask: How can a body have cultural patterns such as speech and art, and how can it act in situations? If we can explain this, we can explain how culture was generated and how it is now being regenerated further and further.

These questions cannot be answered in the current concepts which are built along the lines of a system that assumes the body divided from the environment.

2. Where the split between body and environment comes from; the perceptual split

The currently underlying conceptual system leads us to assume that what exists is always something that can be presented before us. So there are always two, what exists and also us, the before whom. Contact with anything real is assumed to be by perception. Perception (or even more narrowly, sensation) is supposed to be the beginning.

Perception involves a split between a here and a there. We sense here what is over there. Perception involves an inside and an outside; we sense in here in the body what is out there, outside, ‘external’ to us.

I call this the ‘perceptual split’. The here-there generates a gap, the space between the here and the there. This space is supposed to contain everything that exists. To ‘exist’ means to fill some part of that ‘external’ space.

Only the ‘out there’ is supposed to exist. What exists is considered cut off from any other living process because perceiving is the basic starting process. But being perceived is not supposed to affect real things. They are conceptualized as inherently cut-off from living process. To be real they need only to fill the perceptual gap space.

For example, we tend to conceptualize even single-cell organisms as if they had perception, because they may have a ‘detector,’ a specialized part that provides something inside them which indicates something in the environment. Although single-cell organisms are not said to have perceptions, their relation to the environment is considered along the same lines as perception.

The perceptual split makes for the distinction between body and environment, the body here detecting the surrounding environment out there.

I am not saying that people believe what I just laid out. I am tracing an underlying system of assumptions. As I state it head-on you probably don't believe it, and never did. People have been trying to get out of that system for a long time. Gallagher and Stuart (this volume) are newly working on doing so.

For example, no one says that the organisms that don't have perception are disconnected from their environment. But their environmental connection is conceptualized as if it were perception. We need different concepts for the more basic way in which bodies form as environmental interactions in the first place.

I ask my reader not just to agree that body and environment are ‘somehow’ not split, but to
notice that we can’t say how they are more closely linked, because our concepts assume that they are two things in the out-there space.

I will show that this here-there ‘perception’ is not a body’s actual perception. It is an already analyzed cognitive kind of ‘perception’. Originally perception does not just hang there like a picture floating alone. It develops as part of a behaviour sequence. It need not be taken as the here-there picture which gives rise to the body/environment gap and the space-filling entities in our science.

But before we deprecate the current model even for a moment, let us be clear why science needs this perceptual split and these space-filling things. We make stable things and parts. I call them ‘units’. (I call it the ‘unit model’.) Everything from the wheel to computers consists of stable parts that we make and combine. Seven billion of us could not live on the earth without technology, so let us not pretend we can denigrate science and its perceptual split and its units. We need them even to study and cure living things. The first sense of the word ‘environment’ I define is the environment that science presents. I call it ‘environment #1’. Of course we will keep it, and keep developing it.

3. How we can get out of the split perceptual assumptions

The choice we have is to consider not only the science environment. Stable units are not alive. They are made things. But we can study living things also with a different basic conceptual system not modelled on things that are not alive. Such a second system is now developing. We can move back and forth between the two systems.

People have wanted to overcome the body-environment split for a very long time, but there was no alternative model. To get out of the unit model (while also staying in it, of course) we need a different conceptual model. If the one I offer isn’t right in every way, I think it does move in a right direction.

We need not limit ourselves to already made things. We can also ask about the processes that generate them. We can conceptualize them as generative processes.

There are three different generative processes that need to be distinguished. If we don’t distinguish them then just one of them is assumed to explain everything else. The three are: first, the formation of the concrete living body, second, its behaviour, and third, the patterning of gestures, art, language and culture. Everyone knows these three processes, but let us consider them as living and generative. Then we can ask how they generate the environmental things as objects of organisms. Considered as living and generative, they have great explanatory power because they do in fact generate our objects. Let me say what I mean by taking them as living processes:

The formation of the concrete body is a living activity. The body is not only what is analyzed and arranged by observers. And it generates objects. By ‘objects’ we mean specific parts of the environment to which the body responds with specific processes.

Secondly, behaviour is not only motion. Motion is a change in position, location-change
(locomotion), so it is a change from someone’s here to there. I will show that behaviour is not just a change of location. It is something like digging holes or building nests or eating. Behaviour sequences alter and differentiate the environment and generate the objects with which we act.

Thirdly, our bodies emit patterns such as gestures, waving hello to welcome someone. Or smiling. And speaking consists of sound patterns. Patterns come from the shape, sound, and feeling of the human body. The shape of the face affects us. Once we sense the patterns of the human body, all other things acquire their own patterns as profiles on our patterns. Then we divide and redesign them to make new objects, so many that it fills up the world's behaviour space. But our most important patterning is not making things but generating our world of human situations. Situations are carried forward with visible gestures and sound patterns. Patterns create situations which are the main objects in our lives.

We can consider these three processes as generative:
- body-constituting;
- behaviour;
- patterns.
Each can explain how the different kinds of objects are generated in the three processes. But to do it we need a new conceptual system.

4. Some new concepts and distinctions

When we know where the here-there split comes from, we can consider an alternative model. This will be able to link body and environment more originally, and first of all in the process of forming the body.

The environment is not only what we observe and study. There is also the organism's own environment, or, as Dreyfus phrases it, the environment ‘from the perspective of the animal’ (2009, p.61). Of course the phrase ‘from the perspective of’ contains the unwanted assumption of here about there, but all our main words assume this. I say ‘we see’ when I mean ‘we understand’, as if understanding were something perceived in front of me. But what could we mean by ‘the organism's own environment’? What is the active organism's environment?

I propose that the active organism does something I call ‘implying’. It implies the environment. The environment may or may not occur somewhat as the body implies. Implying and occurring are two interdependent functions that create one process. Instead of body and environment being two things, let us distinguish between implying and occurring and spell out how their functions require each other. If what I have said about body and environment is true, then they cannot exist without each other because what each is involves what the other is. Together implying and occurring-into begin to conceptualize the inherent relation of body-environment.

Implying never exists separately, only in some occurring. In a living process occurring occurs into an implying. The body implies the environment. The environment occurs-into the body's implying. This will allow us to begin with a single body-environment process (without the here-there split), but with new distinctions.

The body implies both one next environmental occurring and also a sequence of them. For
example, hunger implies feeding. But feeding implies digestion and defecating, and resting, then
getting hungry again. So hunger implies the sequence. But a sequence cannot occur all at once.
The one next occurring will change the implying so that it implies the next occurring and the one
after that. A process is generated when occurring changes implying so that it implies a further
occurring which will further change it so as to imply still further occurings that will change it
further. 4

But what the body implies is never exactly what happens next. The sequence continues if what
actually occurs changes the implying into a next implying. We call that special kind of change
‘carrying forward’.

The first body-environment process is the formation of the body, the first of the three generative
processes. I call it ‘body-constituting’.

Body-constituting is a generative body-environment process (without the here-there split).

How a living body is generated and regenerated has been understood only as science presents
it. Of course we wouldn’t want to do without what we know in embryology and biology. But there
is more we can know if we consider body-constituting as a body-environment interaction
process, not only as analyzed by a spectator.

The forming of the body is a generative bodily process. The body is not first just made and then
turned on only when it is completed. The process that forms the body as a structure is a body-
environment interaction first, before they can be two things. 5

So I propose a distinction between environment#1 (the scientist's observed environment) and
environment#2 (body-environment as a single identical occurring). The body is an
environmental process. It is ‘environment’ in this use of the word.

Everyone agrees that the body is made of environmental stuff, but it was assumed to be
separate from the environment, merely perceiving and moving in it. But if we consider the body's
formation as a body process, then the body is environmental interaction from the start. The body
is identical with its environment in one body-constituting process.

And body-constituting continues as long as life lasts. Certain special kinds of body-constituting
are part of every ‘higher’ kind of process.

I will now discuss how the body-constituting process generates its environmental objects. This
will show how a process can generate objects. I will then discuss how objects are generated in
the other two processes.

5. The body-constituting process differentiates the environment and generates objects

Certain processes become differentiated; they occur just with certain parts of the environment.
This generates specific environmental objects.

I need to emphasize that bodies without perception generate objects. We can take organisms
that have not developed perception as our more basic starting point and model. Let us consider
them ‘from the organism’ (not only as in science). Then I can show that such organisms
differentiate their environment and generate objects.

Perception (behaviour) is not the first kind of object-formation. The body is first constituted as
environmental events and material, and some of this is always present in the environment. But
some of it is intermittent; it disappears and reappears. For example, sugar, water, and light
appear and are incorporated only sometimes. Then the body-constituting with these ‘objects’
becomes separated from the rest of the process (if the organism didn’t die in their absence).
Then the body has separate processes just for these parts of the environment. The moment
they re-appear, just these processes resume. So we call these differentiated parts of the
environment ‘objects’.

But to think this we need to say that when something implied doesn’t occur, the body continues
to imply it. Until something meets that implying (‘carries it forward’, we say), the body continues
to imply what was implied and didn’t occur. If part of what was implied did occur, then only the
part that did not occur continues to be implied. This ‘reiterated implying’ is a basic concept. It
explains how objects in the environment become differentiated. (We will discuss it further in
Section II.)

6. Perception is a part of behaviour; behaviour is a body-environment process

Now how does behaviour generate its kind of objects? Let us not just assume them as already
formed and merely perceived.

Perception arises as a part of behaviour. Rather than assuming everything already in a here-
there perception, we can consider how perception is first generated in a process. That process
is behaviour. I will show that when perception happens alone it is already a cognitively modified
kind of ‘perception’.

But I have to point out that behaviour is not only motion. Motion is just change of location.
Locations are the here-there space. Motion is a change from there to there, something observed
before us. Behaviour is not reducible to something in front of us. It can be understood as a
special kind of body-constituting. If behaviour were merely motion, the objects would have to be
assumed as already formed. Let us consider the generative process that forms and re-forms
them.

Behaviour is a special kind of body-constituting. The kind of body-constituting that generates
behaviour involves bodily-sentient perceptions resulting from the organism’s own doing.
Perceptions and sensings imply each other and carry each other forward. The moment they fail
to carry forward, the sequence stops. (For a detailed theory, see Gendlin 1997a, VI.)

We cannot omit the bodily sentience that comes in each bit of perception. Only both generate
the behaviour sequence. Sentience is not just an added extra.

Sentience is consciousness. All animals (even worms and insects) have this behavioural
sentience which is consciousness. Consciousness is not something merely added to
unconscious experiences. When you drive home while thinking of something else, that is not
unconscious experience. You couldn't do it if you were knocked out. The body must still feel the brake and the gas. The body is conscious. Consciousness is bodily, of course.

Consciousness (sentience) seems to be an essential relationship between one kind of implying and one kind of occurring-into, which forms a behaviour sequence. Consciousness is not a thing, and it cannot just be added to another thing. It is not like shining a light on something that is there as well in the dark. It seems to be inherent in a certain kind of sequence, namely behaviour.

What is striking about perceptions is that the body does not become them. Perceptions are not incorporated like water or sugar. The sentience in behaviour is a special kind of body-constituting. This was always understood in a way. Behaviour was explained as a postponed consummation, for example when food search is ‘motivated’ by eventual ingestion and digestion. But the behaving body soon develops very many new ‘consummations’, new bodily needs for behaviours, and new results of behaviours. These are new body-constituting. Behaviour involves a special kind of body-constituting.

I think Clark (2010) and Rowlands (2007) rightly deny that action (behaviour) involves a ‘subjective’ process which must then be bridged to the environment. The environment is directly involved when we act. But the environment should not be considered external. It is not in the here-there space of perception. Primitive bodies without perception are identical with their own environment. Their body-constituting occurs in their body-environment.

The current authors who want to consider only the ‘external’ seem to want just half of the perceptual split. What I think they really intend is not an externally viewed body, rather the always already environmental body. I agree that the body is indeed always environment, both in body-constituting and in behaviour. Now I turn to patterns.

7. The patterns of human interaction: they are body-environment interactions

In hierarchical monkey societies each male monkey turns his back to superiors and receives the gesture from those below him. They fight if one of them doesn't turn. When male animals of any kind get ready to fight, just the getting ready makes a huge change over their whole bodies. But among monkeys the simple turn takes the place of the whole fighting sequence and so they don't have get ready for it. That huge shift happens in their bodies only if the other monkey doesn't turn. A huge bodily difference depends on a simple turn.

Originally the turn comes at the end of the fight when one monkey turns his back. But by doing the ending before the fight even starts, the gesture short-circuits the fighting-behaviour. It changes the behaviour possibilities as fighting would, but without that behaviour sequence. We could almost say that the turn is like talking about the fighting rather than doing it. If there were a whole sequence of different versions of such turns, as in the human case, that would be a symbolic sequence. It would be about behaviour possibilities, rather than behaving.

We see how symbols arise, continuous with behaviour but changing the behaviour possibilities without any actual behaviour.
Human symbols are different, but we can understand their bodily connection from considering these ‘animal rituals’, as they are called. Animals have a few such body-shifting ‘rituals’, but humans have several hundred thousands of them just in language, as well as many more. Imagine monkeys who cause not one huge bodily shift, but long chains of such shifts in each others’ bodies.

Human patterns enable us to have long chains of bodily shifts and changed behaviour possibilities just with patterns. Spoken language consists just of sound patterns. Written patterns are purely visual. The sound and the visual patterns come in separated sense modalities.

The fundamental role of patterns in human life has not been well recognized. Of course our all-important language consists of sound patterns. But language is not the only kind of pattern that brings large shifts in our bodies. Art makes them with its patterns of lines and colours, light and dark, and textures that are only visual. Music creates bodily shifts just with sound patterns. The bodily shifts can be versions of events from a lifetime, all now implied from one sound pattern to the next. I call the process ‘versioning’.

Human life in situations always involves the patterned bodily changes of versioning. Our patterns create a different world, not just behaviour possibilities. When we use patterns we might not behave overtly at all, except with the throat or the fingers. The patterns can change our behaviour possibilities. But human behaviour possibilities are different for being generated in the patterned spaces. We call those spaces ‘situations’.

Patterns, situations and bodies are inherently linked, and they must be understood together. They cannot be understood without each other. They must have developed together. A new language symbol must have developed to manage a new differentiation between situations. Human bodies produce visual and sound patterns directly from being in the situation. The patterns can change a situation. They involve large shifts in how the body feels the changed situation and newly implies what we will now do or say.

Spitz discovered that infants require human interaction with facial patterns for their normal body-constituting. He found infants in filthy jails with their mothers developing normally, whereas orphans in good hospitals died or were retarded. This is why today in maternity hospitals the nurses regularly pick up the newborns and relate to them face to face.

Gallagher (2005) reports that newborns respond to gestures with gestures—on the first day! If you stick your tongue out, the newborn will do the same thing back at you. Move your tongue to one side and you get the same thing back. They report other findings that show that gestural interaction is inherited in the body. Adults gesture in the dark (and on the phone). Waving is a gesture, not a regular behaviour; you’re not trying to grab something up there. Like hierarchical monkeys, we generate and feel the interactional effect of our body-looks and sounds. Wittgenstein (1953, p.285) wrote “… one can imitate a human face without seeing one’s own in a mirror”. From the body we feel the pattern on our face; we can change it from inside. It is evident that symbolic patterns arise directly from the human body.

Stuart (this volume) points to the crucial missing piece in most theories of language. What she calls ‘enkinaesthesia’ is what I am here calling the sentient half of a behaviour sequence and
the sentience of patterned interactions which is the sequence of bodily shifts I call ‘versioning’.

If we omit the enkinaesthesia we cut language off from how it is generated and experienced by bodies in situations. Then language is considered an ‘external’ system. Yes, individuals are born into a language, but it is generated only through individual chains of bodily shifts (the enkinaesthesia) from which they come.

How do words come? I open my mouth and they come, mostly saying what I wanted to say. What I wanted to say was not already in words. The words come directly from my living bodily in the situation.

The words come already arranged in phrases. They come arranged both grammatically and pragmatically. Of course always both, since they would not have their situational meaning without their grammatical patterning.

We have to wonder how it is that words come already arranged. Then we cannot fail to notice the role of the body. The dictionary doesn't know my situation. My body brings the words directly from living in situations, so they say something relevant to a situation.

Human situations involve behaviour of vastly many new kinds, as well as those few old ones we still share with the animals. We still eat and make love, but our appetite is spoiled if certain patterns don't obtain. We still fight, but now we do it in many new ways. Our behaviour possibilities are situation-changes. We don't mainly feel the behaving we are doing; we mainly feel the situation and how we are changing it. That sentience implies the next thing we do or say.

Given this intimate bodily connection of signs and situations we certainly cannot assume that our signs came about accidentally or by conventional agreement. Different patterns can develop in different places, but they develop in the same way and they are incredibly long-lasting. In *A Process Model*, VIIB (1997a) I have a long piece on how sound patterns develop and differentiate situations. The so-called ‘signifiers’ were long thought to be arbitrary and unrelated to the ‘signified’ but this is certainly not the case.

Why am I arguing about this? It is because I want to bring home that human patterns carry our body-process forward, and that this is neither subjective nor external. Pattern interactions change situations and differentiate our environment.

Our symbolic patterns are generated by bodily process, and bodily process is body-environment interaction, so the patterns differentiate the world. They should no longer be called ‘inter-subjective’.

What has been asserted in short form should now be filled in at a few points. I rely on some readers turning to my *A Process Model* (1997a) to see the whole work.
8. The three body processes occur *directly* in the environment

If we consider the three living processes not as truncated by the hidden perceptual split, but as generative and explanatory, then they can explain the ‘background’. It is always in process, always the present body-environment interaction.

We shift *from the implicit to implying*. The ‘implicit’ is not a store of past things; rather it is the present activity, a process, an implying. The great number of things people can find in a background are all functioning, but the present doesn't repeat old pieces; it *regenerates* the past. The present would not be what it is if the past had been different, but present living changes how the past functions now.

Present experiencing consists of implying and occurring into implying. The body implies the environment. The environment occurs directly into the body's implying and carries it forward into a further implying.

The body lives *directly* in each of our situations. That explains why our bodily implied situations contain so much more than could ever be enacted even in our thinking. What actually occurs—what we actually do, say, or think—occurs into the implying and further develops the situation.

All three living processes function to enable the body to imply so much. The body-constituting always continues and it is also a part of behaving. Both are involved in patterned human living, which is why we are *sentiently* sitting here, able to sense ourselves.

We are not unconscious of this bodily sentient ongoingness. We would be shocked if we suddenly didn't feel it, with its familiar sense of ‘knowing what we're doing’. The body has to be understood as at least all three of these living processes, always freshly reconstituting itself.

As Gallagher (2005, pp.37-39) has pointed out, the body-constituting includes micro-processes that are not themselves conscious but are directed by conscious behaviour and gestural interaction. The body-constituting is determined by action and speech; the muscles and nerves act to provide just what we want to do and say. The three processes are different but they constitute one implying of one next environmental occurring. They occur directly into environment which is thereby being regenerated.

So we need to distinguish another sense of the word ‘environment’: We need to speak not only of environment #1 and environment#2. There is also the much larger environment that the body *goes on in* and regenerates by going on-in it.

Let me set out four uses of the word that we need.

9. Four uses of the word environment

*Environment*#1 is the scientific observer's view. We keep it distinct and move back and forth, developing it in reciprocity with the wider view.
10. Body-constituting and object-formation

I re-emphasize that the most basic way the body forms objects does not involve perception or detectors that work like perception. The objects are differentiated in the process of body-constituting. All ‘higher’ kinds of object-formation involve body-constituting.

In our model the body implies sequences. How do objects that stay the same arise from sequences? How does our model supply an inherent connection between process and object? This worked itself out in detail in chapters IV to VI as A Process Model (Gendlin 1997a) grew slowly. If those arguments are not wrong, we can answer: As I said briefly earlier, when the environment cooperates, something like the implied sequence occurs. When there is no cooperation the body dies, or if enough of it can go on, it implies the unmet part over and over. If it goes on living, the body keeps implying the part of the process that did not occur. What is not carried forward becomes a reiterative implying.

Some missing aspects of the environment never return, but some come and go. The changing environment provides intermittent cooperation, for example the sun sometimes shines and
sometimes it is dark. When the sun rises, a plant does incredibly complex things. When water comes, its body expands. So we say that the plant 'responds' to just these environmental aspects. It responds not by perceiving them but by incorporating them, doing its body-constituting with them. It doesn't need a separate perception or detection of the sun or the water in addition to incorporating these parts of the environment. The body is its body-constituting interaction with them. It is its environment #2, the body-environment interaction with them.

Because these body-constituting interactions were constantly implied, they suddenly occur when these environmental 'objects' return.

The observer sees the plant doing complex photosynthesis in response to the sun. This complexity surely doesn't come just from the nature of sunlight and water. Obviously the organism contributes actively to the interaction. It brings a background of reiteratively implying that specific process. Then the process occurs the moment there is light and water.

Distinct and separate processes have developed in relation to just these differentiated parts of the environment. These parts have become objects. This kind of 'object' seems odd because the word usually means a perceived object.

We gave names to the two concepts we developed here. How a missing process is implied over and over I call 'reiterative implying', and when a carrying forward object occurs I say that it 'resumes' the process. This is a way to conceptualize that mysterious power of objects to elicit relevant processes from organisms. We conceptualize it as a body-constituting process.

In the observer's environment #1 it matters very much whether the implied object is familiar or new. We can do a lot about familiar objects. For example we can provide water and artificial light. We can often improve the resuming objects. It is quite different for us when what is next implied is unknown. But for the body the resuming object is always new.

A reiterated implying is always new and regenerating. And it is always open to whatever will carry it forward. Even if what does carry it forward is new in the history of the world, we can say that it 'resumed' what was implied but missing. For example, we have an unsolved problem as a reiterated implying of a next step in a process that does not continue. When a solution comes, we can say that the missing process has 'resumed'.

Here we see one way a background functions without representations. The body-constituting process doesn't need them to 'recognize' light and water.

Now let us turn from body-constituting to behaviour. I need to show that behaviour generates a 'space' of behaviour possibilities. We perceive objects in the space of behaviour possibilities, not in pictures that are just colours. Perception is first generated in behaviour, not as just a picture here about something over there.

11. The space of behaviour possibilities

We perceive in the space of behaviour possibilities. We perceive what we can do with objects. Objects are clusters of behaviour possibilities. Many possible behaviours come with any object.
The objects exist not just in locations but in the space of behaviour possibilities. That is the behaviour space in which we act and perceive.¹¹

Perception does not consist only of momentary intakes from the sense organs. We perceive objects in the wider space of behaviour possibilities. The momentary sensations come into the wider behaviour space.

The organ intakes are separate colours, sounds, and smells, and so on. The separate intakes come into the behaviour space. We perceive behavioural objects, not just colours and sounds.

Yes, humans can also analyze their perceptions into colours just as colours, and sounds just as sounds, but this is a cognitive capacity. You can't get the dog to do it, and you can't get a human to do it, for example, while a car is coming. If we are hiking down the middle of the road and hear a car coming, we immediately move to the side of the road. What we heard was the car, not a sound. Once on the side of the road, yes, we can examine the sound just as a sound, as we do in language and music.¹²

Therefore let us recognize that the old reduction of experience to five separated kinds of sense data is an indispensable analysis, but it is a cognitive symbolic cultural product, not the start of experience. (Seeing this makes large changes in our theoretical assumptions which I cannot discuss here.)

The dog never sees colours as colours, sounds as sounds, or smells as smells. The dog sees me coming, sees that I'm eating food, and would like some.

Humans can perceive colours as colours, and sounds as sounds. Patterns are just visual or just auditory. Only with patterns that are just sound can we speak. But like the dog, we primarily perceive the objects. We perceive the food we could eat. We take it out of the oven and see that it is still not cooked enough and we have to put it back.

We perceive changed possibilities. We perceive that someone could walk in because the door was left open.

When what we could do with an object has just changed, we perceive not only the object but the fact that what we could do has changed. We perceive that we can't go for a walk now because it has begun to rain. We perceive that an object with which we could have done behaviour X has just changed so that now we cannot do X, but now perhaps we can do Y.

We perceive that the steaming water is too hot to drink, that is, we perceive it in the space of behaviour possibilities. We perceive that the dusty chair needs brushing off before we sit in it.¹³

Because the body perceives objects as behaviour possibilities, therefore we can do skillful actions with the body without first having a separate perception (a ‘just-perception’, I call it) to see how we can. Without first just perceiving how I will do it, my hands rotate the empty pot so I can grab the handles. Similarly, Damasio (1999, p. 129) observed that before he perceived it, his body had switched his cup of coffee from one hand to the other so he could grab the banister.
Even when we have no organ intakes from the things at our side, we perceive that they are still at our side. We perceive that we could turn to them. For example, I find my thumb sticking out to hold back the stack of papers next to me on my easy chair so they don’t fall on the floor as I get up.

My thumb move comes because my body implies sequences. It implies how the space of possibilities will change as I get up. So my thumb moves as I get up. Many sequences function implicitly in the coming of any one next behaviour.

We perceive the space and objects behind us (as Merleau-Ponty said, and I explain). We perceive and walk in a space in which we could back up or turn around and go.

We would be shocked if we suddenly perceived that there was nothing behind us, a sheer abyss into which we would disappear if we backed up.

If ‘perception’ is defined only as the present organ intakes, then the behaviour possibilities have to be considered ‘interpretation’, something ‘only internal’, therefore ‘subjective’. But behaviour possibilities are not subjective. The space of behaviour possibilities is environmental interaction.

An intake in a single sense is never perceived alone; it comes into the space of possible behaviours with objects, and it modifies that space. Behaviour objects are not constructed from momentary separate sense data alone.

The body implies objects because it implies behaviour. In behaviour the objects are implied in all five sense modalities. The body implies five-sense objects even when only one sense is coming from one organ just now. A behaviour that is now forming can be modified by a single organ intake. If there is an intake from a second sense, it would also modify the ongoing formation, so it would join the first intake. This explains Gallagher’s ‘intermodal’ perception (2005, p.160). He has established the concept of ‘intermodality, but how the connections occur has remained a question because of the assumption that perception consists only of separate intakes from the different organs, although no neurological connector has been found. (Newborns connect the five modalities long before neurological connections develop.)

The analysis in terms of organ-intakes is valid and highly useful, but perception cannot be conceptualized only as organ intakes. We perceive in the formation of behaviour.

Now let me show that the body implies a field of interrelated behaviour possibilities in the formation of one next behaviour.

**12. The field of interrelated behaviour possibilities**

Let us ask: How are behaviour possibilities interrelated? Each object comes with many possible behaviours (Gibson called them ‘affordances’; 1966, p. 49). Behaviours are not mere motions, not mere changes in location. We perceive objects with the ways we could behave with them, for example hold them, or push them, eat them, sit on them.
If we consider just the things, they appear to be side by side. But the possible behaviours do not appear side by side. Let me expand this key point: Behaviour possibilities are not side by side. An object is perceived in a cluster of possible behaviours. Only the objects are spread out side by side in location space; the behaviour possibilities (what we can now do) are organized in a different way. The behaviour possibilities constitute an implicit space that is quite different from the space that consists just of objects. How are they organized?

As I said, a behaviour changes the other behaviours that can now be done and how they can be done. If we kick the ball we can no longer pick it up and throw it. If we kick someone, we can no longer fondle the person, or the fondling will now be a comforting. If we boil the eggs, we can't then fry them. Each behaviour is a change of the cluster of implicit 'cans'. If we do this we can no longer do that, or not in the same way as before. On the other hand, after each behaviour we can do some that we couldn't do before.

A behaviour is not only itself, not only what occurs. A behaviour changes the implying of the cluster of behaviour possibilities. It alters the cluster in which it occurs. It occurs in the new cluster that its occurring has changed. Again we see: the past, the background, the 'context' in which something new occurs is the regenerated context, not the past. The behaviour occurs in the changed cluster.

Each of the other behaviours is also such a cluster-change when it occurs. Each of the many possible behaviours is a cluster that includes the one behaviour which just occurred. If the behaviour that occurred is new, each of the possible behaviours now has the new one in its cluster.

The many different consequences are necessarily taken account of in relation to each other. Each behaviour possibility interrelates the consequences of the possible behaviours in its cluster. The one behaviour that comes re-forms the cluster of all of them.

We see the precision: Each changes the cluster in its own precise way and not like any of the others. Each is a different change in how the others can happen. The cluster consists of precise interrelations.

The items that the background is said to contain are not independent items. As part of behaviour possibilities each is a change in the possibility of the others. In later examples we will see that humans have many different situations, each of which is such a cluster.

13. Immediate formation is forming-into

Because a behaviour is also the cluster-change, therefore the change is immediate, not first this which then affects that.

Now we can further explain the taking account of the past. Since the very forming of a behaviour is also the re-forming of the cluster of behaviour possibilities, therefore it is a taking account of the way the others have been possible. It is by changing them that the behaviour takes account of them. How it goes on in the previous changes the previous.
Behaviour forms-into the implicit cluster of behaviour possibilities. Therefore a behaviour does not form without (what we called) ‘taking account’ of the previous moves (the cluster of other behaviours). Its forming and coming is implicitly also their re-forming.

This is the reason why the taking account happens in the very coming. The coming is the taking account of the other possibilities, because it is also their re-formation. So the behaviour cannot form except by forming into them.

And a behaviour cannot help but be a precise taking account of the others in the cluster that it forms into, and of which it is a present re-forming.

I want to have shown that the body implies a field of interrelated behaviour possibilities in the coming of one next behaviour. This is one instance of how the ‘background’ functions, ever present and precise. The past functioned in the present process without needing to be reviewed. The present process implies and enacts the next behaviour without needing a preview of it in advance.

Now I take up two examples of interrelated possibilities, both from humanly patterned interactions.

14. Implying and taking into account: two examples

Consider the special case when we work on a problem. At first nothing comes. If we are asked about the problem, we can easily say many things, why it matters, how it came about. Many old thoughts are implicit, but if we aren't asking about those, they don't come. Nothing comes to advance the problem.

This ‘nothing comes’ is really quite smart. It involves the implicit knowing why the old thoughts have no chance of providing even a small advance on the problem. What does come can include very unlikely ideas that fail examination immediately, but the old answers do not come.

You can feel when a thought has the slightest chance of advancing the problem. It might be a big idea or only a little lead. What came might fail immediately, but if it came at all, it had some slight chance to move the problem.

Of course the ‘nothing comes’ is not plain nothing. It reproduces the problem over and over. It is the continually regenerated hold we have of the problem. If you get distracted you may lose hold of ‘it’. Then you work to have your sense of the problem come back. ‘Oh, yes, there it is again’. Any new thought goes on in this reiterative implying, and carries it forward.

You can observe in detail how your knowledge has implicitly functioned, if someone asks you about one of those old well-known thoughts. You are immediately ready to lay out quite logically why it won't advance the problem. You could show how each old answer about which you are asked has functioned implicitly in not coming. Each old thought you consider turns out to have functioned precisely and logically in not coming.

We can see how this intricate process has happened. No implicit store of old knowledge and
experience has occurred. The actually functioning background is not the old products but a new implying which may produce a new occurring—or not.

Rather than repeating the past, the new implying further develops the past by implying something new. We have seen that the process accounts for each item from the past precisely, but we have not yet explained how it can do that. My next example should show how it can see the concepts and what they do.

15. A second example: chess masters

Dreyfus (2009) has pointed out that chess masters make new moves without deliberating. They don't spend time considering each of the many possible moves. Only the new move comes to them. We are explaining this. Masters have spent years studying books of games; they know many possible moves at any point. Now they don't have to run through all those old moves (as the computer does). Those moves don't come to mind to be considered. We have just explained why nothing comes until a promising move comes.

The master doesn't deliberate when playing with ordinary players. When masters play each other, they want every minute of allotted time to examine the move they are about to make. Several new moves may occur to them, but certainly not the many old moves.

A new move has to be examined by seeing its consequences many moves ahead. The coming of the new move has already accounted for the consequences of each possible old move, and these consequences in relation to each other. Any of the old moves would result in problematic situations in which the new move is already more promising.

As in the previous example, we can see how all this has implicitly happened, if we ask the master about any one old move, 'Why didn't you do well-known move X?' The master would be ready to reply by comparing the possible consequences of the old and the new move.

To compare old and new consequences many moves down would generate a new logical system. Of course the system could not have been created before the new move came. The move is the source, not the result of that system. It compares the old consequences with the new ones that the move just brought. The new consequences are new units, implicitly created in the new coming.

If not asked about old moves, the master does not think those, but uses the time to examine the new move by generating its consequences one by one, separately. This might reveal some possibilities that need to be pursued or avoided. Here we can see how logic and implying expand each other reciprocally. The new move was more than the old units, but laying it out by generating new units from it makes still more.

Again we see the inherent precision with which the implicit background functions. A next occurring is precisely implied. Nothing occurs that does not carry this implying forward. The implying is the opening for the unknown occurring which will carry it forward. It does not have the form of a finished product; it is the continuing of the process from the finished products to something that has not yet happened. When it comes into the implying it will change the
implying into a further implying. Then we can generate new units that can lay out how what came took account of what already existed.

This process happens not only in chess, of course. A new thought can come in any situation, and when it does we examine what follows from it. We do that by generating the new units which are precisely implied in it, just these and just so.

_Humans_ live in _many_ situations. If you are reminded of another one, you can change your plans in it, or go to take care of something in it, then return to chess or the problem you were working on. We move between situations. Only some of them are problems, fortunately, but _each is an implying where new ideas come only if they carry our old knowledge forward_.

The problem we are working on is kept separate from all our many other situations. They are all _kept neatly separate_ from each other, each in its own history and precise detail. They are _not merged_, but they do have multiple interconnections because some of their details are related to some other situations.

How can we understand this ‘holding’ of the separate situations? The holding is the implying of a next which has not occurred. When it doesn't occur, the implying repeats over and over (if some of life did continue). We discussed this earlier and called it ‘reiterative implying’. What holds each situation is a reiterative implying. When we _act in_ a situation, the reiterative implying is a kind of background that holds the situation so that we ‘know what we’re doing’ and which situation we’re in, and so that we bodily feel how to meet the situation.

16. Carrying forward differentiates and expands the world

Are cognition and behaviour ‘really’ in the world of body-constituting, so that we humans live on the plane of the bacteria, or are behaviour and body-constituting ‘really’ in the vastly larger cognitive world which humans discover? And the answer has to be: _both, of course!_

If we said only one or the other, we would have either the usual scientistic reductionism (we _are_ our brains and tissues) or the old idealism in which reality was the order of thought. But our model can show exactly how they are in each other, resulting neither in reductionism nor idealism.

Gallagher (2005) has been saying that the body provides necessary structural events, but they are directed and shaped by the cognitive level.

> When in the context of a game I jump to catch a ball, that action cannot be fully explained by the physiological activity of my body. The pragmatic concern of playing the game … even the rules of the game … may define how I jump … (142-3).

_How the rules of the game exist in the muscles (how each ‘higher’ process is in each ‘lower’ one) cannot really be anything else than how the muscles exist in the patterned interactional world (how each ‘lower process’ is in each higher)._ The rules _direct_ the muscles because the rules are a training _in_ the muscles, which is possible since human muscles grow in a patterned interactional world. There is only one implying which has to be said both ways. That the rules
are in the muscles is the same fact as that the muscles are in a cognitive cultural world.

*Human* body-constituting and behaviour now form in the patterned situations in which we live. The body implies its situations even when we sleep. Psychosomatic effects are not mysterious. And conversely: the pattern sequences involve a kind of behaviour and body-constituting.

The fact that structural events are needed to jump in the game shows that we still behave and body-constitute, although all in one process with playing a game.

The three living and generative processes each differentiate the environment. What exists is differentiable. The pattern sequences with which we interact change the world. Things come onto our body patterns where they cast their profiles, which we then divide, analyze, move, and change with our scientific patterns. The things are byproducts of the pattern process which creates the human world of situations in which we live. *The pattern process of our inter-human situations differentiates the world.*

17. Conclusions

The background is not something that occurs separately; rather it is always regenerated in what presently occurs.

We probably knew that the background can't work when a person is unconscious and that it is not an infinite number of actually occurring entities, nor a fuzzy merger. If the background were a fuzzy merger it couldn't make for the relevant environmental responses that it is meant to explain.

We knew that the background functions ‘implicitly’ but how something implicit functions couldn't be explained, because we had concepts only for something presented before us (an appearance, perception, object, entity.) *But we can consider anything like that as a product generated by a process.* With a model of products and process we can explain how the background functions implicitly.

With our new distinctions using the word ‘environment’ in four ways, we can specify in what exact way body-environment is a single process. We can distinguish between implying and occurring-into, two interdependent functions which create that one process.

The process always *generates* the events. It does not consist of already-formed products that are repeated or rearranged. It always *regenerates* its past. And the organism is interaction with the actual environment, unpredictable and unknown until it occurs. The implying and the occurring into it regenerate the body-environment.

We cannot logically deduce the present from the past, but we can always find (and with new units exhibit) how the regenerating took account of the past. We saw the precision of this taking account, for example when a new chess move comes. Then it can be shown logically and precisely why its consequences are superior to those of any one of the old moves that did not come. The not coming is the present implying and occurring. We can show this in thinking about any problem.
If the three processes we discussed (body-constituting, behaviour, and patterned interaction) are considered as *both living and generative*, then they can *explain* what will otherwise be only asserted. But they have to be distinguished; no one of them can explain what the other two generate.

When we have distinguished them, we can see that body-constituting is an essential part of behaviour and both are essential for patterns. The development of the three is also the development of the body. That is why the human body generates behaviour and patterns. These three generating processes will always exceed their products. Finished products are alive only in the present process that regenerates them.
REFERENCES


Goodall, J. (Personal communication).


Margolis, J. (this volume) ‘Contesting John Searle’s Social Ontology: Institutions and Background’.


1 Dreyfus has been 30 years with the extremely unpopular message that computers will never become able to replace human intelligence. He pointed out that humans don’t have to run through their stored-up experiences as computers do, and are not then limited to doing one of those, as computers are.

Here I quote from his (2009) article.

“It seemed to me, however, that the deep problem [for artificial intelligence] wasn’t storing millions of facts; it was knowing which facts were relevant …” (p. 41).

“The problem is an artifact … from the perspective of the researcher rather than from the perspective of the animal …. But, according to Freeman the cell assemblies are not just passive receivers of meaningless input from the universe but … are tuned to … respond directly to significant aspects of the environment … on the basis of past significant experience” (p. 61; my emphasis).

I think this answers his question only if we can also explain how ‘past significant experience’ was possible in the first place, and then also how the past functions in the present without needing to be gone through, as a computer does.

2 See Collins (2009). “What is missing is any understanding of the difference between human and animals.” “... in the case of humans the main determinant … is not the body but language. ... The obsession with the body … is misplaced (p. 80). What is needed is to understand socialisation …” (p. 84) I agree with him that the human//animal difference has not been understood, but this applies as well to the human body.

I don’t agree with the rest of what he says, but he is the only one I know so far pointing to the difference between two of my generative processes.

3 Evan Thompson (2005) writes that the living body is “organized as a self-producing and self-maintaining network,” and he calls this the “core form of biological autonomy” (p. 407). But then he goes directly to saying that “this core form is recapitulated in a more complex form in metazoan organisms with a nervous system” (p. 407). Thereafter the whole discussion assumes perception.

4 Implying always implies many sequences, always many in one. It implies one specific next environmental event. Even the most primitive organisms and single cells imply many sequences, many processes. The implying is much more than could occur at once.

Because implying implies sequences, therefore occurring into implying generates a more complex kind of time than just now now now now, as if there were only occurring occurring occurring occurring. (See my A Process Model, IVB).

5 This is of course an odd use of the word. This ‘interaction’ is prior to two separate things that
would first meet in order to interact. I call it ‘interaction first’.

Developing more behaviour involves body-constituting. In every species all the parts of the body are formed so that it can enact its behaviours. Obviously body and behaviour formed together. We see body-constituting also in the finding that every species has ‘fixed action patterns’, behaviour that the body will eventually enact if no occasion for it presents itself for a long time. There is no doubt that behaviour is inherited along with body structure. This definitely includes human gestures and the capacity for art and sound patterns.

The fact of inheritance should not be used to explain behaviour and patterns; it rather needs to be explained. It involves a body-constituting process that is part of the ‘higher’ processes, behaviour and patterns.

Stuart and the others are quite right to consider all this as interactional and inter-human. People are not in situations only as individuals, but always with others. I would only point out that this doesn’t begin with culture. Many animals have very complex relations with each other. In many species their most numerous behaviour is with each other and some of them clearly feel each others experiencing. (For example, Jane Goodall [personal communication] described how when a young monkey was injured, his little sister held the two sides of the cut together and comforted him.) Bodily inter-personal sensing originates much earlier than humans and culture.

Stuart recognizes this with her term ‘agents’ which applies to people and animals.

I recognize that people intend this word to mean not-subjective, but it still assumes that human living is something alien in a real world modelled on our not being here. So it still makes the world we live in seems to be ‘inside’ us.

For more, I refer again to A Process Model and articles all available on www.focusing.org (Philosophy of the Implicit).

The words ‘organism’ and ‘body’ differ, partly because the latter is still often used to denote only the body structure. I will argue for a structural-behavioural-symbolizing body nearly as wide as ‘organism’, except that the latter can include the person. The person-body relation is a large topic I cannot go far into here. It involves a crucial variable: attention. Attention is being studied separately, but still in the old Gestalt model. See Arvidson (2006).

In our TAE (Thinking At the Edge) a kid asked: “Am I my body or do I have a body?” A fast answer might have been: “Neither, as you recognized or you wouldn't be asking. And good for you for seeing it! The answer is that it's this way, the way you have here. We don't have good concepts for it yet.”

In this article I use both words. I follow current usage with ‘organism’ but I emphasize how the body becomes able to provide the implicit background. The body lives directly in our situations so that attention to the body can reveal more of me than I knew. (See Gendlin, 1978/2007; 1993).

Current theory assumes ‘sensory-motor coupling’. But I would predict that there won't be clear
findings until behaviour, rather than just motion, is assumed to be coupled to sensing.

Aesthetics will greatly profit if it is understood that pictures and music involve not just behaviour and perception, but the purely human capacity to see colours as just colours and to hear sounds as just sounds. These are processes with patterns, only visual or only auditory. Patterns create and differentiate the many different situations as well as a world of art, music, and technology. Patterns make vastly many more versions of bodily sentience than behaviour can. Pattern process is a versioning.

The fact that what we perceive is so much more than our momentary intakes is supported by the unexplained finding that only a murky 20% of the clear scene we see registers on the cortical measures at any one time. See Mahoney (1991, p. 100 ff).

Of course the chess rules form a conceptually limited scheme which is not changed by a new move. There is probably a limit on possible new moves so that the computer might eventually contain all possible moves and regularly defeat chess masters as it has sometimes defeated Kasparov. Our situations always remain open to present regenerating.


All patterns derive from the human body. Our bodies feel and enact the patterns of how the body looks and gestures or sounds in interaction. Human bodies imply patterns along with all implying. Because the tree comes onto our human body patterns, it reaches for the sky. It comes onto our chemistry and mathematics. On our patterns the things really have their own patterns by which they can be taken apart and altered. New patterns can be moved onto things that never had them. With humans the patterns of the world come loose.

Citation:

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