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## Introduction for the English edition

This book presents a rather long conversation that I had with Bernhard Poerksen about the history of my work on the biology of cognition. It is no more but no less than that. So I have not much more to say in this short preface than what I have already said in the book. Yet, I would like to add some reflections on how I lived what the book tells. In particular I will reflect on three basic turning points that I lived while I was working in what became the biology of cognition and the biology of love.

The three turning points that I am talking about occurred to me in relation to my becoming aware of the systemic implications of three ordinary features of our daily living. They were the relational nature of questions, the ordinary fact that we commit mistakes, and our normal daily trust in the repetitiveness of natural phenomena. Of course I knew that questions take place in the relation of the person that asks the question and the person that answers it. Of course I knew that I committed mistakes, and of course I knew that I trusted the regularity of natural processes in my daily living. The expansion in my awareness referred to my becoming conscious of the consequences of acting in the awareness of what those ordinary circumstances and processes of our daily living entail for our doings and our understanding of what we do. Let us see:

### Questions and answers

If we attend to the relational nature of questions and answers, we can easily see that the person that accepts an answer to his or her question determines in his or her listening what makes the answer that he or she accepts valid for him or her. Whatever the question may be, it is a constitutive feature of the question answer relation that the person that accepts the answer determines what makes it a valid answer. Yet,

this is not a peculiar feature of questions and answers; in every relation in which something offered is accepted, the person that accepts what is offered determines the truth, value, or adequacy of what is accepted. Of course what I say is not new, indeed is well known. Yet, if we accept that that is indeed the case, we cannot henceforth ignore in what we do that nothing is true in itself, valuable, adequate or acceptable in itself. Furthermore, if we accept the implications of what I have said above, the following questions arise: what is to know? What is the sense of fighting for the truth? When a scientist asks a question to nature and obtains an answer through experiments or observations, is he or she aware of the fact that it is he or she who determines the validity of the answer obtained, by choosing the criterion that he or she uses to accept or to reject the results of the experiments or the observations?

When I became aware of the fact that it is the observer who decides the validity of what he or she accepts as valid, and that that is a constitutive feature of the relation question and answer, I realised that the questions proposed above had to be answered taking that into consideration.

### We commit mistakes

We live as if we had in some way a direct or an indirect access to that which we call reality to validate our statements or explanations. Yet, we commit mistakes. We say that we learn through our mistakes, but we punish others, whoever they may be, politicians, children, scientists, parents, philosophers... for the mistakes that they commit. What does this reveal? We treat mistakes as serious failures in our behaviour that reveal a guilty blindness in front of a reality that we should see because we have the ability to do so.

If we ask ourselves what occurs when a mistake is committed, we shall easily see that a mistake is an action done in the honest acceptance of its validity in the moment that it is done, and that is later devaluated as a mistake in relation to an other action whose validity is accepted without doubt. But, to the extent that this is so, mistakes are not mistakes in themselves, they are not failures, they do not reveal our blindness about reality. Mistakes do not happen in the moment in which we say that they occurred, they happen afterwards when we compare actions occurring in successive moments. We do not know that we commit a mistake when we commit a mis-

take. Mistakes do not occur in the present, they occur afterwards. If we had known that what we were doing was not valid in the moment of doing it, we would have been lying. Mistakes are not faults, mistakes are not failures of our capacities, mistakes do not show our limitations, mistakes arise as reflections on the course of our doings. But, if we do not know in the moment in which we do whatever we do, whether we shall later see that doing as a mistake in relation to something else which we do not know either if we shall later see this other doing as a mistake, in what sense could we claim to have access to an independent reality to validate what we do? In what sense can I claim that I know the truth, or how things are, if I do not know if I shall later think that such claim was a mistake? Why should any one be punished for committing a mistake? What is to know, then?

When I became conscious of the fact that mistakes are not in themselves, that they do not occur in the present, and that they occur after the action that is later called a mistake has been done, arising in a posterior act of reflection, I thought that the question "what is to know?" had to be answered accepting that we never know in the moment that we do what we do if we shall later call it a mistake.

#### **Trusting the repetitiveness of nature**

We move in daily life trusting that that which we call nature is repetitive, trusting that that which worked once will work again if the proper conditions are realised. This trust is the fundament of all that we do in our daily living, whatever this may be, cooking, gardening, science, technology or philosophy. This, of course we all know. Moreover, we all know that the things that we make, as well as those that are natural, operate according to the way they are made, and we trust that. Of this we are probably all aware as we operate in our daily life. But of what we are not all aware is of the fact that to the extent that natural and artificial "things" operate according to how they are made, we cannot specify by acting on them what happens to them, and all that we can do is to trigger in them changes that arise determined by the manner they are made. We as living systems are not an exemption, as molecular entities we are like all other molecular entities, and what happens to us at any instant is determined in us by the way we are made at that instant, and not by the external agents that impinge upon us.

When I became conscious of the fact that external agents do not specify what happens in us, and that they only trigger in us changes determined by the way we are made, I asked myself, what is to know then? How will anything external to me tell me anything about itself if what I see, hear or accept, is determined by the way I am made? In these circumstances the question, what is to know? has to be answered accepting as part of our natural existence the fact that nothing external to us can tell us anything about itself.

As I became progressively aware of the broad implications of these features of our daily living, my understanding of biological processes expanded and began to change. I began to be aware of the processes that gave origin to whatever I distinguished, and instead of asking about how things were, I began asking for the processes that gave origin to them, and for the criteria that I used to accept the answers that I considered valid. This book is thus the history of a change of question, the history of going from the question how is that?, to the question, what criterion do I use to claim that something is as I say that it is?

#### **Reflections**

In this preface I am doing a philosophical reflection about my work because I am reflecting on the fundamentals of what I say, not because I am a professional philosopher, which I am not. All human beings do philosophical reflections when they ask about the fundamentals of their beliefs or of what they think they know. I also think that one does science whenever one proposes a process that would generate, as a consequence of its operation, some experience that one wants to explain. This book is also the history of some philosophical reflections and of the scientific answers to which the questions that arose from those reflections.

As such in this book I tell my life, and I thank the reader for making me the gift of reading it.

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Santiago de Chile, April 2004*