ARETÉ Revista de Filosofía
Vol. XII, Nº 2, 2000
pp. 113-120

Grammar, Structure, and Essence

G.E.M. Anscombe
University of Cambridge

Reading some of a commentary by Proclus on Plato's *Parmenides*, I found Proclus saying that a name was a logical picture of its object. I mentioned this to Wittgenstein, who surprised me by saying "I have so often had that thought." I was surprised because in the *Tractatus Logico-Philosophicus* not the name, but the proposition, is called a logical picture, and not of a thing but of a possible fact; of an actual one if the proposition is true.

I was very slow to draw the right conclusion from that conversation. Namely, that it is a wrong assumption (which I inexplicitly and unwittingly made for years) that the objects, the simples, spoken of in the *Tractatus* were uniform characterless atoms, whose arrangement alone produced the characters of familiar things, which characters indeed Wittgenstein called "external". The assumption was absurd – the internal characters of objects will be different if the objects are not of the same logical form (2.0233) – in fact, it looks as if their logical form and their internal character were the same thing. The possibility of a given fact must be 'prejudged' in the things that *can* occur in such a fact (2.012). This at least suggests that it is not possible for every simple object to occur in just any fact. Rather, the objects co-ordinated with names can enter into some compositions and not others according to their forms, and this holds of their names correspondingly. We cannot illustrate this with elementary propositions, as we do not know any, but we might construct

analogies, using the only sorts of names we do know; we may note that "Mount Everest chased Napoleon out of Cairo" does not express a possible fact – unless we change the meaning of "Mount Everest".

That the simple objects of the *Tractatus* are diverse in logical form is actually quite obvious. For example, we are told "Its possibility of occurring in elemental facts (*Sachverhalte*) is the *form* of an object" (2.0141). "Space, time and colour are forms of objects" (2.0251). These thoughts are quite near to "Names are logical pictures of objects" if you grant the character of a name only to names of simples – even though you cannot produce an example of such a name.

This truth – that for the *Tractatus* there is a diversity of forms of objects – allows a corresponding diversity in names, even of simple objects. Such names would be the elements of a 'fully analised' proposition – a sprinkle of names on a logical network, as Wittgenstein put it later on.

It also illumines many of the remarks in the early part of the book. Let me remind my reader:

2.14 A picture consists in this: its elements are related to one another in a particular kind of way.

2.15 The picture's elements' relating to one another in a particular kind of way presents things as relating to one another in that way.

Let us call this connexion of the elements of a picture its structure and the possibility of its structure its form of representation (*Abbildung*).

2.151 The form of representation is the possibility that the things are related to one another as are the elements of the picture.

2.1514 The representing relation consists in the co-ordination of the elements of the picture and the things.

He has said, in the immediately preceding remark (2.1513) "According to this conception, the representing relation which makes it a picture also actually belongs to the picture."

That means that the elements' being co-ordinated with objects is essential to the picture's being a picture – you couldn't have a picture and subsequently coordinate its elements with objects.

Applying this to the particular case of propositions having sense – *i.e.* ones which are neither tautologies nor contradictions nor propositions of mathematics, we are forced to realise that the names in propositional signs, or at least in 'fully analysed' propositional signs, are names iff those

signs are propositional. This means that the problem of isomorphism which many – including myself – have felt about the *Tractatus* is not a problem at all. The problem was constituted by isomorphism's being two-way. If a figure x is isomorphic with a figure y, the equally y is isomorphic with x. So how does x's isomorphism with y shew that x is a picture of y anymore than y is a picture of x?

In some cases we must grant that which is a picture of which is not determined. If you have a simple spatial picture of another spatial arrangement, and you exhibit the correlations by lines of projection, then the second spatial arrangement is as much a projection of the first as the first is of it. Similarly with arrangements of colours. But here the forms of representation are not purely logical, but include the forms signified by the terms "spatial" and "coloured". If you have a tune, with a temporal order of notes, and you see this represented by a line of musical notation which is spatial, there is no form of representation other than the logical form connecting the two things, – the tune and the line of notation. (These considerations help us to understand the proposition "Space, time and colour are forms of objects".) The pattern in the tune and in the line of notation is also, Wittgenstein says, in the grooves of the gramophone record of the tune and the sound waves. That need not concern us. The marks belonging to the line of notation signify the notes of the tune and not the other way round. You have *e.g.* to understand such-and-such a mark *as the name of a note* in order to know what those marks are coordinated with. And similarly, if you wanted to say: a fact declared by a proposition was, if it really was a fact *i.e.* if the proposition was true, just as much a picture of the proposition as the proposition was of the fact, you would have to call the elements of the fact names of names – for it is only as names that certain elements of the propositional sign are elements of the picture of the fact. But you could not make out what the elements of the picture were independently of its being a picture. No such difficulty arises about the elements of the fact which the picture presents. Thus the argument from isomorphism's being two-way fails, – except in cases where it is harmless and either structure may be used as a picture of the other.

Let me return to the relation between structure and form of representation. The structure of a picture is the way its elements combine, the way they relate to one another. The form of representation is both the possibility of the structure and the possibility that the objects

in the reality being represented are related to one another in the same way as the elements of the picture.

How do the elements of a proposition, an elementary proposition, relate to one another? It is composed only of names of simples. They are connected together in a 'logical' arrangement.

If that is so, then the simples in the corresponding fact (if there is one, *i.e.* if the proposition is true) are also connected together in a 'logical' arrangement – the same logical arrangement as that of the names.

This announcement makes the connexion between thought and a thinkable reality. The possibility that the things in the reality combine as they do =, *i.e.* is identical with, the possibility of the picture's elements combining as they do.

It is not only pictures that Wittgenstein says have 'structure'. Before coming to pictures at 2.1 he has devoted himself to objects and *Sachverhalte* – elementary facts –, in the 2.0's. *Sachverhalte* have structure. The kind of way the objects in an elementary fact hang together is its structure (2.032). And (2.033): The form is the possibility of the structure.

But we have seen that the possibility of the structure of the picture is the same as the possibility that the objects combine as the elements of the picture do. And this is called the form of representation. More than that, it is said to be what is common to the picture and the possible fact that it presents. Not that the possible fact itself has a form of representation, but that the picture's form of representation is identical with the possibility of things combining in the way its elements do. And the possibility of things combining in the way that would constitute the possible elementary fact as an actual one, *i.e.* the possibility of the structure of the elementary fact, is its form (2.033). Its form is thus identical with the form of representation in the picture.

A picture can represent any reality whose form it has (2.171) and any picture, whatever its form, must have logical form, the form of the reality, in order to be able to represent it at all, right *or* wrong. If the form of representation is the logical form, the picture is called the logical picture (2.181). And 2.182 says: Any picture is also a logical picture. This is by contrast with a picture's not having to be a spatial picture, for example.

You may have observed that I tend to say 'the reality', not 'reality' in quoting the *Tractatus*. Articles, whether in the language you are

translating from or the one you are translating into, offer a severe test of understanding. I hope I have got it right.

So much for the *Tractatus*. Let us think again of Proclus' remark: "The name is a logical picture of its object." As the *Tractatus* lays down what "logical picture" is to mean, that will not have been true of its names and objects. One might translate Proclus' phrase by "logical image" – the Greek will have been εἰκών λογική. But whatever we do, there is something about names and their objects which is not a matter of a simple relation effected arbitrarily in the manner assumed by John Locke and John Stuart Mill. Mill said that proper names have only denotation, not connotation. Wittgenstein in his classes denounced this. "It is a great deal of information about a word that it is a proper name, and still more, what kind of thing it is a proper name of – a man, a battle, a place etc. etc." In the *Tractatus*, names being restricted to simple objects, we can't say what their objects are, only give propositions describing their configurations. "A proposition cannot say *what* a thing is, only *how* it is." In his later work, Wittgenstein certainly gave up his simple objects. But even they had logical forms, which would come out in the propositions that could be formed out of their names – if we could in fact name them. And propositions are descriptions of elementary facts by their internal properties.

This has not simply died in the later work. Earlier, he had spoken of structure; later, he spoke of grammar, and said "Essence is expressed by grammar." This, we may say, was made clear in the first place by Frege in the case of the essence connected with the general notion of an arithmetical function. Of course, Frege did not produce that sentence about essence. I am inclined to say that he laid an egg, in such writings as *Funktion und Begriff* and *Was ist eine Funktion?*, which Wittgenstein hatched. In the first, he pointed to the difference between, say, $2+x^4$ and $2+3^4$. The former is an expression of a numerical function of which the latter is an example. The first has no numerical value, the second has one – 117

$$2+3^4=83$$

The difference of meaning between the expressions of instances of a numerical function – in this case *e.g.* $2+1^4$, $2+5^4$, $2+10^4$ etc. – and the

expression of a numerical function is not an example of equivocation like "John gave three rings" – when it was a door-bell he is described as ringing – and "John gave three rings" when it was a present of rings for the fingers. The difference between 2+x and 2+3 is highly significant because the point of the former is to signify the form of such expressions as the latter. This is a grammatical difference, as can be clearly seen in the joke about the teacher who says "Suppose there are x pounds of sugar in a box" and the pupil who puts up his hand and says "But sir, suppose there aren't?" The pupil hasn't yet grasped the grammar of "x" used as it is in expressions of a function for example – or he is making a cheeky joke. Even so, it would be a grammatical joke. Many such are to be found in Lewis Carroll – "You can't believe what's impossible" said Alice. "You can, with practice," said the White Queen. "With practice, I can believe six impossible things before breakfast every morning."

That essence is expressed in grammar was clear enough in the case: arithmetical function. But it is also fairly clear in most cases of familiar concepts of substances and kinds of stuff. Examples: animal, plant, peacock, man, flea, bougainvillea, banana-tree. Also: acid, wood, metal, milk. I do not mean that we know definitions of all these things, or that it is already decided in our language whether artificial wood (if such were possible) that doesn't come from a tree, but this can't be told by test or examination, is 'really' wood.

The grammar of terms for kinds of stuff is often tied up with the notion of a pure sample. You need pure samples, or pretty pure samples, to get knowledge of the properties of the kind of stuff you are examining – that gives the grammatical connexion which makes the particular grammar express the essence of the particular kind. Sometimes, though seldom, it may be discovered that what had been thought to be one kind of stuff is 'really' two – jade is a well-known example.

When we come to plants and animals the identity of an individual is
118 of a different kind from the identity of a lump of lead, say. "The persistence of a certain pattern in a flow of matter" comes into our account; but the notion of a pattern, as of a shape, is here special. We readily speak of the shape of a horse or human being, but we don't say that someone's shape alters when he sits down. And the term "pattern" extends to covering 'patterns' of development over a period of life involving considerable changes, even like those from caterpillar or larva to pupa to butterfly.

I have been considering 'substantial' terms. The notion of essence is certainly not confined to these, as the example of numerical functions shews. The notion of a square in two dimensions has an essence involving that a square which is twice the area of a given square is the square on its diagonal. I once undertook to demonstrate Plato's point in the *Meno* with a nine-year old girl who, like Plato's slave, had never learned any geometry. I began as Socrates did, drawing a rough square and asking: how long will the side be, of a square twice as big? To my astonishment and pleasure she answered just as the slave did, and we proceeded just as the dialogue did, because she always said the next thing that the slave did. I became convinced that this famous bit of the dialogue was no fiction.

What did she end up knowing? One might say: *if* I drew the squares etc. quite accurately, she ended up knowing that *this* square and *this* one (the first and second guesses) weren't twice the original square, but this *last* one was. But, first, I wasn't being accurate in my drawing, and second, we could ask how she knew what we are saying she ended up knowing. Was it by the way they looked? If so, would she have any reason to suppose it would look the same another time? You might say it would have to. But suppose another time I drew them in a different colour, and a different size. "Oh" you might say "we don't mean «look the same» in those ways." What way of "looking the same" do we mean? "The same in that the square on the diagonal was (and so at least roughly looked) twice the size of the original square." But how will it look twice the size? You reply "By being composed of triangles, each half the size of the original square, and a quarter of the new one."

If I don't draw it so, or at least ask questions which the child answers so, then I am not asking about the geometrical proposition. (For this, accurate drawing doesn't matter.)

What I am eliciting by my questions – which are not "leading questions" containing the wished-for answer – is an essence; part at any rate of the essence of a plane square.

Wittgenstein says in Part I of the book *Remarks on the Foundations of Mathematics*, remark 32, that mathematicians produce essences. We can see what he means in the examples: numerical function and plane square. Functions emerged, as a mathematical topic, I believe, in the seventeenth century. I didn't say that Frege 'produced' such essences,

but only that he shewed what they were, and how to avoid confusing sign and thing signified. The square of Euclidean geometry was an essence produced many centuries before.

Mathematicians have 'produced' such essences by using a grammar; the first formulator of the geometrical notion of a square was presumably extending and adding to a grammar already in use. It is a curious thing that people can build grammar without knowing what they are doing. There is a remark something like this in the *Tractatus* at 4.002: "Man possesses the capacity of building languages in which any sense can be expressed, without any idea how and what each word means. – As one speaks, without knowing how the individual sounds are produced."

This may be verified, up to a point, in examples of mathematical concepts, and probably in a number of others. Committees, with a certain task or scope of authority, seem a probable example. Ostracism, in which you wrote on an ostrakos the name of someone you wanted expelled from your city, must surely have been a human invention too. That language as such was a human invention, seems enormously doubtful, as does the expression "build languages in which *any* sense can be expressed." Languages don't fail to be languages because they need to be built on to in order to express physics in its present state. There may be in this remark about expressing *any* sense a sign of conviction that anything that is a language can say anything sayable. The later Wittgenstein, like Descartes, rather makes a comparison with an old city, the centre full of narrow twisting streets and odd corners, while the suburbs are all straight wide streets.

However, I am more interested in the similarities than the difference. And I would put it forward that "grammar" hasn't got a special new sense, it is only more extensive than the rather thin grammar children learn at school. And grammar, as Wittgenstein considers it, corresponds to the 'structure' of pictures, of which he wrote in the *Tractatus*. In that book, maybe, we can say objects have essences, if we are allowed to say anything about objects; Wittgenstein speaks not of essences there but rather of logical forms, and there is little about them. What have essences rather are propositions and elementary facts; and this fits in well with the analogue of structure to grammar.