

Also by Reinhardt Grossmann
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Phenomenology and existentialism

An introduction

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Part II

***Edmund Husserl:
the problem of
knowledge***

4. The distinction between particulars and universals

(1) *The world of being and the world of becoming*

We began Part I, as you may remember, with the fundamental distinction between substance, essence, and accident; a distinction which goes back to Aristotle. This time, we shall begin with an equally important distinction, a distinction that goes back even farther to Aristotle's teacher Plato (about 427–347 B.C.). According to the Platonic tradition, everything there is, is either a *particular* or a *universal*. (These are not Plato's terms, but they fit better into our discussion.) Plato maintained that there are two realms, the realm of becoming and the realm of being. The realm of becoming comprises *changing* things, things which 'become' smaller or larger, hotter or colder, more colorful or less colorful. These are the things which are 'in space and time'. Obviously, in order to change, a thing must have a duration; it must be temporal. The world of becoming, I shall say, is populated with particulars. In the world of being, on the other hand, dwell what Plato calls 'forms', and what I shall call universals. Forms are not in space and time. They are unchanging. They *are*, but they do not *become*. Since they are not in time, they are eternal. To the world of being belong such properties as smallness and largeness, hotness and coldness, colors and

shapes, but also such lofty properties as justice, honesty, beauty, and truth.

Plato's distinction overlaps in certain ways with Aristotle's. An individual thing, the apple Oscar, is a particular, according to Plato, and a material substance, according to Aristotle. In general, individual things are conceived of in the Platonic tradition as particulars, and in the Aristotelian tradition as substances. What is the difference? Well, conceived of as a substance, the apple is a combination of matter and essence. Its essence is said to be a part of the apple, giving it a certain internal structure. Conceived of as a particular, on the other hand, Oscar has no internal structure; it is not a complex thing, consisting of matter and essence. Its essence, the property of being an apple, is a universal (form) in the world of being, divorced from Oscar, dwelling in a different realm. And so are its other properties, its color, taste, etc. Both, the essential property as well as the accidental ones, are conceived of as universals. Thus there is no distinction between essence and accident in the Platonic tradition. Properties are conceived of as universals, that is, as eternal and unchanging. What about the essences and accidents of the Aristotelian tradition, are they universals in the same sense? This is perhaps the most important question for the Aristotelian tradition.

Consider the property of being round. We shall assume that there are two white billiard balls, called 'Max' and 'Moritz', which are both round. Max and Moritz are individual things. According to the Aristotelian tradition, they are substances; according to the Platonic tradition, they are particulars. According to both traditions, they are in space and time. In Plato's terminology, they belong to the world of becoming. But what about the property roundness, does it belong to an entirely different realm of being? Is it a universal? Of course, we know that it is conceived of as an accident rather than an essence. This means that it is not part of the billiard balls; it belongs to them 'externally' only. But whatever its relationship to the billiard balls may be, there is the additional question of whether roundness belongs, together with Max and Moritz, to the spatio-temporal world or to a separate world of eternal entities. If Plato is correct, then roundness is not located anywhere in space or time. You cannot find it east of Chicago; you may

The distinction between particulars and universals

search for it the world over, but you will never find it at a certain place. Nor can you assign to it a place in the history of the universe. It did not come into existence at any particular time, nor will it perish eventually.

Since the time of Plato, there have been philosophers who have denied that there is a world of being. They have held that what there is, all of it, belongs to the world of becoming. What there is, is in space and/or time. (I must say 'and/or' because mental acts, for example, are thought of as being temporal but not spatial; they belong to the world of becoming without being in space.) These philosophers are called '*nominalists*'. Those that follow in Plato's footsteps and believe that there are universals are called '*realists*'. Most philosophers in the Aristotelian tradition inclined towards Nominalism. Accidents and essences, they held, are just as particular as the substances to which they belong. There were exceptions; there always are. But on the whole, Nominalism has been more popular than Realism among Aristotelians.

Before we take a second look at the issue between Nominalists and Realists, let us take care of two peripheral points. As I have formulated the issue, it concerns the question of whether or not the property roundness, for example, is in space and time. What is not at stake is whether or not this property exists. But there have been philosophers who, in order to deny that roundness is a universal, have simply denied that there is such a property to begin with. This may sound incredible to you, but I can assure you that at this very moment, some professors of philosophy profess to believe that while there is such a word as 'round', there exists no corresponding property. I think that this belief is not only false, but absurd. The second point is this. Turn your attention to the property of being a mermaid. Assuming that there never have been any mermaids and that there never will be any, is there nevertheless such a universal as the property mermaid? Does there exist, in the realm of being, side by side with the property of being an elephant, the property of being a mermaid? Or do only those properties exist which are exemplified (at some time) by some individual? (The property of being a dinosaur, please notice, is different from the property of being a mermaid, for there were dinosaurs in the past.) Plato seems to have held that even unexemplified properties, like the property

of being a mermaid, belong to the realm of being. But I think that this is mistaken. I shall take for granted from now on that every universal is (at some time) exemplified, and that every particular exemplifies a universal.

Can the property of being round be located somewhere? Surely, you may say, roundness is right over there where Max and Moritz are. And it is, generally, wherever round things are. And it does not exist over here where the rectangular book is. Hence, you conclude, roundness is not a universal. Plato is wrong. Roundness must be a particular. But if you are clever enough to think of this argument, you are probably also astute enough to be able to guess what Plato's answer would be. Since I am a Realist, I would reply to you—since I do not want to presume to speak for Plato on a matter of such importance—that what you can hold in your hand and what is quite literally and without equivocation located in space is, not the property roundness, but a round object. Max and Moritz, it is true, are over there; you can point at them. But roundness is not over there, and you cannot point at it. Try it! And then ask yourself: am I not pointing, really, at the round object? Is this not what my attempt at pointing at roundness comes down to? I think that it does. Max, this particular individual thing, *is* round; he *has* the property in question. The book before me on my desk does not. Thus *there exists at a certain place*, at a certain time, a certain individual thing, namely, Max; and Max *has* the property roundness. Since Max *has* this property, one may mistakenly think that the property 'is where Max is'. Hence one may mistakenly think that it is in space just as Max is. So, if I am correct, to say that the property roundness is over there is a philosophically misleading way of saying that *something* is over there which is round. And to say that you can point at a property with your finger is a misleading way of saying that you can point at *something* with your finger which has this property. (Recall a similar situation when we talked earlier about the spatial location of a mind 'where the brain is'.)

My defense of Plato's realism rests on the assumption that particulars, like Max, are connected with their properties, like roundness, in a unique and intimate fashion. Because Max *has* this property, pointing at Max may be mistaken for pointing at roundness. I shall call this relationship between an individual

The distinction between particulars and universals thing and one of its properties 'exemplification'. Max *exemplifies* roundness; and so does Moritz. The book before me does not exemplify roundness; rather, it exemplifies the property of being rectangular. This is cumbersome and inelegant, I know, but it will allow us to put certain questions and problems more precisely. The first and foremost of these is: what is the nature of exemplification? What kind of relation is it?

(2) *The riddle of the nature of exemplification*

In order to see how important this question is for a realist, you merely have to reflect that exemplification is the only bond between the world of being and the world of becoming. Without this bond, the world would fall apart into two unconnected realms. It would not even make sense to speak of *a* world anymore. There would be *two* worlds, totally isolated from each other, and totally alone. It behooves a realist, therefore, to have a clear conception of exemplification. Plato, I believe, never did have one. Nor did any other realist until recently. As a consequence, one of the most effective arguments of the nominalists against realism has always centered around the nature of exemplification. The view that there are universals must be abandoned, one usually claims, because no sense can be made of the relationship between particulars and universals. Plato himself was fully aware of this kind of criticism. (Compare, for example, *Philebus*, 15 B.C.; and *Parmenides*, 131 A.D.) I shall introduce you to it in the words of a famous Roman philosopher, Boethius (480–524):

But if any genus is one in number, it cannot possibly be common to many. For a single thing, if it is common, is common by parts, and then it is not common as a whole, but the parts of it are proper to individual things, or else it passes at different times into the use of those having it, so that it is common as a servant or horse is; or else it is made common to all at one time, not however that it constitutes the substance of those to which it is common, but like some theatre or spectacle, which is common to all who look on. But genus can be common to species according to none of these modes; for it

must be common in such a fashion that it is in the individual wholly and at one time, and that it is able to constitute and form the substance of those things to which it is common.

(Boethius, *Commentaries on the Isagoge of Porphyry*, in *Medieval Philosophers*, 2 vols, ed. R. McKeen, New York, Charles Scribner's Sons, 1929)

Boethius speaks here of a 'genus', but we shall take as our example an essential property, namely, the property of being human (of being a human being). Now, according to the argument, there are three and only three ways in which this essence could possibly be related to different people. Firstly, it may be so split up into a number of parts that every human being contains one of these parts. Perhaps an analogy will be of some help. Think of the essence as a pizza pie. This pie may belong to several people in the sense that every one has a slice of it. They all 'participate in the pizza' by each one having a piece of it. But it is clear that the essence cannot belong to human beings in this way, for every person is a full human being, so that the whole essence must belong to everyone. For, properly speaking, the pizza does not really belong to any one of the persons involved; only individual slices do.

Secondly, the essence may belong as a whole to different people, but only to one person at a given time. In our analogy, the whole pizza may belong first to David, who bought it, then to Susan, to whom he gave it as a present, and finally to Tom, who talked Susan out of it. But again, this cannot be the correct relation between the essence and human beings; for many persons are human beings simultaneously.

Thirdly, the essence may belong to human beings in the way in which an audience participates in a play. It may be related to different persons in the manner in which the pizza is related to all the people who see it, who have a look at it. But this cannot be the way in which the essence of being human is related to Socrates and to Plato, because this essence is supposed to be a part of Socrates and of Plato, *a part of their substances*. An accidental property may perhaps be related to a substance in this superficial fashion, but never an essence.

Since there are only these three ways in which an essence could possibly belong to several individual things, one argues,

The distinction between particulars and universals and since it does not belong to them in any one of these ways, it cannot belong to *several* individual things, but must belong to just *one*. Thus Plato must have *his essence humanity*, and Socrates *must have his*. There cannot be just one essence, *humanity*, which belongs to all people. Rather, there must be as many different essences *humanity* as there are people. If we call Plato's *humanity* 'humanity₁', we can distinguish it from Socrates' *humanity* by another subscript: 'humanity₂'. Instead of one essence *humanity*, we have billions of individual essences. There is no such single entity at all. All there is are the various essences *humanity*₁, *humanity*₂, . . . *humanity*₂₀₃, etc. And these essences are truly parts of their respective substances. They are located in space and time. They are particulars rather than universals.

This argument rests on the assumption that the relationship in question must be a part-whole relation. The third alternative is rejected because of this assumption. The first two alternatives give expression to it. These two alternatives show that the part-whole relation is, moreover, conceived of as a spatial part-whole relation. The essence is treated as if it were a spatial thing, a sort of pizza pie. Otherwise, there would be another possibility. The essence could belong simultaneously and wholly to several individual things. *Humanity* would be as a whole a part of Socrates, of Plato, and of Aristotle. Thus we can easily avoid the thrust of the argument if we insist that there are part-whole relations other than the spatial one. We can avoid the conclusion, in other words, if we maintain that a human being is not a spatial whole which contains a spatial part *humanity*. More distinctly put, we hold that an essence is not a spatial thing at all, and therefore, could not be a spatial part of anything.

But there is obviously still another way out. We could reject the very idea that exemplification must be a part-whole relation. And this is indeed what I shall do. The property of being human or being a human being belongs to Socrates, not as a part belongs to a whole, but in a unique and undefinable way. The best we can do is to describe this relation as the relation which everything has to its properties. Exemplification, in our view, is unlike any other relation. It is not a part-whole relation of any sort, spatial or otherwise. Nor is it like the intentional nexus, as the third alternative suggests. We must be clear, however, that

in rejecting the basic assumption of the argument, we reject a fundamental thesis of the Aristotelian tradition, namely, the thesis that the essence of a substance is *part* of the substance. And this implies that we abandon the basic distinction between essence and accident. Thus we are adopting a Platonic rather than Aristotelian stance in regard to properties. All properties dwell in the realm of being, the so-called essential ones just as much as the accidental ones.

We must not make light, however, of a powerful and profound motive for the Aristotelian's insistence that essential properties are part and parcel of their respective substances. In this way, one averts a catastrophe which permanently threatens the Platonic system. This catastrophe consists in the complete isolation of the world of being from the world of becoming. If the essential properties are parts of substances, then they are firmly tied to the world of becoming. They are a part of it. Properly speaking, there are not two worlds, but only one. And in this one, matter and essence are wedded to each other.

Our task is therefore clear: we must avoid the Platonic catastrophe by non-Aristotelian means. We must securely tie properties to individuals without making the former parts of the latter. One half of this task has already been accomplished. Properties and individuals, in our view, are inseparably conjoined by the nexus of exemplification. Properties, in our view, are not *parts* of individual things, but they do not stand aloof from them either. They are as intimately connected with individuals as they possibly can be without being parts of them. Thus we, too, know of only one world, a world in which individuals, conceived of as particulars, and properties, conceived of as universals, dwell side by side in perfect harmony.

The other half of the task concerns the theory of knowledge. Not only does the Platonic world threaten to split into two unconnected realms, but the Platonic mind does as well.

(3) *Perception versus reflection*

According to the Platonic tradition, we are acquainted with the world of becoming, the world of changing individual things, by means of *perception*. The senses inform us about the goings on in

The distinction between particulars and universals this realm. But perception is a matter of the sense organs, of eyes, ears, nose, etc. It is therefore said to be not a purely intellectual activity. It consists, in a manner of speaking, of an interaction between different parts of the realm of becoming. Universals, which float in the realm of being, cannot interact with the senses. They cannot be known to the senses. They cannot be perceived. *Perception is of the particular and only of the particular*. This conclusion is so important that I shall give it a special name. I shall call it 'the Platonic dogma'.

Granted the Platonic dogma and assuming that we are acquainted with universals, it follows immediately that there must be a mental faculty other than perception which informs us about the world of being. According to the Platonic tradition, we know universals by means of what I shall call '*reflection*'. Reflection is conceived of as a purely mental activity, independent of all sense organs, by means of which we gain knowledge about the world of being. Thus the Platonic mind is split into two parts, corresponding to the two realms of being and of becoming: there is reflection of the world of being, and there is perception of the world of becoming.

Some of the age-old prejudice against universals derives from the conviction that there is no special mental faculty of reflection. One of the main nominalistic arguments has always been of the following sort. If there were universals, then, according to realism, they could not be known by the senses. Thus there has to be a special kind of mental act whose objects they are. But no realist has ever been able to describe this kind of act or to point it out to us. We have nothing but his assurance that there must be such a faculty. Since this alleged ability to reflect upon universals remains mysterious, we may justifiably be suspicious of the whole realm of universals, that is, of a world which presumably lies beyond the reach of the senses.

The Aristotelian tradition tries to bridge the gap between the two halves of the Platonic mind just as it tries to bridge the schism between the two Platonic worlds. In perception, as we saw, the essential property of the perceived object is thought to exist mentally in the perceiving mind. This means that essences are presented to us in perception, that we are acquainted with them through the senses. No special faculty of the mind is required. Of course, the process by means of which these

essences arrive in the mind is rather complicated and involves more than the mere stimulation of the sense-organs. But, nevertheless, it is a process of perception.

We, too, must beware of postulating an obscure faculty of the mind in order to safeguard access to the world of being. Universals and particulars, I said, dwell in the same world, side by side, inseparably joined together like Siamese twins. Whatever mental faculty acquaints us with one, cannot help but acquaint us with the other. What could be plainer than that perception acquaints us, not only with apples and billiard balls, but also with their colors and shapes. Perception, and only perception, contrary to the Platonic tradition, is the window onto the (outside) world. The senses do not acquaint us with particulars all by themselves, but with particulars and their universals. We must reject the Platonic dogma!

In terms of this very sketchy outline of the Platonic tradition, we can give a tentative description of Husserl's Phenomenology. Phenomenology is largely a theory of how we know universals and particulars. It accepts the Platonic distinction between these two kinds of entity, and it also embraces the Platonic dogma. Thus its main task is to elucidate the nature of reflection. This task, as we saw, is not new. But Phenomenology approaches it with an amount of sophistication hitherto unknown. The sophistication is a gift from Brentano's theory of intentionality. In one sentence: phenomenology attempts to explain the nature of reflection and the nature of perception within the framework of an intentional theory of the mind.

5. Husserl's early view on numbers

(1) *The historical background*

Edmund Husserl, the founder of Phenomenology, studied mathematics at the universities of Leipzig and Berlin. In 1881, he moved to Vienna where he got his Ph.D in 1883 with a thesis on a topic in mathematics. During the years from 1884 to 1886, he studied philosophy with Brentano at Vienna. These facts about Husserl's academic career are important for an understanding of his philosophical views about the nature of mind. It is likely that he will apply his philosophical tools to a problem about the foundations of mathematics. And this is precisely what happened. The result was Husserl's first major work, *Philosophie der Arithmetik* (*Husserliana*, vol. xii, The Hague, Martinus Nijhoff, 1970), which he dedicated to his teacher Brentano.

According to the Platonic tradition, there are two basic categories of things, namely, particulars and universals. Now, recall that earlier we pointed out that the Aristotelian division between substances, essences, and accidents is not complete. There are also relations and structures. The same must be said about the Platonic assay of what there is. It is not complete. We must add, at least, relations and structures to the two categories of particular and universal. But notice that this addition to the

Platonic inventory must be done carefully. As we described particulars and universals, they form mutually exclusive and exhaustive classes of things. Any entity whatsoever either is located in space and/or time or it is not so located. There is no third possibility. Thus relations, for example, must be either particulars or they must be universals. Of course, if you are a nominalist and deny the existence of universals, then you have no choice: if there are relations at all, they must be particulars. A Platonist, on the other hand, though he has a choice, will undoubtedly put relations together with properties rather than with individual things. What you get, therefore, is the following picture of the Platonic world. There are particulars and universals. But universals are of two kinds. There are properties of individual things, on the one hand, and there are relations between individual things, on the other. Neither the property round nor the relationship of being taller than exists anywhere in space or time.

What about structures, how do they fit into the Platonic scheme of things? Well, there are all kinds of structure, as we saw earlier. The squares of a chess board form a spatial structure; the positive natural numbers, arranged by size, form a non-spatial series. Thus there are structures which are universals and there are structures which are particulars. As a matter of fact, the ordinary perceptual objects around us, the apple Oscar and the two billiard balls Max and Moritz, are spatio-temporal structures. They are spatio-temporal wholes which have spatial and temporal parts. Among universals, therefore, we find properties, relations, and structures. Among particulars, we find spatio-temporal structures in the form of ordinary perceptual objects.

How can numbers be accommodated? Are they particulars or are they universals? If they are universals, do they belong to one of the three categories we just mentioned. If not, do they form a category of universals of their own? And if so, how is this category characterized? These questions loom very large in the philosophy of the last hundred years. Husserl, with his mathematical background and his philosophical training, was supremely qualified to answer them. And this is what he tried to do in the *Philosophie der Arithmetik*. Alas, his investigation was flawed. In order to get at the nature of numbers, he thought he

had to investigate the origin of our conceptions of numbers. And pretty soon, he was discussing these concepts, thinking all the while that he was still talking about the numbers themselves. (This, parenthetically, is a common philosophical mistake. One starts out with an inquiry into the nature of some sort of thing or other. Then one alleges that this inquiry can only succeed, if first one raises questions about the nature of the inquiry itself. Eventually, the original topic is completely forgotten, and instead of discussing the nature of some kind of thing or other, one talks about the nature of our knowledge of that kind of thing. This is, as we shall see, how Heidegger loses sight of the meaning of being and concentrates on the meaning of human being instead.) Instead of doing ontology, Husserl wound up doing psychology. Before we take a closer look at his mistake, let me briefly explain why it is important for the creation of Phenomenology.

Soon after his *Philosophie der Arithmetik* was published, Husserl realized that an inquiry into the origin of our concepts of numbers will tell us absolutely nothing about the nature of the numbers themselves. As to numbers, he now adopted the view that they are universals. As long as he did not sharply distinguish between numbers and their concepts in our minds, he could think of the former as part of the world of becoming, as part of the world of mental things. As soon as he made the distinction, however, numbers stood revealed as universals, as timeless, non-spatial entities. But he must also have noticed that numbers are not the only denizens of this world of being. All properties dwell in it, and so do all relations. There is a richness to this world, a variety and structure, which is overwhelming. The realization of the existence of this vast realm must have led Husserl almost immediately to another question, namely, to the question of how this realm is known to us. Having been educated in the spirit of Brentano's analysis of the mind, he must have asked himself: what kind of mental act acquaints us with universals? His problem now became: how can we reconcile the existence of a Platonic realm of being with the existence of an intentional mind? This problem is the main topic of Husserl's next and perhaps greatest work, the *Logical Investigations* (trans. J. N. Findley, 2 vols, New York, Humanities Press, 1970).

Two more historical remarks before we return to the philosophical discussion. It must be mentioned that Husserl's confusion between things and their concepts was quite common at the time. With very few exceptions, and one of great importance, his contemporaries supplanted ontological problems with epistemological ones. Some of us trace this epistemological bias back to the great German philosopher Immanuel Kant (1724–1804). But be that as it may, the important exception to the rule was the philosopher Gottlob Frege (1848–1925) who, in 1884, published a book on very much of the same topic as Husserl's. Frege's book is called *The Foundations of Arithmetic* (trans. J. L. Austin, Northwestern University Press, Evanston, Illinois, 1974). In this book, Frege sharply distinguished between a number, for example, the number three, and our idea or concept of it. That the two must be distinguished is obvious as soon as you realize that what is true of one is not necessarily true of the other. For example, the number three can be squared, but its idea cannot. It is the next number after one in the series of odd positive integers, but its idea is not. And so on. Frege argued convincingly that the acquisition of the idea of the number three, the formation of this concept in a given mind, is a topic for psychology and not for arithmetic. Nor does the pursuit of this topic shed any light on the nature of numbers. It was Frege, you should know, who wrote a very critical review of Husserl's *Philosophie der Arithmetik*, harking back to his own earlier work. We may speculate that it was this devastating review which contributed to Husserl's change of mind and, hence, to his discovery of the realm of essences.

The second remark is this. Brentano's theory of intentionality does not invite a psychological treatment of numbers or of any other kind of object. Quite the contrary. The three-fold distinction between a mental act, its content, and its object positively forbids any identification of, say, the number three with its idea or concept. The idea of the number three is, in our terminology, the content of a particular mental act of having an idea. It is a property of this particular mental act. This content, the idea or concept, stands in the intentional nexus to an object; in our example to the number three. Thus the idea of the number three is a certain property of a mental individual, of a mental act; and this idea is related to the number. The idea of a particular

elephant is in precisely the same boat as the idea of the number three. It, too, is a content of mental acts, namely, of all of those mental acts which are acts of having the idea of this elephant. It, too, is related by means of the intentional nexus to the elephant in question. And it, too, must not be confused with the elephant itself. We may ride the elephant, climb on his back, feed him peanuts, but we cannot ride the idea of this elephant, climb on its back, or feed it peanuts. No, the reason for Husserl's original confusion between numbers and ideas of numbers cannot be laid at the doorstep of the theory of intentionality. It may be attributed, I suggest, in part to the Kantian temper of the times, in part to Brentano's own peculiar views about what is mental and what is physical. Brentano himself constantly and systematically substituted psychological investigations for philosophical ones. Here, therefore, we have one of those exciting ironies with which the history of ideas abounds: the very philosopher who, for the first time, sharply distinguished between mental acts, on the one hand, and their intentional objects, on the other, tended to deny the existence of these objects, unless they were themselves mental phenomena.

(2) *What are numbers?*

To what category of thing do numbers belong? What kind of entity, for example, is the number three? It is pretty clear that numbers are not particulars, for they are not located in space and/or time. You cannot go looking for the number three as you can search for the abominable snowman. Nor will you be able to place it somewhere in history. It did not come and go with the dinosaurs; nor will it survive the collapse of the sun. Most philosophers are pretty much agreed, therefore, that numbers are not particulars.

It follows that numbers must be universals. But what kind of universal? Are they properties of individual things? Is the number three a property of something, like roundness is a property of a billiard ball? There is much that speaks against this possibility. At this moment, there are *three* blue pens on the desk before me. Now, what could the number three here be a property of? It cannot be a property of each one of the three blue

pens, for each pen is one in number and not three. None of these pens can be said to have the property of being three. Nor can the number three be a property of the bundle of pens, conceived of as a spatio-temporal structure. This bundle, too, is one in number—there is one bundle—and not three. Since the individual pens and the bundle of pens are the only two kinds of individual thing in the situation, and since we have seen that three is not a property of either, we must conclude that it is not a property of individual things at all.

It may have occurred to you at some earlier point that properties of individual things are not the only properties there are. Max, the billiard ball, is round; it has the property roundness. So roundness is a property of individual things. Max is also white. Therefore, whiteness is a property of individual things. But roundness and whiteness, these two properties of individual things, are distinguished from each other by having themselves different properties. Roundness is a *shape*, while whiteness is a *color*. Roundness has the property of being a shape, while whiteness has the property of being a color. Thus being a shape is a property of properties of individual things; and so is being a color. Hence there are also properties of properties of individual things. Properties themselves can have properties. Now, this discovery reveals another possible answer to the question of what kind of universal the number three is. Might it not be the case that three is, not a property of individuals, but a property of properties of individuals?

Let us return to the example of the three blue pens, and let us christen them. Let us call them 'Tom', 'Dick', and 'Harry'. Tom has the property of being a blue pen on my desk (at this time). He shares this property with Dick and Harry, but with nothing else in the world. Nothing else in the world has this property because nothing else in the world is (now) a blue pen on my desk. Here we have a unique property, shared by Tom, Dick, and Harry, but by nothing else. A brilliant philosopher may conclude that the number three is a property of this unique property; for this unique property has the property of being exemplified by exactly three things. Let us assume that there are also at the present three books on my desk. Then these books, and nothing else in the world, share the property of being a book on my desk at this moment. Since this property is shared

by precisely three things, it, too, has the property which is the number three. In other words, the number three is a property which is shared by the property of being a blue pen on my desk and by the property of being a book on my desk at the present time. As a matter of fact, it is a property which is shared by all and only those properties which are ever exemplified by precisely three things. Just as the different color shades all share in the property of being colors, and all shapes share in the property of being shapes, so all properties that are exemplified by precisely three things share in a property which is the number three. Numbers, in general, are therefore *properties of properties*. The number two, for example, is a property of all of those properties which are exemplified by a couple of things.

I think that this view is extremely plausible. But it is not the most popular view. Instead, a different conception of numbers has been widely accepted. According to this view, numbers are *sets of sets*. In order to understand this view, you must know what a set is. Most likely, you are familiar with sets from your mathematics classes in high school. So I shall be brief and try to stress the philosophical point of view. Sets, you must realize, are a further addition to our ontological inventory of the world: they are neither individual things (particulars), nor are they properties (or properties of properties), nor are they relations, nor are they structures, nor are they facts. A set of things is a *group* of things, considered merely as things which belong to the group and without regard to any relations among the things of the group or to any properties these things may have. For example, all the left shoes that exist in the universe at this moment form a set. And so do the following three things: a hair on Richard Burton's head, the last pill which Marilyn Monroe swallowed, and the moon. It is important to distinguish between sets so conceived and structures, especially spatio-temporal structures. A *bunch* of grapes, for example is a structure rather than a set; for the individual grapes have to be arranged in a certain spatial fashion in order to form a bunch. If we think of these grapes as scattered all over the United States, we no longer have a bunch. But these scattered grapes would still form a set. The same consideration holds for a pack of wolves. To form a pack, the individual wolves have to live in close proximity; they must form a spatio-temporal structure.

This difference between sets and structures can be made most precise in terms of the different identity conditions which sets and structures have. You may recall what I said earlier about the identity of structures: three conditions must be fulfilled for structure T_1 to be the same as structure T_2 : (1) the non-relational parts of T_1 must be the same as the non-relational parts of T_2 ; (2) the relations of T_1 must be the same as the relations of T_2 ; and (3) the same non-relational parts must stand in the same relations in both structures. For sets, the criterion is much simpler: a set S_1 is identical with a set S_2 if and only if they have the same members (elements). All that matters for the identity of sets is that they consist of the same things; no inner structure is presupposed. But this, of course, is just another way of saying that sets are not structures.

Consider now all the sets which have existed and will ever exist consisting of exactly three members. Among these sets will be the set of the blue pens which are now on my desk. Among them will also be the set of the books which are now lying on my desk. One may think that all of these sets have something in common: they are all triples, so to speak. What they have in common, one may reason, is a common property. They all share in a property. And this property, one may finally conclude, is the number three. In this fashion, one may come by the view that numbers are properties, not of properties, but of sets. I mention this further possibility because it lies halfway between the last view which we considered and the view which, as I mentioned, is the generally accepted one. All the sets which have exactly three members, of course, form a new set, namely, the set which consists of all of those sets which are triples. And fashionable wisdom has it that the number three is this set of triples. In short: numbers are *sets of sets*, namely, of all of those sets which have the same number of members. The number two, for example is the set of all couples, that is, of all sets which have two members.

Here, then, are three ontological possibilities. Firstly, the number three could turn out to be a property of the property of being a blue pen now on my desk. Secondly, it could turn out to be a property of the set consisting of the blue pens which are now on my desk. Thirdly, and most widely accepted, the number three may be the set consisting of all triples and, hence,

include the set of blue pens on my desk. According to these possibilities, numbers are either properties or sets. They belong either to the category of property or to the category of set. I shall not hide from you my conviction that they are neither. I believe that all three views are mistaken, even the very popular one that numbers are sets of sets. Numbers, in my view, are of an entirely different sort. They belong to a category all of their own. I call this category 'quantifier'. Numbers are *quantifiers*. If you are interested in my reasons for rejecting these views and wish to learn more about quantifiers, let me refer you to another book of mine: *The Categorical Structure of the World* (Bloomington, Indiana University Press, 1983).

Our survey of views about the nature of numbers allows us to see Husserl's own analysis of the concept of number in the proper light. Let us then turn to Husserl's *Philosophie der Arithmetik*.

(3) Husserl's analysis of the concept of number

There is a classic definition of number which goes all the way back to Euclid:

A unit is that by virtue of which each of the things that exist is called one. A number is a multitude composed of units. (Book IV, Euclid's *Elements*)

I think we don't go too far astray if we assume that what Euclid means by a 'multitude' is a set. A number, accordingly, is said to be a set of units. The number three, for example is a set of three units. Husserl starts his own analysis of the concept of number with Euclid's definition in mind. In effect, he offers a psychologically sophisticated rendition of Euclid's definition.

Husserl begins by considering what he calls a 'concrete multitude': the color red, the moon, and Napoleon. There exist quite a few such multitudes. For example there also exists the concrete multitude composed of a certain feeling of nausea, a particular angel, Italy, and the number three. Now, when we abstract from the particular things which compose these multitudes, so Husserl claims, then we arrive at the notion of a

multitude of this sort by reflecting on the characteristic relation which obtains between the members of every multitude, namely, the relation of 'collective connection'. In other words, Husserl maintains that if we pay attention to what all concrete multitudes have in common, we find out that it is a certain relation between their members. Notice two things. Firstly, Husserl explains here, not what a number is, but how we *arrive at the notion* of a set of this sort, namely, by abstraction from the particularities of its members. Secondly, Husserl holds that there exists a characteristic relation between the members of this sort of set, contrary to what we said in the last section.

By abstracting from the peculiar characteristics of the members of our particular concrete multitude, Husserl says, we arrive at the notion of a mere *something and something and something*. Every multitude of three things is a something and something and something, if we do not pay attention to the peculiarities of its members. But this notion, according to Husserl, is the notion of *one and one and one*. And this notion, in turn, is the notion of the number three. Thus we arrive at the notion of the number three by considering a concrete multitude of three things and abstracting from the peculiarities of its members.

What plausibility Husserl's analysis has, it derives from the fact that *one plus one plus one are three*: $1 + 1 + 1 = 3$. The left side of this equation may look, on first blush, like the abstracted notion of *something and something and something*. But a closer look reveals that the two notions are not at all the same. To begin with, the notion of the number one seems clearly to be quite different from the notion of something. The first is a notion of a number, but *something* is clearly not a number like two, three, and four. Of course, every something is one in number. But so is every fire engine, and nobody would conclude that the number one is a fire engine. Secondly the arithmetic sum relation cannot be the same as Husserl's collective connection. The latter relation is a most fragile bond, a mere will-o'-the-wisp. According to Husserl, it is created between the various items of a concrete multitude by the fact that these items are thought together by a mind. By the mere fact that you think in one thought of such diverse items as the color red, the moon, and Napoleon, you connect them in some way, so that they form a concrete multitude. If this is so, then it follows that this multitude does

not exist if no one thinks of these three items in one thought. And what holds for this particular multitude, holds for all of them: none of them would exist if people would not think of various things together in one thought. And it follows further that the number three, the sum of one plus one plus one, would not exist if there were no thoughts of several items together. And this seems to me to be an unacceptable consequence of Husserl's view. Surely, I object, the fact that one plus one plus one are three does not depend on there being anyone who thinks of three things in one single thought. One plus one plus one would be three, even if no one had even formed the abstract notion of a something and something and something.

There is another decisive objection to Husserl's analysis. What we arrive at by abstraction is presumably the notion of *something and something and something*. But should this not really read: something and something *else* and something *else*? If we assume that the first something is the same as the second and the third, then there exists not a multitude (set) with three members, but rather a multitude (set) with just one member, namely, the certain something. A set that consists of the Eiffel Tower and the Eiffel Tower and the Eiffel Tower, consists just of the Eiffel Tower. It does not have three members, but only one. Thus in order to get an abstract multitude of *three* things, abstraction must have been carried just far enough to erase the differences between the color red, the moon, and Napoleon, without erasing the fact that they are different. The notion of the abstract multitude must therefore be the notion of something and something else and something else again. But then it becomes quite obvious that this notion is not the notion of one plus one plus one. In the latter, the number one does indeed occur identically the same three times. The first one is not different from the second and the third. What the formula 'one plus one plus one' represents can be expressed more perspicuously by 'the sum of one plus one, plus one'. In the familiar arithmetic symbols: $(1 + 1) + 1$. And the equation $(1 + 1) + 1 = 3$ is a convenient abbreviation for: 'The number which is the sum of one and one (namely, the number two), plus one, is the number three. Put differently: 'The number which is the sum of the number which is the sum of one and one, and one, is the number three'. The sum relation as you can perhaps see, is a

three-place relation. This becomes obvious if instead of the familiar ' $m + n = p$ ' we always write ' $+ (m, n, p)$ '. Instead of saying 'three plus five is eight', we could say 'the sum relation holds between three, five, and eight'. This part of our criticism of Husserl's analysis can be summed up by saying that the number three, though it is the *sum* of two and one, and though two is the *sum* of one and one, is not a *set* consisting of three (*different!*) ones.

So much for Husserl's analysis and our criticism of it. What we are interested in, primarily, is the fact that Husserl soon turned away from his psychological treatment of numbers, in terms of mental processes of collecting, and adopted a Platonic position, according to which numbers dwell in the realm of being together with other universals.

6. Husserl's distinction between essences and their instances

(1) *The Platonic dogma and eidetic intuition*

Granted that numbers belong to the realm of being, let us consider anew such ordinary properties as colors and shapes. You will remember that I argued earlier, against rather stiff opposition, that roundness is not located in space. The mistaken impression that it is, say, over there, where the billiard ball Moritz is, arises because it is indeed Moritz rather than the book over here which *is* round. We are tempted to locate properties where, in reality, the individual things are located which have those properties. This is, at any rate, my view. But suppose someone keeps insisting that roundness is quite literally over there, that it is just as much and in the same sense located as Moritz is. What can I reply? All I can do is repeat myself: you are mistaken, you merely think that roundness is over there because something is over there which is round.

My opponent, on the other hand, has an ace in the hole, namely, the Platonic dogma. According to this dogma, whatever can be perceived, whatever comes through the senses, belongs to the world of becoming. The senses can only acquaint us with particulars; universals cannot be perceived. If this assertion were true, then it would follow that I must be mistaken. For it seems to be undeniable—and I shall not deny it—that I see, quite

literally and unequivocally, the roundness of Moritz with my eyes. But then it follows that this shape cannot be a universal. It must be a particular and, hence must be located in space and/or time.

Husserl never questioned the Platonic dogma. He therefore believed that Moritz's roundness and his color, as they are perceived, are particulars, located in space together with Moritz. If they are where Moritz is, then they must be *part of* Moritz. And since they are in space, since they are spatial, they must be spatial parts of Moritz. But, quite obviously, they are not. Moritz's shape is not a part of him in the same sense in which his left half is a part of him. We can split Moritz in half, take one half and hide it under the bed, and send the other half by airmail to Australia. But we cannot in like manner spatially separate his shape from the rest of him. While the left half of Moritz is a *separable* part of him, his shape is an *inseparable* part of him. This is the way Husserl puts it in the *Logical Investigations*; and he spends many pages discussing this difference. Notice that there is something strange about Husserl's view. Moritz's shape is (a) spatial and (b) a part of Moritz, and yet it is not a spatial part of Moritz. We wonder how something spatial can be a part of something else which is spatial, without being a spatial part of it.

But this is not the main point I wish to make. Assume that you are on Husserl's side and hold that Moritz's roundness is particular. Assume further that you are also convinced, on independent grounds, that there must exist a universal roundness as well. Then you will be faced once again with the question of how we are acquainted, not with Moritz's roundness, but with the universal roundness. And you will have no choice, being a victim of the Platonic dialectic, but to postulate a special faculty of the mind, other than perception, which acquaints us with the universal roundness. This is the unenviable position in which Husserl finds himself. Having convinced himself that there is a universal roundness, in addition to the particular roundnesses of round things, and relying on the Platonic dogma, he must explain how, by what means, we have access to the universal roundness. He responds with a bold move. Perception, he claims, is of two kinds. There is ordinary perception—what we usually call 'perception'—of particulars, including Moritz's round-

Husserl's distinction between essences and their instances. And then there is a different kind of perception—Husserl calls it 'eidetic intuition'—of universals. What is bold about this move is the assertion that there is a *perception* of universals, that universals are presented to the mind just as immediately as ordinary individuals are in ordinary perception. The standard Platonic view has it, by contrast, that universals are somehow given to thought, to the understanding, as opposed to perception. Husserl, of course, does not deny that we can think of universals. But he also insists that they are given, in the first place, in a mental act which is very much like an act of perception.

There are some terminological matters to be attended to at this juncture: what I have called universals, Husserl calls—not too fortuitously, as you can perhaps see—'essences'. The universal roundness is an essence. What shall we call the particular roundness of Moritz? I shall say that it is an *instance* of the essence (or universal). Moritz's roundness, call it 'roundness₁', is an instance of (the essence) roundness. Max's roundness, we shall call it 'roundness₂', is also an instance of this essence. And so is every particular roundness of every round individual thing. There are therefore many instances of the one essence roundness. All of these instances are located in space and time, but the essence is not. We perceive an instance of roundness in ordinary perception; the essence, on the other hand, is given to us in eidetic intuition. (Husserl's term uses the Greek word 'eidos' which was Plato's word for what I call 'universals', that is, for the inhabitants of the world of being. Eidetic intuition is thus the intuition (perception) of universals. Essences, in the Aristotelian sense, must of course be sharply distinguished from Platonic universals.) What perception is to the instances of roundness, eidetic intuition is to the universal roundness itself.

Husserl's world, like Plato's, constantly threatens to split into two unconnected halves, a world of instances and a world of essences. Perception, too, divides into two mutually exclusive faculties: the perception of instances and the intuition of essences. Knowledge is therefore of two kinds. There is knowledge of the world of becoming, gained through perception, and there is knowledge of the world of being, dependent on intuition. Is there any way of avoiding this rift? Can we make a

case for the view that there is just one world, a world known through perception? I think so. But before we attempt to make it, let us take a look at Husserl's main argument for the existence of essences.

(2) *The argument for essences*

Consider again the two white billiard balls, Max and Moritz. According to Husserl's ontological essay, Max contains an instance of roundness, roundness₁, and Moritz contains a different instance of roundness, roundness₂. Compare Max and Moritz with a square Graham cracker; call it 'Graham' for short. Graham does not contain an instance of roundness, but contains instead an instance of squareness, call it 'squareness₁'. The three instances so far mentioned are all different from each other. Of course, this is just a fanciful way of saying that there are *three* instances. But it is a further fact that two of these instances are instances of roundness, while the third differs from them in being an instance, not of roundness, but of *squareness*. What is the nature of this fact? How shall we analyze it? A nominalist faces the following problem. He must account for the fact that two of the instances are different from the third in that they are instances of the same property, without invoking anything but particulars. Husserl claims that this cannot be done, and I agree with him. This is his main argument for the existence of essences. Here are some of the more popular nominalistic attempts to solve the problem.

It has been held that while there is the word 'roundness', there is no such thing as the universal *roundness*. Of course, there is roundness₁, roundness₂, etc., but these things are particulars rather than universals. Now, the fact that roundness₁ is an instance of roundness rather than an instance of squareness, it has been said, is nothing else but the fact that roundness₁ is somehow related to the word 'roundness' rather than to the word 'squareness'. The first instance, but not the second, is *called* 'roundness'. The fact that squareness₁ is an instance of squareness rather than of roundness is similarly explained as the fact that it is called 'squareness' rather than 'roundness'. A moment's reflection shows that this nominalistic explanation

Husserl's distinction between essences and their instances will not do. For one, it is clear that roundness₁ would be an instance of roundness even if there had never existed the English word 'roundness'. Max would be round, he would contain an instance of this sort, even if there were no language at all, neither English nor any other. Surely, the moon was round long before anyone talked about it. Secondly, it is also obvious that roundness₁ would still be an instance of roundness rather than squareness if we suddenly decided to call it something else. Max would continue to be round, he would continue to contain an instance of this kind, even if we suddenly called its shape, say, 'whiteness'. Thirdly, the word 'roundness' is itself a universal. We mean by this word, not a particular inscription on a particular piece of paper, but rather the design (shape, pattern) which this particular inscription shares with all other inscriptions of the word. On this page, the word 'roundness' occurs several times, that is, there are several different inscriptions of it. Each one of these inscriptions shares with all the others a certain design. But this means according to the view under discussion, that each inscription contains an instance of the design. What makes all of these instances instances of the design 'roundness' rather than of the design 'squareness'? You can see that the problem which we originally formulated in terms of instances of roundness and roundness recurs for instances of the design 'roundness' and the design itself.

According to a slightly different nominalistic move, the fact that roundness₁ is an instance of roundness is really the fact that the word 'roundness' is *true* of roundness₁. But this view is open to the same objections as the previous one. In addition, there is the following consideration. The relationship of being true of cannot arbitrarily hold between the word and the instance, as our objections have indicated. Under what conditions, then, does it hold? What must be the case for 'roundness' to be true of roundness₁? According to the view we are considering, the relationship holds if and only if the sentence 'roundness₁ is an instance of roundness' is true. So, we have to ask next: under what conditions is this sentence true? We get the answer that this sentence is true if and only if roundness₁ is an instance of roundness. And here our questioning is supposed to end. And end it does, because we have come full circle. We started with

the question of under what conditions the relation of being true of holds between 'roundness' and roundness₁. And we have just been told that it holds if and only if roundness₁ is an instance of roundness. But the sentence 'roundness₁ is an instance of roundness' is presumably just another sentence for the circumstance that 'roundness' is true of roundness₁. Thus we have in effect been told that 'roundness' is true of roundness₁ if and only if 'roundness' is true of roundness₁. And that is no explanation at all!

Finally, there is a view which tries to replace the universal roundness by a similarity relation between instances of roundness. According to this view, the fact that roundness₁ is an instance of roundness and not an instance of squareness is really the fact that roundness₁ stands in a certain relation of similarity to such instances as roundness₂, roundness₃, etc., but does not stand in this relation to such instances as squareness₁, squareness₂, etc. This view denies that there is, in addition to the various instances, the universal roundness, but assumes that there is instead a relation of similarity between these instances. But it is clear that roundness₁ is an instance of roundness cannot be the fact that roundness₁ stands in the similarity relation to some other instance, for the first fact would obtain even if there were no other instance to which roundness₁ is similar. Assume that near Mt St Helena there lies a piece of lava which has a very peculiar and complicated shape. We do not have a name in English for this kind of shape; nor does any other language. So we shall call it 'alpha'. It may well be the case that nowhere else has there ever existed nor will there ever exist a body with the shape alpha. But even then it would be true that the instance alpha₁ is an instance of alpha, that is, of that shape rather than any other.

Moreover, the question arises of whether the relation of similarity itself is universal or not. If it is universal, then the view under discussion does not succeed, for it merely replaces one universal entity, the universal roundness, by another universal entity, the similarity relation. There are then, after all, denizens of the world of being in the form of relations. No, a nominalist must maintain that there is no such thing as the universal relation, but merely a number of its instances, S_1 , S_2 , etc. This means that between roundness₁ and roundness₂,

Husserl's distinction between essences and their instances between these two instances, there holds an instance S_1 , while between roundness₃ and roundness₄, these two different instances, there holds a different instance, say S_2 . But it is, of course, a fact that S_1 and S_2 are both instances of similarity rather than instances of the father-of relation. And the question must be answered of how this fact can obtain without there being a universal similarity, of which S_1 and S_2 are instances. As you can see, the assumption that there are instances of this relation, but no universal relation, has merely raised our original problem anew; this time for S_1 and S_2 rather than for roundness₁ and roundness₂. We still have no answer to the question of how to assess the fact that an instance is an instance of one kind rather than another.

Nominalism, we agree with Husserl, does not get off the ground. There are universals. But are there also instances? I do not think so. Consider again the two billiard balls, Max and Moritz, and compare them with the square cracker, Graham. There are these three individual things. They belong to the category of particular since they are spatio-temporal entities. What about their shapes? Max is round, and so is Moritz; while Graham is square. The property roundness and the property squareness, I submit, are two universals. Furthermore, Max and Moritz exemplify one and the same shape, they both exemplify roundness. Graham exemplifies a different shape. But other square things exemplify the same shape as Graham does, namely, squareness. In each case, many particulars exemplify the same universal. Our assay of the situation thus encounters only three kinds of thing: the three particulars, two universal properties, and the universal nexus of exemplification which connects particulars with universal properties. Husserl's account, on the other hand, is quite complicated. The complication arises because of his belief in instances. Max, Moritz, and Graham are conceived of as structures of instances. Max, for example, consists of the instance roundness₁, the instance whiteness₁, etc.; Moritz consists of the instances roundness₂, whiteness₂, etc; and Graham consists of the instance squareness₁, the instance brownness₁, etc. Now, the fact that Max is round becomes rather complicated. First of all, Max contains the instance roundness₁. But this is not all. We must also take into account that roundness₁ is an instance of roundness rather than, say,

squareness. So the fact that Max is round is really the complex fact that Max contains roundness₁ and that roundness₁ is an instance of roundness. This ontological analysis lists many more ingredients than ours. Firstly, there are the various instances (which belong to the category of particular). Secondly, there are the three structures, Max, Moritz, and Graham, (which belong also to the category of particular). Thirdly, there are the universals roundness, whiteness, and squareness. Fourthly, there is the relation between structures like Max, on the one hand, and the instances which they *contain*, on the other. This is a whole-part relation. Fifthly, there is the relation which obtains between an instance and the universal of which it is an instance. This is not a whole-part relation. It resembles, to some degree, our exemplification relation. Sixthly, there is a relation of conjunction, expressed by 'and', which connects the fact that Max contains roundness₁ with the fact that roundness₁ is an instance of roundness. Such is the complication introduced by Husserl's belief that there are instances.

Why does he believe that there are instances? Why would anyone believe that there are instances? As I have laid out the philosophical dialectic, there is only one reason: because he subscribes to the Platonic dogma! If it is true that we cannot perceive universals, then it follows that the shape of Max and Moritz, which I perceive, cannot be universal, but must be particular (or, rather, must be two particulars!). And then it follows that there are instances. Thus if we reject instances, we must reject the Platonic dogma. And this means that we must offer a different conception of the nature of perception.

(3) *The objects of perception*

The thesis which I wish to submit for your evaluation is this: every act of perception is propositional. I shall call this, tongue in cheek, Grossmann's dogma. We already know what perceptual acts are, namely, acts of seeing, hearing, smelling, tasting, and touching (feeling). Let us consider, as our paradigm, a case of seeing: I see that Max (the billiard ball) is round. What I see is *that Max is round*. I see, in other words, that *something is the case*. I express this by saying that seeing is *propositional*. What one sees,

Husserl's distinction between essences and their instances in this sense of the term, is a proposition, or a circumstance, or a state of affairs—these are all words for approximately the same thing—which is expressed by what follows after the 'that' in the sentence: 'I see that Max is round.' On another occasion, I see that Moritz is white. In this case, I see the state of affairs represented by 'Moritz is white'. Now, what I claim is that all perception is perception of states of affairs in this sense. I see *that* an elephant enters the circus ring; I see *that* the elephant lifts both of his front legs; I hear *that* the elephant tamer cracks his whip; I smell *that* my neighbor on the seat beside me eats popcorn; I taste *that* the peanuts I am eating are not salted enough; and I feel *that* the seats are much too hard for comfort.

Of course, someone may ask me after the show: 'Did you see the elephant?' And I may reply: 'Yes, I saw it.' The question and answer make it look as if the object of my perception was, not a state of affairs, but rather an individual thing, namely, an elephant. But I think this way of looking at the conversation is too superficial. What my friend was interested in was merely whether or not I had seen the elephant perform. He was not interested in what it precisely was that I saw. Otherwise, he might have asked: 'Did you see the elephant stand on its hindlegs?' Or he might have asked: 'Did you see the elephant dance in circles?' Very often, therefore, we report not precisely what it was we saw, but merely what the object was which we saw, or what the property was which we saw. The situation is similar to the one in which I report to my friend that I have been daydreaming about Venice. It is clear to him that I did not have before my mind, for some length of time, nothing but the city of Venice. Rather, he knows that what happened was that I remembered walking the streets of Venice, that I wished I were back, that I imagined taking the boat to the Lido beach, etc. A mental process of daydreaming took place, and this process consisted of many different acts of many different kinds, and these acts had as their objects, not the one thing, Venice, but various states of affairs. (I think that other kinds of mental act, not just perceptions, are propositional. But this is not of importance for our present point.)

When we look closely, I maintain, we will find that we always see some such thing as that Max is round, that the elephant is entering the ring, and that another elephant takes up his

position to the left of the first. Now, when I see that Max is round, I see Max and I also see the property roundness. By seeing the fact that Max is round, I am automatically acquainted with Max and with roundness. To see Max, to put it differently is to see some circumstance about him. It is to see that he is round, or that he is white, or that he is moving across the billiard table, or that he lies to the left of Moritz. And to see roundness is to see that something or other is round. It is to see that Max is round, or that Moritz is round, or that the moon is round. In short, to see an individual thing is to see a circumstance about it; and to see a property, is to see that something has the property. Thus we can be said to perceive states of affairs, but also their constituents. And to see the former is to see the latter.

I am not saying that there are two kinds of seeing, the seeing of states of affairs and the seeing of their constituents. There is only one kind of mental act of seeing, and its object is always a state of affairs. But to see a state of affairs, is to see its constituents. Nothing more is required to see Max but that you see that Max is round. Of course, it also works the other way around: to see Max is to see some such thing as that Max is round. Nothing more is required. Let me state it again: when you see that an individual has a certain property, you see the individual as well as its property; you are acquainted with both the individual and the property.

This view about the propositional nature of perception, I want to impress on you, breaks with almost all previous views in the entire history of philosophy. According to what is perhaps the most widely accepted alternative view, perception is a matter of having sensations and of making judgments. For example, when you see that Max is white, you are said to experience certain visual sense-impressions and, on the basis of these sense-impressions, to make the judgment that Max is white. Precisely speaking, there is no such thing as a mental act of seeing. Perception involves only acts of sensing sense-impressions (of having certain sensations) and acts of judging. According to our view, on the other hand, an act of seeing—or any other perceptual act—does not consist of anything else. It is an unanalyzable mental phenomenon. It is as different from the experience of sense-impressions and from judgment as it is from

Husserl's distinction between essences and their instances desire and memory. This is a fundamental difference between the popular view and ours.

To say that an act of seeing does not *consist*, in whole or in part, of the experience of sense-impressions is not to say that it could occur without such an experience. When you see that Max is white, you do experience certain visual sensations; and you could not see anything without these sense-impressions. But the fact that perception is *causally dependent* on the experience of sense-impressions does not imply that the former consists, in whole or in part, of the latter. Nor does perception consist, in whole or in part, of judgments. To see, with your eyes wide open, that the moon is full is obviously quite a different mental phenomenon from judging that it is full by consulting a calendar. We know quite well, under normal conditions, whether we have seen something or merely judged it to be so. But there is also a kernel of truth to the idea that perception involves judgment. Judgment, as traditionally conceived of, is *propositional*, in our sense of this word. You judge *that* something or other is the case; you cannot judge a thing. Since one noticed that a perception is often expressed in propositional form, one jumped to the conclusion that it must consist of judgment. The fundamental mistake of previous views has been their failure to realize that mental acts other than judgments can be propositional. While the popular view takes for granted that judgments and only judgments are propositional, we believe that all acts of perception are propositional. This is another fundamental difference between the two views.

From our perspective, to sum it up, the popular view realizes that perception involves the experience of sense-impressions. But it falls into error when it concludes that perception therefore consists of an act of experiencing sense-impressions. It also acknowledges that perception is in some sense propositional. But it infers erroneously that perception must consist of acts of judging. The truth is that perceptual acts themselves are propositional and that they causally depend on the experience of sensations.

What we perceive are states of affairs. What is a state of affairs? To what category does it belong? Is it particular or is it universal? By now, we automatically raise these questions for any new entity we encounter. And that shows how well we

have learned to think philosophically. Unfortunately, we do not have the space to deal with these questions as fully as they deserve. I have to be brief and have to leave many of your questions unanswered. But a brief answer is better than none at all.

Are states of affairs particular or universal? Well, first of all, we must distinguish between states of affairs and facts. It is a fact, so we have assumed, that Max is round and white. It is not a fact that he is green. Yet, one may think or believe, one may even mistakenly see, that Max is green. The object of one's mental act of thinking, of believing, or of seeing is then not a fact. I call it a state of affairs which is not the case, which is not a fact. Thus, the way I use these terms, states of affairs are of two kinds, those that are the case, which I also call 'facts', and those that are not the case, for which I have no special term. Obviously, what we are interested in is the ontological category of fact. Since states of affairs which do not obtain do not exist at all, even though one can believe them, doubt them, even perceive them, they cannot belong to any category. (Recall in this connection our discussion of the problem of nonexistent objects.) We can categorize only things which exist. But by answering our question for facts, we gain an answer of sorts even for states of affairs which do not obtain. Obviously, we can say that such states of affairs *would* belong to the category to which facts belong, *if* they obtained. Similarly, if there were mermaids, they would be particulars; and being a mermaid would be a universal property.

Consider, then, the fact that Max is white. I think that it is rather evident that this fact is not a spatial entity. You cannot locate it somewhere south of the north pole; it has no shape or size. Of course, Max is spatial. But we are not talking about Max; we are talking about the fact that Max is white. The case is not quite so clear in regard to time. Philosophers have been of two minds about the question whether or not facts are temporal. Assume that we paint Max green after a while, so that he is no longer white. Then it is true that Max is at one time white and at another time green. And we can interpret this fact in two different ways. Firstly, we may say that there is, properly speaking, no such fact as that Max is white or that Max is green, but that every presumed fact of this sort in reality contains a

Husserl's distinction between essences and their instances temporal indication. Thus it is a fact that Max at t_1 is white and it is also a fact that Max at t_2 is green. What is temporal, according to this interpretation, is Max. But the fact that Max at a certain time has a property, this fact is not itself temporal. It does not exist at a certain time, it has no duration, it does not cease to exist. The fact that Max at t_1 is white is atemporal, timeless, just as it is non-spatial, spaceless. Accordingly, facts are universals. They exist neither in space nor in time. I think that this is the correct view.

According to the second view, the fact that Max is white exists (obtains) at t_1 , but does not exist (obtain) at t_2 . This fact is therefore a temporal entity. It exists for some time, and then ceases to exist. If this were the correct view, then it would follow that facts are particulars; for even though they are not spatial, they are at least temporal. Or, more precisely, it follows that *some* facts are particulars. Consider the fact that two plus two is four, or the fact that midnight blue is darker than canary yellow. Neither one of these two facts can plausibly be said to have a duration; neither one can plausibly be dated. And if this is so, then these two facts are, not only not spatial, but also atemporal. Hence they are universal rather than particular. There are then two kinds of fact, facts which are particular and facts which are universal. Notice how, precisely, these two kinds of fact differ. The particular ones are all about individual things, that is, about particulars, while the universal facts concern universals. Max, since he is a particular, may at one time have one property, at another time, another; Max, in short, may change. But the number two, for example, cannot at one time be larger than one and at another time be smaller than one. It cannot change at all since it is a universal. Particular facts turn out to be exactly those facts which are about particulars, while universal facts are about universals. But this suggests, I submit, that all facts are really universal and, hence, that the first view is correct. It suggests that some facts may appear to be temporal simply because they are about temporal things. At any rate, I shall adopt the first view from now on.

It is time to pull the various strands of our discussion together. The Platonic tradition, of which Husserl is one of the most recent members, divorces the world of being from the world of becoming. And it divorces knowledge of the former

from the perception of the latter. I have argued that there is only one world, a world in which universals and particulars dwell side by side in perfect harmony. We can now see what keeps this world together: it is the unity of the fact. There are particulars, and there are universals. The Platonist is not mistaken. But there exists also an entity which assures an overarching unity that ties universals to particulars, and of which the early Platonists never even dreamed. The problem is, not how universals can be kept tied to particulars, but how facts are to be analyzed into their constituents. The unity of the world is not in danger. It is a fact. And so is the world. We analyze this unity, this fact, into its constituent parts. And in doing so, we find that it contains both particulars and universals.

The unity of the two realms is guaranteed by the existence of facts. The unity of our knowledge of the two realms is guaranteed by the propositional character of perception. Here, the Platonist is profoundly mistaken. There is no such thing as reflection on universals. There is no pure faculty of the mind which acquaints us with universals. Perception yields all. The basic unit of the world, the fact, is presented to us in a unitary act of the mind.

When you see that Max is white, you see Max and his color. But you can also see, literally with your eyes, that there are *two* billiard balls on the table. And if you do, you see the number two just as plainly as you see the color white when you see that Max is white. Therefore, not only properties are given to us in perception, but numbers are as well. And when you see that Max is to the left of Moritz, you see the relation of being to the left of. In this manner, Grossmann's dogma yields an answer to the question of how we know that there are all those kinds of universal which we have listed. The answer is that we know it by means of perception.

7. Husserl's distinction between individuals and their aspects

(1) *Aspects and partial bundles*

An essence, according to Husserl, can be presented to the mind wholly, in its totality, in one act of reflection. Perceptual objects, by contrast, can never be so presented. We can only perceive *aspects* of them. This is one of the fundamental differences between essences and certain individual things. In order to understand Husserl's view, we must be clear about the notion of an aspect. But this is easier said than done. It seems to me that at least two and, perhaps, even three such notions appear in his philosophy. Under these circumstances, we shall have to examine each one separately and compare it with the others.

Husserl's notion of an aspect is foreshadowed by a conception of Twardowski's (Twardowski, you may remember, was the Brentano student who held that the intentional nexus can connect a mental content with something that has no being.) Twardowski reasons as follows. A perceptual object, for example the apple Oscar, is a bundle of instances. It consists of instances of all the properties (what Husserl calls 'essences') which it has. But there are a gigantic number of such properties. Oscar has relational properties to everything else that now exists in the universe. He has the property of being so many miles

away from the sun, to mention just one. It follows, therefore, that Oscar is a tremendously complex bundle. But no content of an act of perception can be that complex. No idea of Oscar can be an idea of millions and millions of instances, of properties. Hence every idea of him, every perception, must be, as Twardowski puts it, 'inadequate' (*On the Content and Object of Presentations*, p. 79). The content of an act of perceiving Oscar can only intend certain instances of properties of his. For example, one may see Oscar's color, shape, and size in one glance, but one does not see all the different color nuances which a closer inspection would reveal. Oscar's properties (instances) can therefore be divided into two mutually exclusive groups, namely, into those which are perceived in a particular act and those which are not. And we may say that the former constitute an aspect of Oscar's, an aspect which is at that moment perceived.

Twardowski's view implies that we never perceive, in one act of perception, a perceptual object, but merely an aspect of it. If his view were correct, then we would have to be mistaken when we claim to have seen an elephant, heard an airplane, or tasted a pear. I look at Oscar and say: 'This is an apple.' If Twardowski is right, then I must be mistaken. What I see, the *this* I am talking about, cannot possibly be an apple. It must be an aspect of an apple. And an aspect of an apple is definitely not an apple. But, surely, what I see is an apple. Hence, something must be wrong with Twardowski's theory. Any view which implies that we do not see, literally and unequivocally, perceptual objects must be false. Where does Twardowski's view go wrong? It is based on two essential assumptions. The first assumption is that a perceptual object is a bundle of a large number of instances of properties. The second assumption is that no content of an act of perception is sufficiently complex to be able to intend all of these instances. I think that we can put the matter more straightforwardly by saying that, according to the second assumption, one can never perceive in one act of perception all of the instances of which a perceptual object consists. I believe that this second assumption is correct. When I see Oscar, I do not see *all* of his properties. I do not even see *most* of his properties. Another look at him reveals that he has properties which I had not seen before. And a really close inspection reveals even

Husserl's distinction between individuals and their aspects further properties. I see Oscar; there can be no doubt about that either. And from this I conclude that one (or both) of two things must be the case. Either Oscar is not a bundle of his properties (or a bundle of instances), or else to see such a bundle is not the same as to see all of its constituents. If Oscar is not a bundle of properties, but an individual thing, a particular, which has properties, but does not consist of them, then it is possible to see him without seeing all of his properties. And I think that this is indeed the correct assessment of the present difficulty. On the other hand, even if Oscar is a bundle, we can still see Oscar without seeing all of his properties, if it is possible to see a structure without seeing all of its parts. I shall leave it to you for a little while to evaluate this possibility.

Twardowski's view that every idea is inadequate resembles Husserl's theory of aspects. It resembles it, but it is clearly different from it. One notion of an aspect which is clearly explained in Husserl's book *Ideas* is that of a sense-impression. Things are really getting complicated now, as we shall see next.

(2) *Aspects as properties of sense-impressions*

Earlier, when we discussed Brentano's distinction between physical and mental phenomena, I distinguished between the properties of perceptual objects, on the one hand, and the properties of the sense-impressions, on the other, which we experience when we perceive the properties of perceptual objects. I wish to remind you briefly of this important distinction. When you look at Oscar through dark green glasses, for example, Oscar's color does not change, but the color of the visual sensation which you experience will be different from what it was earlier. The best example of the difference between property of perceptual object and property of visual sensation is that of true shape and shape from a perspective. A rectangular desk top, for example, will cause you to experience a trapezoidal sense-impression. So much for reminding you of the distinction. Let us now proceed to Husserl.

Husserl distinguishes between Oscar's color and the various colors of the sensations which we experience when we walk around Oscar, viewing him from different angles and with the

light shining on him from different directions. But then he interprets this distinction quite differently from us:

The perceived thing in general, and all its parts, aspects, and phases, whether the quality be primary or secondary, are necessarily transcendent to the perception, and on the same grounds everywhere. The color of the thing seen is not in principle a real phase of the consciousness of color; it appears, but even while it is appearing the appearance can and *must* be continually changing, as experience shows. The *same* color appears 'in' continuously varying patterns of *perspective color variations*. Similarly for every sensory quality and likewise for every spatial shape! (*Ideas. General Introduction to Pure Phenomenology*, trans. W. R. Boyce Gibson, New York, Collier Books, 1962, paragraph 41)

Oscar, with all of his properties and parts, is said to be *transcendent* to our perceptions of him. From the context, we may gather that this means that Oscar and his properties are not a part of the perceptual process. Oscar is not a part of the mental act which occurs when we see him. He transcends the mind, lies before it, and hence outside of it. We cannot but agree with this part of Husserl's view. But in the very same breath, Husserl also says something else, something with which we cannot at all agree. He says that Oscar's color appears to us *through or by means of* perspective color variations, that is, through the colors of our sense-impressions. Oscar's color is therefore 'transcendent' in another sense as well. It is not directly perceived, it is not immediately presented to us, but we know of it only through its appearances. What holds for Oscar's color, holds for his shape and for all his other properties as well. None of them is directly perceived. They are all known to us through their aspects. But this means, of course, that Oscar is not directly perceived. He, too, is only known through the aspects of his properties.

When I explained Twardowski's view, I simply took it for granted that we can perceive some of Oscar's properties, although we cannot perceive all of them in a single act of perception. We may perceive, say, Oscar's color. Now, if Husserl is to be believed, things are even more complicated than that. We cannot even directly perceive Oscar's color. What we

Husserl's distinction between individuals and their aspects perceive in a given act is only an aspect of Oscar's color. Oscar turns out to be twice removed from our perception of him. Firstly, we cannot see all of his properties but only some of them. Secondly, we cannot really see these few properties directly either, but can only see aspects of theirs. We can never see Oscar, but only aspects of some properties of his!

Let us assume, for the sake of illustration, that when you look at Oscar from a certain point of view, you experience a light green sense-impression, while when you look at him from another angle, you experience a yellow sense-impression. (Remember, Oscar is Berkeley's apple.) What color does Oscar have? (We assume, for the sake of simplicity, that his skin is uniformly colored.) The honest response is: 'How would I know?' He may be light green; he may be yellow; he may even be dark red. I think that you recognize the first steps of the skeptical argument which forced Descartes' contemporaries to conclude that color 'is only in the mind'. What lurks in the shadows is the argument that color is merely a sensation in the mind, and not a property of perceptual objects. If this argument is sound, then, applied to Husserl's view, it will lead to the skeptical conclusion that we cannot know Oscar's real color, or his real shape, or his real taste, etc. And since Oscar is conceived of as a bundle of such properties, it follows that we cannot know the real Oscar either. Since it has these devastating implications, we had better take a closer look at the skeptical argument.

The skeptic argues like this. If Husserl is correct in asserting that we know Oscar's color only through the colors of the sense-impressions which we experience, and do not know it directly, then it follows that we cannot know his color at all. For, in order to know Oscar's color, you must know some such thing as that the experience of a light green sense-impression, from a certain point of view, indicates that Oscar has the color *F*, where *F* is some definite color shade. You must know, in other words, some such thing as that, under certain circumstances, the experienced light green color *is an aspect of F*. Under different circumstances, from a different point of view, a yellow sense-impression may indicate that Oscar has the color *F*. Yellow may be an aspect of *F*. It all depends on the illumination, the angle of vision, the condition of the eyes, and other factors. But, now, how can we find out that light green, under conditions *C*, is an

