Around §2.1, Wittgenstein switches from talking about facts in general to talking about one particular kind of fact: a fact which is a picture, or representation, of another. His idea is that by understanding how pictures represent the world, we can also understand how representation in general is possible.

1 Pictorial form & elements (2.1-2.19)

Wittgenstein’s discussion of pictures divides them into two parts: the elements of the picture, and the form (or structure) of the pictures.

About the elements, he writes:

2.131 In a picture the elements of the picture are the representatives of objects.

Elements of the picture stand for objects in something like the way that names stand for their referents. But the form of the picture also has a role to play in determining what the picture represents:

2.15 The fact that the elements of a picture are related to one another in a determinate way represents that things are related to one another in the same way. Let us call this connection of its elements the structure of the picture...

It seems that just as elements of the picture represent objects, so the structure of the picture represents the way in which those objects are combined.

One question in which Wittgenstein is interested here is the question: How is representation possible? As applied to the case of pictures, this comes to: How do elements of the picture come to represent objects, and how does the structure of a picture come to represent a way that those
objects could be combined? Wittgenstein does not address the first part of this question here; but he does say something about how the structure of a picture is related to the structure of the fact that it represents:

2.161 There must be something identical in a picture and what it depicts, to enable the one to be a picture of the other at all.

2.17 What a picture must have in common with reality, in order to be able to depict it - correctly or incorrectly - in the way it does, is its pictorial form.

The example of model cars in a traffic court. The idea that the structure of a picture is identical with the structure of the fact that it represents. This is a crucial idea in Wittgenstein’s thought about representation. He does not argue for it here, but it is an attractive idea. For, you might wonder, how else could a picture represent a fact?

We also get here the first mention of a theme which will recur in a more important context later: the idea that a picture cannot represent its own structure, but can only show it:

2.172 A picture cannot, however, depict its pictorial form: it displays it.

This is actually a kind of intuitive thought; some justification is given by Wittgenstein’s point that

2.174 A picture cannot, however, place itself outside its representational form.

The idea here seems to be that pictures have a structure which is identical to the structure of some (possible) fact. But suppose that we were to supplement the picture by adding an element which represents its form. This would change the form of the picture so that the added element no longer represents the structure of the picture of which it is an element, but rather that of some other picture.

Possible objection: if the structure of a picture represents the structure of a state of affairs, then why doesn’t the structure of every picture represent its own structure?

One response is that it does; what Wittgenstein wants to rule out is an element of the picture representing the picture’s pictorial form. Why would Wittgenstein have thought that this was impossible?

2 Pictures, sense, and truth conditions (2.2-2.25)

Wittgenstein’s next main point about pictures, presented in the 2.2’s, follows naturally on the first. Given that a picture consists of elements and a structure which respectively represent objects and a way in which those objects can be combined, and given that states of affairs are combinations of objects, it is no surprise that

2.201 A picture depicts reality by representing a possibility of existence and non-existence of states of affairs.

The meaning, or sense, of a picture is the possible fact that it represents (remember, a fact is the existence and non-existence of states of affairs). This can be seen as a version of the view that the meaning of a representation is the condition which would have to obtain for it to be an accurate representation of reality.
The picturable and the possible (3-3.05)

The final step in Wittgenstein's discussion of pictures is to note a connection between what can be pictured and what is possible. Wittgenstein's idea is that whatever state of affairs can be pictured must also be possible:

3.02 A thought contains the possibility of the situation of which it is the thought. What is thinkable is possible too.

One confusing part of his discussion here is that he expresses this conclusion in terms of what is thinkable, rather than in terms of what can be pictured. The idea here, I think, is that we can only think what we can picture to ourselves; so we can link the things which can be pictured with the things that can be thought:

3.001 ‘A state of affairs is thinkable’: what this means is that we can picture it to ourselves.

To see the plausibility of the idea that whatever can be pictured is possible, recall the analogy with the model cars in the traffic court. Could we so arrange the cars that the model was a representation of a state of affairs which not only failed to obtain, but could not obtain? Wittgenstein thinks, plausibly, not.

However, this has a potentially worrying consequence. If whatever can be pictured is possible, then nothing impossible can be pictured. But what about necessarily false propositions, like the proposition that 2+2=5? It seems that we can represent these claims, even if they are impossible; so, if picturing really is going to be a model for representation in general, Wittgenstein is going to have to say something about mathematical and logical sentences, as well as others that seem to be impossible.

There is also a worrying connection here with necessary truths. It would seem that if we cannot represent anything impossible, then we also cannot represent anything necessary. For, if we could represent a necessary truth, then we could represent an impossibility by negating the first representation. We'll return to the problem of picturing necessary and impossible facts later.

Terminological note: here and elsewhere, Wittgenstein seems to use ‘a priori’ as a synonym for ‘necessary.’ This link seems to be asserted by the following claim:

3.04 If a thought were correct a priori, it would be a thought whose possibility ensured its truth.

4 Propositional signs, propositions, and the ‘projective relation’ (3.1-3.144)

At this point, Wittgenstein moves from a discussion of pictures to a discussion of sentences, or propositional signs. One thought in the background seems to be that both pictures and sentences represent facts; but it is easy to see how pictures do this, whereas it is more difficult to see how propositions can do it. Wittgenstein’s idea was that the two work in roughly the same way: propositions are just disguised pictures of facts.

Wittgenstein was not the first philosopher to raise the question of how it is possible for us to represent the world. But he was one of the first to raise this question in the linguistic form which has received most attention this century: how can linguistic items represent the world?

Wittgenstein begins by saying a bit about some of the terms which will be central to his discussion
of propositions. It is clear that the discussion of propositions is meant to parallel the discussion of pictures. Sometimes, this is represented in his numbering scheme, as in the following two claims:

2.14 What constitutes a picture is that its elements are related to one another in a determinate way.

3.14 What constitutes a propositional sign is that in it its elements (the words) stand in a determinate relation to one another. . . .

This expresses the central analogy between pictures and propositional signs: just as elements of a picture stand for objects, so the words in a propositional sign stand for objects. And just as the structure in which the elements of a picture are combined represent the structure of the state of affairs represented, so the structure in which the words in a propositional sign are combined represent the structure of the state of affairs represented.

This should cause some initial puzzlement. Recall the claim of §2.161 that a picture must have its form in common with the fact that it represents. This is perhaps not so difficult to understand in the case of a picture in which the spatial arrangement of elements of the picture mirrors the spatial arrangements of the objects represented by those elements. But how can a propositional sign share its form, or structure, with what it represents? We’ll come back to this.

Like Russell and Moore, Wittgenstein distinguishes propositions from sentences. But, according to Wittgenstein, propositions are not things like possible states of affairs for which sentences stand:

3.12 I call the sign with which we express a thought a propositional sign. — And a proposition is a propositional sign in its projective relation to the world.

What we have to understand in order to understand Wittgenstein’s view of propositions, and the way that they represent facts, is what this projective relation is supposed to be.

Wittgenstein never says explicitly what he has in mind here. I think that the closest he comes is a bit later in the text, when he says:

4.0141 There is a general rule by means of which the musician can obtain the symphony from the score, and which makes it possible to derive the symphony from the groove on the gramophone record, and, using the first rule, to derive the score again. That is what constitutes the inner similarity between these things which seem to be constructed in such entirely different ways. And that rule is the law of projection which projects the symphony into the language of musical notation. . . .

(Emphasis mine.) A projective relation is something like a rule for moving from one kind of thing to another — from a score to a symphony or, in the case of propositions, from a propositional sign to a fact.

One question here is why Wittgenstein introduces the ‘projective relation’ in the discussion of the propositional signs rather than the discussion of pictures. Is there some difference between the two cases which would explain this?
5 Names (3.2-3.263)

Recall that in the case of pictures, representation was a matter of elements of the picture standing for objects arranged according to the structure of the picture. Wittgenstein’s claim about identity of structure gives us some grip on how half of this picture of representation works; but it does not explain how elements of a picture get correlated with their objects. Just so, in the case of propositions, we have as yet no explanation of how names are correlated with their objects. It seems as though this too must be explained in terms of the projective relation. This may be the point of the following claim:

3.2 In a proposition a thought can be expressed in such a way that elements of the propositional sign correspond to the objects of the thought.

The idea here is that the projective relation is a certain way of using or thinking the elements of (names in) the propositional sign in such a way that they correspond to objects. Wittgenstein does seem to think that names become correlated with objects in virtue of the use of propositional signs in which those names occur:

3.3 Only propositions have sense; only in the nexus of a proposition does a name have a meaning.

This may go some distance toward explaining the asymmetric relation that holds between names and objects, since objects are never used in propositions. But, by itself, this is not completely satisfying: it seems to leave the relationship between names and their objects mostly unexplained. What we want to know is: in virtue of what is a given propositional sign associated with a given rule of projection?

Wittgenstein later came to see that this is a problem. In his later work, he spends a lot of time addressing the question of how a given rule gets associated with a certain representation. (See Philosophical Investigations §§138-242; for an important contemporary discussion, see Kripke, Wittgenstein on Rules and Private Language.)

For more detail on how propositional signs and propositions represent facts — and how propositional signs could have a form in common with the fact they represent — we’ll have to wait for the discussion of the theory of elementary propositions.