

FUNDAMENTAL PRINCIPLES
FOR A THEORY OF CONSCIOUSNESS*

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For millennia philosophy has considered it one of its main tasks to give an account of how humans »develop« or »achieve« knowledge of reality. Ever since the development of sensory physiology from which psychology evolved during the last half of the 19th century, psychology has considered it to be a matter of *empirical* investigation to account for this fact. In current empirical psychological research on perception and cognition this task is often defined as the problem of explaining »whether« or »how« it is that we perceive reality as it is or the way we do, or »how man processes information about reality«. ¹⁾

As I shall try to show, such explanations will always start from the dualistic assumption that it is possible in some way or another to »divide« reality into a »mental« and a »physical« part which can be opposed, the processes and interactions of which we can describe – thereby explaining how it is that we come to know reality as we do. As an example for my analysis of this basic assumption – which is at least as old as Descartes and in psychology in general as deeply rooted as it is unfortunate – I have chosen J. J. Gibson's theory of perception and his attempt to solve the »problem of perception« empirically within the framework of this dualistic assumption.

**The impossibility of explaining the »problem of perception«
empirically within perceptions psychology
– analysis of an example**

According to the Cartesian »two-world-legend« underlying Gibson's as well as most other theories of perception today, perception is a process which roughly can be described as starting in a physically describable external world – a world that can be correctly described as it is only in terms of physical concepts and descriptions – and which terminates by our experiencing something, i.e. by an experience, a phenomenon of consciousness or a percept.

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It is, however, a fact that the physical world can be described in a multitude of ways even in strictly scientific physical terms, so one of the main problems for a psychology of perception in describing the various steps in the process between the physical world and our percepts has been to find the *adequate* description of the stimulus. That is, the description of the stimulus which our sense organs are capable of picking up and which »carries« information about reality.

Another problem has been the problem of specifying how the sensory information is processed in our CNS or by the different »levels« of our cognition.

This is a conception of the processes of perception by which it is assumed that we may find an answer to the question of how it is that we perceive the world as it is or the way we do – that is, when the various steps in the process have been adequately and exhaustively described. It is the standard view today, notably in Gibson, but it has not been without problems. Some of the problems which have so far and quite naturally been considered are first of all the problems which were the stumbling block for Descartes' and Locke's critics, namely how physico-chemical processes in the organism – no matter what type – can possibly become the experiences of percepts of the every-day world of objects which occur in our consciousness. Another problem which has concerned the psychology of perception is the problem of specifying just what is the adequate stimulus emitted from the physical world. Thus, the description or definition of the stimulus in purely physical terms as a quantity of physical energy seems to imply, that the stimulus has no significance in itself and therefore cannot specify the world from which it originates. Packages of energy bear little resemblance to objects, space, persons, language or symbols – but nevertheless appear to be the only entities capable of exciting our receptors.

The problem is rendered even more intractable by the fact that the proximal stimulus for a given object is continuously changing as a result of, for example, the continuously changing position of the observer, so that one must assume that countless different stimulus-patterns can cause or give rise to the same percept. Perception-psychologists have fought an almost hopeless battle to construct theories explaining how different stimuli can cause the same percept, i.e. theories which explain the phenomena of constancy.

It is exactly on this point Gibson suggest a solution in his theory of perception. His optimistic view is that it is reasonable to suppose that an invariant response must correspond to an invariant stimulation, and that in spite of the difficulties it must be possible to find invariant components in the confused multiplicity of proximal stimuli.

In Gibsons opinion (1950, 1958, 1966) the adequate visual stimulus is light, which travels freely through the medium of empty space and which can be picked up by the eye at any point where it happens to be. More spe-

cific it is the »Optic Array«, that is, rectilinear propagations of light, projected in accordance with the laws of geometrical perspective, which is the physical basis of our visual perception.

In accordance with the view that it is the conditions and relations governing normal every day perception with which we must concern ourselves if we are to gain any knowledge of how and why we perceive objects as we do, it must, furthermore, according to Gibson be the geometrical projection of the object and its *background* which must be the starting point of our analysis of the stimulus – and not the perceived objects considered in isolation from their background, as was previously customary. The basis of Gibson's descriptions of stimuli, thus, is ordinary rooms with tables and chairs, pictures on the walls etc. – and the descriptions of the stimulus itself are descriptions of these very spaces and objects as they appear in a geometrical planprojection corresponding to the retinal image. (See also Gibson 1979).

Gibson's analysis of these geometrical plan-projections now reveals that they contain many different forms of »gradients«, »high order variables«, etc., which to Gibson suggests that in the optic array emitted from the surfaces of the objects and their background there exist invariant structures which specify the properties of the world.

His theoretical position on the problem of describing the stimulus is that most of the traditional distance cues, as well as the other phenomena of visual perception, can be considered as invariances or changes in the structures of the optic array and, more over, that these invariances and changes specifies the properties and changes in the properties of the real world. In Gibson's opinion the presence of gradients and invariances etc. in the optic array implies that in the stimulus there is »information« which is sufficient to render perception of objects and space possible.

In the introduction to his theory of perception, based on the considerations I have outlined here, Gibson raises the question of how it is that we see the world and objects as we do, and throughout his work a supplementary question is implicit: where – and I mean literally where – do we find the background and the conditions of veridical perception? The answer to these questions, which I to some extent have anticipated, is formulated in his theoretical postulate based on his experimental work, which is that perception is a function of the stimulus, and only of the stimulus. More specifically, he states that we perceive the world and objects as we do, and with the properties they have, because their correlates are to be found in the stimulus. In other words, the stimulus is a *function* of the world, the stimulus *specifies* the world as it really is.

In Gibson's theoretical model of perception from 1959, which is a dualistic causal model, perception is considered to be the last link in a causal chain of processes which starts in the external world, and which has the stimulus as an intermediate link. To Gibson the answer to the classical philo-

sophical question of why we see the world and objects as we do, is that objectivity and veridicality of perception are guaranteed by the very chain of processes – for when excitation specifies perception, and stimulus specifies the world, then the world must specify our experiences, i.e. perception will be unambiguously related to the world.

But can this causal theory of perception, which can be described by the symbols $W \rightarrow S \rightarrow E \rightarrow P$, and its explanation of the nature of perception be considered valid and reasonable? An analysis of this could take many forms, one of which will now be attempted.

As we have heard the clausal theory states on the one hand that the stimulus specifies the world, or to be more precise, that relations in the stimulus specify relations in the world, and on the other hand that the stimulus specify the perception.

One of the ways in which Gibson expresses this (1959) is that

(1) stimulus is a function of the world

and that

(2) perception is a function of stimulus.

– And as stimulus is a function of the world, and perception is a function of stimulus, it follows by simple deduction that

(3) perception is a function of the world.

But if this model of the causal chain of processes causing perception is assumed to have *universal* validity – that is – if the world can only appear to us in form of percepts and thus can only be known as a *phenomenal* world, as it is the endproduct of the causal processes, serious though classical difficulties will arise.

For in that case the description of the world which Gibson *himself* uses as his point of departure and on which his technical description of the world must necessarily rest, can only be a *phenomenal* world. That is, granted his theory is thought to have *universal* validity, it must of course *also* apply to his own perception – and thus to his own description of the world. That is, it must also apply to *that* perception and description of the world on which his technical description of the stimulus is based.

For Gibson then, we have to conclude that:

(4) the world is a function of perception

We are now in the paradoxical situation of having to accept that

(3) perception is a function of the world

and that

(4) the world is a function of perception

so that a simple deduction brings us to the classical problem that

(5) perception is a function of perception

That is, we end in a circle – a circularity in which we always will end when we construct causal dualistic theories of perception, no matter how we try to disguise them.

But does Gibson really hold that his theory has universal validity? There

is strong reason to believe that he does. He believes that his experimental work entitles him to formulate the following theoretical postulate:

»The objectivity of our experience is not a paradox of philosophy, but a fact of stimulation. We do not have to learn that things are external, solid, stable, rigid, and spaced about the environment, for these qualities may be traced to retinal images or to reciprocal visual-postural processes«. (Gibson 1950)

The causal theory of perception was thought to provide a guarantee of the objectivity and veridicality of our perception. And how – one might ask – could it be otherwise, how could there be any question of error, when our perception is caused by that which we perceive? – Let me try to present this argument of circularity in a slightly different way:

In the causal chain

$$W \rightarrow S \rightarrow E \rightarrow P$$

how, exactly, is W described? It is described in terms of walls, rooms, pictures on the walls, chairs, tables etc. – S is described in terms of geometrical perspectives and is the description of W such as it may be described in a plan-geometrical projection.

That is – and this is very important – the description of S is just another way of describing W; it is a description of W such as W is to be described in a planprojection. In that sense the description of S rests on an abstraction; namely in the sense that it rests on and presupposes another description – that is an everyday description of the world.

So far so good. Let us – with Gibson – disregard the next step in the chain and go to P. How is the description of P? P is described in terms of walls, rooms, chairs, tables etc. – so now we have the same circles as I talked of before. For it happens to be the case that the description of the initial conditions of this so-called causal process is the same as the final condition. What is expressed in this causal explanation of perception is then, that walls, rooms, tables, chairs etc. give rise to or cause the perception of walls, rooms, tables and chairs. Put in another way: What the so-called causal chain of processes has so-called explained is that we perceive a room with tables, chairs, walls etc. as we do or the way we do because it *is* a room with chairs, tables, walls etc. – I will return to this point later.

In his latest book Gibson (1979) does not talk about perception in terms of a (passive) causal process but stresses the »activity« on the part of the »perceptual system« (sense organs, head, various muscles etc.) in »picking up« the information, i.e. structures, invariants etc. in the array of ambient light which is available to the perceiver. But the problem discussed above still resides. No matter whether perception is considered to be passively caused by the information described in the technical description of the world or is considered the result of an active picking up of these information by the perceptual system, his argument in favour of »veridicality« of perception or »direct perception« will suffer from the same circularity. – More over,

with his (re)description of the world in terms of structures in the ambient light his »explanation« of perception still begs the question. The problem he set out to solve is still the same: How is it that we see the world as it is or the way we do? As a consequence of the redescription of the world in technical terms this question can now be reformulated thus: How is it that the organism, the perceptual system or what ever can detect and pick up this information? Indeed, we will have to add: How is it that the perceptual system can detect or »interpret« the true nature of the information as structures of light which (only) *represent* or *specify* the real world, but which are not identical with the real world? – This question stands in as great a need for an answer as the original one, and it is not difficult to see that this procedure will lead us into an infinite regress. One could of course stop the regress here, as Gibson does, by postulating that the »perceptual system« simply has the required capacity, but what justification is there for such a postulate? None. One could with equal reason have »solved« the original problem by postulating that we see the world as we do because we happen to have the capacity to do so.

But even more important: If we have a tendency to think that an explanation of perception seems more appealing or convincing when expressed in technical terms, we ought to think once more of the status of such descriptions relative to ordinary descriptions of the world as pointed out above.²⁾

I am inclined to think that the problems of Gibson's theoretical model of perception outlined here, with minor modifications may be found in the majority of recent models of perception as well as in older variants. What these models of perception have in common is that they can be characterized as both dualistic and causal: They are dualistic, because perception is assumed to start with an external physical object or objective state, and to finish with something entirely different – a percept or a description of a percept. They are causal, because the latter are assumed to be wholly or partially caused by the former through a series of complicated intermediate stages. The various models differ, as far as I can see, only in the explanatory weight placed on the several intermediate stages and in the properties which these processes are imagined to possess – the stimulus, the receptors, the central nervous system, and even the accomodating, but rather indefinable psycho-physiological link respectively.

The confusion and obscurity which reign over psychological concepts, the concept of stimulus among them, and which are a direct consequence of the confusion and obscurity inherent in the basic assumptions of the dominant theories of perception, are due to the unfortunate, though perhaps understandable, mixing of two theories – an epistemological theory, which can only be treated conceptually and not empirically, and a physiological causal theory.

The physiological processes, which it is the task of physiologists to eluci-

date, *can* naturally and perfectly legitimately be described as a causal chain of processes starting in the external world, just as it is perfectly reasonable to assume that these processes are *necessary* conditions for perception to occur. If we had no brain and no sense-organs, we simply could not perceive. But a description and specification of these physiological processes presupposes a description of our perception, and therefore cannot possibly *explain* perception, unless one is prepared to accept circular explanations, and likewise, physically well-defined events cannot in any reasonable sense be said to explain events which are not physical, such as experiences, percepts or statements about the physical reality etc. And we are forced to add: No account of the processes in our perceptual system will ever amount to a *justification* of the correctness of our perception. In all such accounts we must necessarily *presuppose* that we can, indeed, describe these processes and reality *correctly*. Consequently, any justification of the correctness of our perception will amount to a justification of that which we have to presuppose and take for granted.³⁾

In the previous discussion I have tried to show that an *empirical* psychological explanation of how it is that we perceive reality as it is or as we do, must necessarily be circular. The reason is, in short, that in an experiment within psychology of perception – as well as generally – a physical, technical description of the experimental situation will always presuppose or rest on exactly that ordinary description and determination of the things and reality, the correspondence to reality of which we try to explain. The basis for Gibson's technical, plan-geometrical description of the stimulus situation was thus an ordinary description and determination of the objects – tables, chairs, walls etc. in a room etc. – and his technical description was exactly a description of these very things as they appear in a plan-projection. We may therefore conclude that both descriptions, the technical, physical or geometrical as well as the ordinary description of the situation necessarily must be description of *the same* – such as it may be described under two different conditions of observation, using two different conceptual apparatuses. If this was not the case we would be cut off from applying the technical description to the situation in question or from saying that the technical description is a description of exactly the things and objects in reality which we have determined and described in an ordinary way.

With these interdependencies between an ordinary description of reality and the objects and a technical description of the same reality, a causal explanation of the form: if A then B – where A stands for a technical, physical description of the stimulus situation and B stands for an ordinary description of it, will naturally be circular. It will be so necessarily because A and B are two different descriptions of *the same thing* – and not descriptions of two different things – and it will be so because A is not at all well-defined independently of B.

Within a dualistic causal explanation of perception and knowledge these

interdependencies are, however, left out of account. It is assumed – in contradistinction to the very presuppositions for well defined applications of the technical, physical description to the stimulus situation – that the two descriptions are descriptions of two different things – namely on the one hand a physical description concerning *reality* and on the other hand a description of our *perception* of reality. More specifically, as a consequence of the assumption that the problem of perception may be explained causally by a chain of processes starting in the external world and of which perception is the end product, the dualistic causal view necessarily *rests* on the presumption that the technical description is a description of reality in *contradistinction* to our ordinary description, which is a description of percepts or phenomena belonging to our consciousness. Thus, according to this view it is assumed that it is possible, so to speak, to divide reality into a physical part and a mental part which can be opposed and the processes and interaction of which we can investigate thereby explaining how one may give rise to the other. In the final analysis, this dualistic causal view implies the assumption that indeed it is possible to talk about consciousness, knowledge and perception independently of that of which we are conscious and of that of which we have knowledge – and conversely that it is possible to talk about this something, what this something is or is not (in casu reality) independently of the presupposition that we have knowledge of and are conscious of this something.

In the discussion that follows I shall try to make clear not only why this assumption is untenable, but also why – by logical necessity – it must lead into absurdities. Hopefully it will also become clear that, as a consequence, not only empirical psychological explanations of the correctness or veridicality of our perception and knowledge, but any such explanation – be it physiological or philosophical – must be rejected. Moreover, I shall try to show that in all our investigations of reality and of our knowledge of reality we have to presuppose that we have correct knowledge of reality. That, indeed, it is a *fundamental* property of human beings that they are subjects, who have correct knowledge of reality and that they are language users who know correct statements and descriptions of reality. That being a language user is to know correct descriptions of reality.

The impossibility of explaining the correctness of knowledge, perception and linguistic statements about reality – and why it must be taken for granted

The assumption that I shall try to discuss, then, is the assumption which forms the basis of attempts to explain how our knowledge and perception of reality come about. This is the assumption that it is possible to make a dualistic division between the so-called »mental« and the »physical« – between our perception, knowledge and description of reality and reality it-

self. – A bifurcation that implies that in a fundamental sense it is possible to ask questions about and account for the relation between knowledge and descriptions of reality and reality itself.

In this discussion I shall take for granted that it is generally accepted that to have knowledge of something or to perceive something implies knowing that something is the case, is true about this something. That is, knowledge and perception of reality is *propositional* in nature in the sense that knowledge and perception may be defined in terms of or translated into propositions or statements.⁴⁾ Questions about the relation between our knowledge, consciousness and perception of reality may therefore be investigated as questions about the relation between statements about reality and reality itself, that is, the relation between language and reality.

I shall therefore begin my discussion of the tenability of the above mentioned bifurcation between the mental and the physical, between our perception and knowledge of reality and reality itself, by investigating the tenability of *that* bifurcation between language and reality on which the traditional epistemological discussion of the language-reality relation rests.

Generally stated this discussion is concerned with the problem of whether a relation exists between on the one hand linguistic description or statements of reality and on the other hand reality itself, such that we may ask questions of, or explain that, our descriptions or statements of reality are correct descriptions or statements about reality.

Needless to say, such questions cannot be answered by comparing our linguistic descriptions or statements with reality itself. One cannot compare e.g. the description »this is an apple« with the object on the table in front of me, that is, compare the string of words with an actual object. Deciding on the correctness of linguistic descriptions can at most consist of comparing or establishing relations between different *descriptions* of reality. This does not imply linguistic idealism. What it does imply will hopefully be clear in the following.

What would be the conditions for answering questions about or investigating the correctness of our linguistic description – be it in the positive or in the negative? Indeed, it would be, that a description of reality exists that beyond all further doubt is an objective, true description of reality and by which we can compare the descriptions the correctness of which we want to investigate. Without such a basis for comparison it would not be possible to decide whether our description and knowledge is a correct description and knowledge of reality. In other words: as a basis for such proofs or disproofs we will have to presuppose not only the existence of but also our knowledge of such objective, correct descriptions of reality – i.e. we will have to presuppose that we know a language in which correct descriptions and statements of reality can be given. But as I fail to see how we should be able to distinguish this presupposed language from the language to be investigated as to its correctness or incorrectness, I think we are bound to ac-

cept that any proof or disproof of this question about the relation between reality and our linguistic descriptions of reality will have to presuppose that which was to be proven or disproven. In other words: such *proofs* would be circular. Reversedly, a *disproof* would naturally lead to the absurd situation that in order altogether to bring about the disproof it must be presupposed that in fact we know of correct descriptions of reality and that with these very descriptions as the necessary basis of comparison, we prove that our linguistic descriptions are not correct descriptions of reality. I hope it is now clear, that the comparison of a description with reality can only be made in a well-defined way in so far we *beforehand* possess a semantic or conceptual system within which »information« about reality already exist as possible, correct descriptions.

I shall now discuss some of the formal, logical reasons why circularity and absurdities arises when we ask such questions about the relation between language and reality or between knowledge of reality and reality itself. These are reasons that have to do with how and under what conditions we may talk meaningfully about consciousness, knowledge, and statements about something and talk about *that* (in casu reality) of which we have knowledge and consciousness and about which we can make statements. Let me start by pointing to some quite fundamental properties of language and use of language the implications of which in the traditional discussion about the relation between language and reality in my opinion have not been taken sufficiently serious – perhaps because they are so self-evident – namely that it is a fundamental property of language that language is something in which statements can be made. – I believe we have to agree that the production of statements and descriptions of something must be an almost defining property of language and use of language as we generally understand language and use of language. Saying, for instance, that here we have a language – but it is a language in which statements cannot be made – would be meaningless and selfcontradictory.

If we can agree that to produce statements must be a decisive function of language and use of language – which we cannot disagree about without debarring ourselves from any further conversation about this as well as about all other matters – then, however, there will be an – almost limitless – number of other things we shall also have to agree on. For a start I shall mention the most obvious ones:

First, that to produce statements is to produce statements about *something*, and that statements are something that may be true or correct, or false or incorrect. Thus, we cannot say that we can make assertions or describe something – but that assertions or descriptions are not about anything, or that we cannot be sure whether there is something to be described, no matter whether what we assert is something about ourselves or the material reality and objects. For in that case the very concepts of assertion or description would become meaningless concepts. Actually, we would be

guilty of maintaining that we have a language and that as language users within this language we can make assertions, but without there being anything we can make assertions about.

But neither can we, as mentioned, talk about assertions independently of assertions that may be true or false, correct or incorrect – and thus that there is something about which true or false statements may be made.

In other words: We cannot talk about language, use of language, and thus about statements, independently of something – in *casu* reality, ourselves and material objects – which these statements are statements about. Otherwise the very concepts of statements or descriptions – and thus of language altogether – would become meaningless. For this would imply, that we could have a language and therefore linguistic statements and descriptions, but this language and these statements and descriptions were not about anything.

And neither can we of course talk about this something, about reality, ourselves and objects, i.e. talk about what reality, objects etc. are or are not, independently of their existing as something about which we can make *correct* or *incorrect*, true or false statements. Otherwise any concept about reality as something we can talk about in a well-defined way would be impossible. In other words: The condition for talking of reality – what reality is or is not – is the presupposition that we know a language in which correct statements and descriptions about reality can be made – that reality exists as something about which true and false statements may be made.

This logical interdependency between language and reality – and thus between concepts such as »statements«, »knowledge« and »reality« – I will formulate in a principle saying that to know a language and to be a language user is to know correct descriptions and statements about reality. This principle I shall call »the principle of the correctness of linguistic descriptions«. (Note, that I have not said anything about *how* we come to *be* language users – only about what it means to be language users).⁵⁾

It is a principle that implies that language qua language so to speak contains correct descriptions of reality. And it is a principle implying that any question or investigation as to the correctness of our linguistic statements – and, reversedly, that any question or investigation of reality – exactly due to this logical interdependency between concepts such as »statements«, »reality« and »correct« necessarily must rest on and presuppose this relation of correctness between language and reality – in order to be well-defined at all.

It is a principle that implies that the relation between language and reality is *unanalysable*, that is, it renders impossible any general question of whether there exists a correspondence between our linguistic statements about reality and reality itself – because neither concepts about »reality«, »correct« nor »statements« would be well-defined independently of the presupposition, that this is exactly the case. In short: Any bifurcation between lan-

guage and reality that implies considering language and reality as two independent »entities« well-defined independently of each other, and any bifurcation that implies considering reality as something beyond our linguistic description of it, is meaningless and leads to absurdities.

What I have been saying so far is, that we can *not* talk about reality – what reality *is* or *is not* – independently of language – that is, independently of language being something in which true and false statements about reality may be made. – But please note! I have not said, that reality does not *exist* independently of language. Berkely was eternally right in saying, that we can only talk about reality in terms of language – but he was just as eternally wrong in concluding from this, that thus reality is a *function* of language, that is, the existence of reality is dependent of it being described – or perceived, or known.

What is at stake here, is a confusion of two concepts, namely »existence« and »description« – or knowledge. Just as true as it must be, that we cannot talk about reality without language, just as true it must be, that we *have* to say, that reality *exists* independently of *whether* or *that* we describe it. Otherwise we simply could not have any well-defined meanings or uses of concepts like »making assertions or descriptions about something« or »knowing something about something« which may be true or false – but we would in the final analysis be saying, that that which we describe is *identical* with our descriptions – in which case concepts such as true and false – and therefore any other concepts – would not exist or be well-defined – etc. ad absurdum.

– I will now return to the statement made above about the logical interdependency of concepts such as: »reality«, »language«, »statements«, »correct« etc. – an interdependency which implies that the relation between language and reality is unanalysable. – What does it mean that the relation between language and reality is unanalysable? Does this not mean that we cannot justify or explain how it comes about that we know correct descriptions and statements of reality or that we know correct uses of the word »correct«? Indeed, it does. The preceding discussion thus seems to show that we cannot generally or in any fundamental sense ask questions about *how* it is that we know that correct statements are correct, or why correct statements are correct. Concepts such as »true«, »correct« seem, as far as I can see, to be key concepts of any theory of language and epistemology which we must know well-defined meanings of and be able to use correctly – in order to talk meaningfully at all about statements about something; i.e. to talk meaningfully at all about knowing something and being able to make statements about something – and thus being able to talk meaningfully about language and use of language at all. If, for instance, we could not or doubted that we could, use concepts such as »true« and »correct« in the correct manner – if, for instance, we say that »it is true that there is an apple on the table, but there is no apple on the table« – well, then we are cut

off from using language and saying anything about reality.

But neither can we explain why or how it is, that we know that an assertion is correct or that we can use »correct« correctly. If I am asked why I know that the assertion that there is an apple on the table is correct, I might answer that I can see it – or that I have put the apple there myself – but any such answer would stand in as great a need of explanation as the first assertion.

It may of course be suggested that the reason why we know correct descriptions of reality is, quite simply, that in reality stable »facts« exist of which correct descriptions may be given – and that so to speak we gain insight into correct descriptions – and thereby the concept »correct« – by investigations into reality and its facts.

In fact there is a long tradition of assuming thus, not only within psychology but also within a logical positivist theory of science. Such a view implies, however, that our concepts about correct statements, and thus the concept of »correct« are so to speak made into functions of facts, i.e. into something which we can arrive at an understanding of by analysing facts (or derive from facts). In other words it implies the view that it is possible to find out how it comes about that we can say something correct about reality – by empirically exploring the facts in reality about which correct assertions may be made. This can hardly be true since, naturally and by logical necessity, such investigations can only take place in any well-defined sense on the condition, that as the point of departure for these investigations we already *have* concepts about »correct«, and that we can make correct identifications and thus give correct descriptions of that which the investigations concern – namely reality and its facts.

Another way of saying this would be that we cannot say how it comes about, that we have concepts of »correct« and »facts« by analysing facts – since we cannot talk meaningfully at all about such things as facts independently of our having concepts of »correct« and »true« – and independently of our being able to use the concept of »correct« correctly. In other words: »Correct statements« and thus »correct« cannot be made into functions of facts – i.e. of that about which correct statements can be made. (This includes the human practice as well as the objects of the external world).

This can also be expressed as the contemporary Danish philosopher Peter Zinkernagel does (1977), namely that we can make assertions about facts, about objects, tables, trees, molecular structures etc. – but we cannot explain »correct« and »right«, in terms of what we can make assertions about, namely tables, chairs, trees, molecular structures etc. If we do that we would be guilty of maintaining that such things as tables, chairs, molecular structures etc. are such as may be correct and true *in the same sense* that statements and assertions may be – or that a correct statement is a chair, a table or the like. By doing so we would, naturally, automatically have done away with language and use of language in any meaningful

sense, but we would also have done away with reality and things as something we can talk about and make assertions about.

Hitherto in this discussion of language and reality I have only been talking about statements concerning *material* reality. But we can, of course, make statements about other matters than reality. It is simply a defining property of language that we can *also* make statements *about* statements, that is, talk about language by means of language. But I do not believe, that we can make statements about anything whatsoever, or imagine a language and use of language at all without accepting that we can make statements about the non-linguistic reality. That e.g. we can make statements to the effect, that it is *us*, the users of language, which advance the statements, and that to be a language user is to be a person with a body, that finds himself in a certain place, at a certain time in a reality, consisting of material objects and other subjects. That is, *any* language which *any* language user may make use of, must of necessity contain such concepts about matters of space and time that serve to locate in time and space not only the physical surroundings, but also the subject making statements about these and other things. Consequently, to be a language user is tantamount to being a person who find himself in concrete situations in the material reality and to have knowledge of and being able to make correct statements about such situations. Indeed, we cannot talk of language and use of language without referring to persons who finds themselves in concrete situations in the material reality.

The logical relation between concepts such as »knowledge«, »language«, »reality« etc. – and the implications hereof for theories of knowledge, perception and consciousness

Let me sum up what has been said so far about the relation between language and reality:

The relation between language and reality is *not* a relation that may be analysed as e.g. a relation between independent »entities« that can be isolated from one another. The fact that we have to presume that language is something in which we can make statements and that we cannot ask why or how it is that correct statements are correct – because we cannot talk about statements without knowing well-defined meanings of »true« or »correct«; and the fact that we cannot talk about correct statements without being able to refer to the non-linguistic reality which our statements may be statements about; and the fact, that we cannot reduce »correct« or »statements« to that which we can make statements about, i.e. talk about »correct« and »statements« in terms of that which we can make correct statements about – or conversely, explain »correct« or »correct statements« in terms of that about which we can make statements – well, all these things seem to indicate that, so to speak, from the beginning we are cut off from

talking about or asking questions about the relationship between language and reality. On the contrary, we have to accept as a *logical condition* that we cannot talk about language independently of reality, and vice versa, and that we cannot reduce language to or derive it from reality or vice versa. This logical relation may be stated as follows: We cannot talk about *reality* without language and without referring to language users and situations which language users may be in and make correct statements about – and conversely, we cannot talk about *language* and *use of language* independently of or without referring to language users who are in concrete situations in material reality. The logical condition thus consists in the *logical interdependence* of the concepts of »language«, »use of language«, »statements«, »correct«, »concrete situations«, »reality« – i.e. we cannot use any of these words independently of each other, and there are no well-defined meanings of these word independently of well-defined meanings of the others.

What has been said here about the logical relation between language and reality can in the same way and for the same reasons be shown to be true of the subject-object relation, i.e. the relation between the subject's knowledge about reality and reality.

Just as we have to presuppose that to know a language and to be a language user is to know correct descriptions and statements about reality and the concrete situations we are in, so it can be shown by similar arguments that to be a subject being conscious of and having knowledge of something is to be a subject in concrete situations having knowledge and being conscious of these concrete situations, of material reality and other subjects.

And just as we cannot talk about language and use of language without being able to refer to the non-linguistic reality about which these statements are correct statements, neither can we talk about subjects and the knowledge and consciousness of subjects without being able to refer to that of which subjects have knowledge and of which they are conscious – in *casu reality*.

And for the same reason that, conversely, we cannot talk about *reality* without referring to language users knowing correct statements of reality, so we cannot talk of what reality is or is not independently of subjects having knowledge and being conscious of reality.

The relation between subject and object is in a similar way as is the relation between language and reality unanalysable: We cannot, thus, isolate subjects and the knowledge and consciousness of subjects from that of which subjects have knowledge – and which *exist* independently of this knowledge. And, conversely, we cannot talk about reality – talk about what reality is or is not – independently of subjects having knowledge of reality.

The logical interdependency that exists between concepts such as »subjects«, »knowledge«, »consciousness« and »reality« – if these concepts are

to have well-defined meanings at all – may thus be formulated in a principle parallel to the principle of the correctness of linguistic descriptions, namely in a principle saying that to be a subject is to have knowledge of and to be conscious of reality and the concrete situations in which he finds himself.

Therefore, the arguments that I am going to present now concerning the impossibility of explaining that we are language users, knowing correct statements and descriptions of reality and having concepts of true and false etc. – may be shown to hold as well as arguments concerning the impossibility of explaining that we are subjects having knowledge, consciousness and perception of reality.

That so to speak from the beginning we are cut off from asking questions as to the correctness of our assertions in *general*, or formulate any *general* problems about the relation between language and reality – because by doing so we would automatically use language for discussing the possibility of not being able to use language – or would assume that we could talk correctly without talking correctly about anything – well, this also implies that we are, so to speak, cut off from »beginning« language. Just as we cannot »begin« reality, i.e. explain the fact that reality exists from something that is more fundamental or elementary, no more can we explain language and use of language by something more elementary which does not imply the existence of language and use of language. Indeed, we cannot explain the fact that we are users of language and that we are able to make assertions – in terms of that which we can make correct assertions about – be it the material object-reality, biological or psychological matters. That is, we cannot explain how it comes about that we are language users being able to make correct assertions about reality and ourselves and the situation in which we find ourselves etc. from e.g. physical, biological or psychological conditions or states which does not imply the existence of language and use of language. We may qua being language users advance statements about these conditions or states, about the biological, physical, psychological and mental states we are in – and therefore, we cannot be reduced to that about which we can make statements.

If we wanted to maintain the view that language and being language users who can make correct assertions could be explained by or reduced to something more elementary which does not imply the existence of language and use of language, we would of course not be able to do so without accepting, that this was something we could make correct assertions about – whether what we had in mind was e.g. biological or psychological conditions. But as was the case with our assertions about material objects, namely that our assertions cannot be reduced to or explained in terms of that which we can make correct assertions about, viz. chairs, tables, trees etc. because that would imply that our assertions could not be true or false – no more can we explain or derive language and being users of language capable of making correct statements from biological, physical, psychological etc.

conditions about which we can make correct assertions. If we did so, we would not be able to say that in contradistinction to chairs, tables, trees, biological or psychological conditions or states, *assertions* about these things and states may be correct or incorrect but we would be forced to say that »correct« and »assertions« may be explained in terms of that which we can assert something about – in terms of chairs, trees, biological states etc. In that case we would cut off ourselves from talking meaningfully about language and use of language by doing away with language and use of language.

Let me conclude thus:

Being a subject and a language user is logically inseparable from being in concrete situations in reality and to have knowledge of and being able to make correct statements about these situations, about material reality and other subjects. This implies that we cannot ask questions about what a subject is independently of objects; that is, we cannot e.g. ask questions about what a subject is as if the subject could be considered as something which can be isolated from or opposed to objects, and whose relation to, reactions on, or »correspondence« in action with objects can be investigated in order to elucidate what it is to be a subject. Such a procedure would, no matter how one looks at it, involve considering the subjects from an object-viewpoint: That we ask questions about the subject in the same way as we ask questions about a stone. It is possible to prove that such a view of the subject inevitably would imply an explanation of what a subject is in terms of that about which we can make statements and of which we have knowledge.

If we do ask questions about human beings as we ask questions about stones, then we would be guilty of disregarding the logical conditions for defining cognition and knowledge. To know something is not only to react on something. It is to know that something is the case about something and that something else is not the case about this something – that something is true and false about it. But to know that something is true or false about something cannot be reduced to that of which it is true or false. I can perceive and know that there is a table in front of me, that is, perceive and know that about this thing something is true and something else is false – and my knowledge may be formulated in statements that may be true and false. But these statements cannot be identical with the table – or conversely – for that would have to imply either that the table could be true or false – or that statements could not. In other words: If we do ask questions about human beings as we ask questions about stones, then, indeed, we disregard these conditions defining knowledge and cognition.

But, naturally, we cannot do this without disregarding that which constitutes a subject as a subject – and not an object. That is, a subject that can make correct statements, that can identify and have knowledge about objects, reality, himself and other subjects. A subject that has concepts of

true and false, correct and incorrect, right and wrong. If we ignore these fundamental conditions for the subject's knowledge and cognition and thus the logical interdependencies between the key-concepts of any epistemological theory, we will in the final analysis cut off ourselves from talking meaningfully about *reality* or anything at all – at any rate without contradicting ourselves. But this is, as I hope to have made clear – exactly and inevitably what we do – that is, ignore these conditions – whenever we try to question or explain whether or how it is that subjects have knowledge of reality and the situations in which they are – by something more fundamental or basic – which does not imply the existence of subjects having knowledge of reality etc. That is, whenever we try to go beyond or try to »transcend« these fundamental conditions of knowledge and cognition.

Nevertheless, there are numerous examples of positions where these fundamental conditions are ignored – not only within the field of philosophical epistemology, but also within the field of psychological theorizing – of which I have given an example in the beginning of this paper.⁶⁾

NOTES

1. Cf. among many others J. J. Gibson, 1950, 1966, 1979, Natsoulas 1974 and U. Neisser 1976.
2. To the extent that Gibson's theory is meant as an alternative to the traditional attempts within perception psychology at solving the fundamental *epistemological* problem of perception (which his paper from 1967: *New reasons for realism*, strongly suggests) his conception of what empirical psychology may accomplish is as wrong and for the same reasons as the theories he opposes as will be argued in the following – Gibsons approach and experimental work, however, have other merits which, to my view, render it far superior to traditional laboratory perception psychology. But this is another story which is of no importance to the fundamental problems discussed in this paper.
3. The distinction between on the one hand fundamental epistemological problems regarding e.g. the correctness of our perception, cognition and knowledge about reality and, on the other hand, the necessary neurophysiological conditions for our perception is inevitable for two reasons:

No matter how detailed the description of the neurophysiological processes may be, they will only constitute the *necessary* neurophysiological conditions for perception to take place. But an investigation of the necessary neurophysiological conditions for perception will provide us with no answer regarding the correctness of our perception. On the contrary, the correctness of our perception will always have to be presupposed in our neurophysiological investigations and for the correct description of these investigations. To the extent it is possible to confirm that the processes described are in fact the processes going on in the brain when the subject perceives or cognizes this or that a correct description of this something given by the experimenter and subject must always be presupposed. Therefore, an explanation of the nature or the correctness of our perception and cognition by referring to the neurophysiological processes will always be circular.

The contribution of neurophysiological research is an understanding and account of the neurophysiological processes taking place when we perceive and which are the necessary conditions for perception. The account of these neurophysiological processes is in terms well defined within neurophysiology – but not in terms we use to describe the per-

ceiving subject and his cognition, i.e. in terms such as »reality«, »true«, »false«, »knowledge«, etc. For this reason one cannot say that a neurophysiological account of the processes of perception accounts for the *sufficient* conditions of perception. A neurophysiological explanation of our perception and its nature would necessarily involve a reduction of our cognition – and of the concepts belonging to cognition – to something physiological, which cannot be done without committing categorical mistakes. Put differently: An explanation of the nature or correctness of our perception by reference to or by reduction of our perception to neurophysiological phenomena or processes, would necessitate that our perception or knowledge of objects and reality be actually given in the description of the neurophysiological processes, which of course (i.e. by definition of what are well defined physiological terms and phenomena) is not the case.

4. In the psychological literature this point has been expressed as follows:

». . . The content of perception must have »propositional form« because perception is a kind of knowing about what can be known as facts, and facts clearly requires sentences, not individual words and phrases to be expressed . . .« (W. M. O'Neill, 1958).

». . . To refer to a representation arising from sensory stimulation as being propositional, as we have been advocating, it to imply . . . that it does *not* correspond to a raw sensory pattern but, rather, is already highly abstracted and *interpreted* . . . that it is not different in principle from the kind of knowledge asserted by a sentence, or potentially assertable by some sentence . . .« (W. Phyllyshyn, 1973).

». . . As are conventional-language sentences, perception are about something other than themselves. Moreover, they are propositional in making claims about the world: Being conscious of something – as one is in perception – . . . is a sort of referring to it, a meaning it of an assertive type . . . Just as conventional sentences can be true or false, there are veridical and illusionary perception. The means whereby one determines whether a perception is veridical involve drawing out its implications and testing one or more of them by performing some act or waiting for something to happen . . .« (E. W. Hall, 1961).

5. In order to anticipate any misunderstanding this should be pointed out: When I say that we cannot talk meaningfully about reality and our knowledge of reality without assuming that we have knowledge about reality and can talk correctly about reality, it does not imply a claim that we must then assume that (on beforehand) we have knowledge about *everything* to be known about reality and objects – that e.g. we cannot expand our knowledge about this reality, develop new conditions of observations or make the circumstances under which we increase our knowledge the object of investigation and description. But it implies, among others, the assumption that any such expansion of our cognition, descriptions and knowledge must necessarily rest on *determinations* of – and thus knowledge about – the objects of the expansion of our knowledge. My argumentation in this paper concerns matters of a fundamental nature which must logically, necessarily be bound up with talking meaningfully about perception, knowledge, reality and the making of assertions about reality and being user of language – and questions about how much or how little knowledge we might have in the cognitive situations we are in or how much this knowledge is increased, are not relevant.

6. For a thoroughgoing discussion and account of the points and arguments developed in this paper see N. Praetorius 1978 and 1981.

REFERENCES

- GIBSON, J. J.: (1950) *The Perception of the Visual World*. Cambridge, Massachusetts, The Riverside Press.
- GIBSON, J. J.: (1959) *Perception as a Function of Stimulus*. In: Koch, S. (Ed) *Psychology: A Study of a Science*. Vol. 1. New York, McGraw-Hill.

- GIBSON, J. J.: (1966) *The Senses considered as Perceptual Systems*. Boston, Houghton Mifflin Company.
- GIBSON, J. J.: (1979) *The Ecological Approach to Visual Perception*. Boston, Houghton Mifflin Company.
- HALL, E. W.: (1961) *Our Knowledge of Fact and Value*. Hill, University of North Carolina Press.
- NATSOUKAS, T.: (1974) The Subjective, Experiential Element in Perception. *Psychological Bulletin*, Vol. 81, 611-630.
- O'NEILL, W. M.: (1958) Basic Issues in Perceptual Theory. *Psychological Review*, Vol. 65.
- NEISSER, U.: (1976) *Cognition and Reality*. San Francisco, W. M. Freeman.
- PHYLYSHYN, Z. W.: (1973) What the Mind's Eye tells the Mind's Brain. A Critique of Mental Imagery. *Psychological Bulletin*, Vol. 80.
- PRÆTORIUS, N.: (1978) *Subject and Object. An Essay on the Epistemological Foundation for a Theory of Perception*. København, Dansk Psykologisk Forlag.
- PRÆTORIUS, N.: (1981) Subjekt og objekt. En afhandling om psykologens grundlagsproblemer. København, Thaning og Appel.
- ZINKERNAGEL, P.: (1977) *Basic Assumptions and Norms and Objectivity*. Copenhagen (Mimo).