

Proposed illustrations for Chapter XVI of the seminar "The Object of Psychoanalysis"

It was here that, in the 17th century, the genius of Pascal emerged, undoubtedly already prepared by the multiple advent of a mental dimension that has always been present in the history of the subject, which makes, for example, the so-called Brianchon theorem, which states:

"That a hexagon formed by six straight lines that are tangent to a conic..."

(i.e., circumscribed hexagon; I think you know what a conic section is, but let me remind you: a conic section is a cone, a hyperbola, or a parabola, which in this case means certain shapes as they are generated in space and not simply in the form of a revolution; a cone is defined by the shape that appears in space when a line connecting a point to a circle, for example, is wrapped around it, and does not necessarily connect it to a point perpendicular to its center).

"...all these lines therefore have the property that the three lines joining opposite vertices—which is easy to determine regardless of the shape of the hexagon, by simple counting—these three lines converge at one point."

Simply by accepting the principles of projective geometry, this immediately translates into the fact that a hexagon formed by six points that reproduce a conic, which is then an inscribed hexagon, in this case, the three points of intersection of the opposite sides lie on the same line.

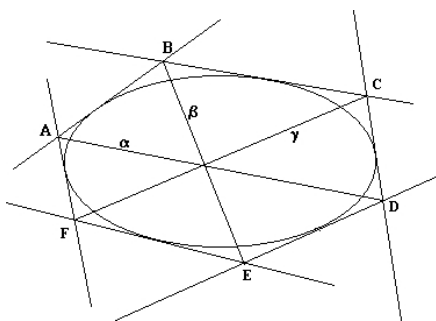


Figure 1

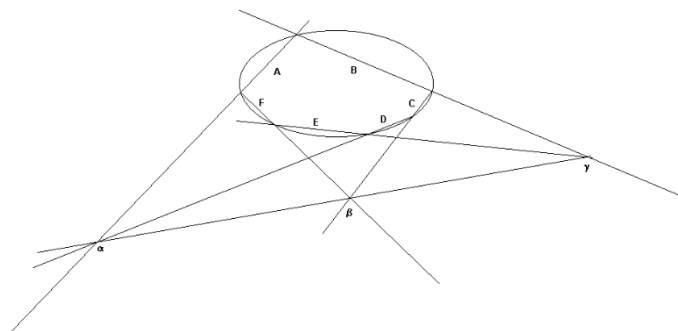


Figure 2

Comment: The correspondence that allows us to move from one theorem to its dual is as follows:

<i>Line tangent to a conic section</i>	<i><---></i>	<i>Point located on a conic section</i>
<i>Line connecting two points</i>	<i><---></i>	<i>Point of intersection of two lines</i>
<i>Concurrent lines</i>	<i><---></i>	<i>Aligned points</i>

The two figures illustrate the fact that if lines AD (i.e., α), BE (i.e., β), and FC (i.e., γ) are concurrent in Figure 1, then the points of intersection of lines A and D (i.e., α), B and E (i.e., β), and F and C (i.e., γ) in Figure 2 are aligned.

If you have listened to these two statements, you will see that they translate into each other by simply substituting, without ambiguity, dot for line and line for dot. You can sense that there is something else entirely at work here in the demonstration process, something that involves measurement, rulers, or compasses, and that when it comes to combinatorics, it is indeed points, lines, and even planes in terms of pure signifiers, as well as theorems that can only be written with letters. This alone will allow us to give a whole new meaning to the correspondence between an object and what we will call its figure.

Here, we will introduce the device that has already served us as essential in confronting this mythical image of the eye which, whatever it may be, eludes and elides the relationship between representation and object, since in some way representation will always be a double of that object. Confronted with what I first presented to you as the structure of vision, contrasting it with that of the gaze, and this gaze, in this first approach, I placed it where it is grasped, where it is supported, namely where it is hung in this work we call a painting. The relationship between the gaze and the spot is, in a way, original, insofar as the biological *phyllum* can indeed show it to us in the form of a spot in extremely primitive organisms, from which the localized sensitivity that the spot represents in its relationship to light can serve as an image, an example of that something where the visual world originates.

But surely this is only an equivocal evolutionary development whose value can only be understood and asserted as a reference point by referring to a perfectly comprehensible synchronic structure. What about what stands in opposition to this topology in terms of field of vision and perspective? Certainly, the painting will continue to play a role here, and this should come as no surprise to us. If we have already accepted that something like a montage, a frame, or a device is essential to what we are aiming for in order to experience it, namely the structure of fantasy. And the painting we are going to talk about, since it is in this sense that we expect it to serve and perform, is indeed in its easel frame that we are going to take it, this painting, something that stands as a material object, which will serve as a reference for a number of reflections.

In projective geometry, this table will be the plane I mentioned earlier, on which each of the lines we will call, if you like, ocular lines, so as not to cause any confusion with the visual ray, the lines that join and the essential point at the start of our demonstration, which we will call the eye and which is the ideal subject for the identification of the classical subject of knowledge. Don't forget, for example, in all the diagrams I have given on identification, that it is from an S eye point that the lines I draw from this point in a straight line originate. The ocular line joins what we will refer to as the support, point line or even plane, in the support plane; these lines cross this other plane and the points, the lines where they cross it, or even the crossing of the plane that will be determined in relation to one of these lines, containing it for example, these crossings of the figure plane, - I therefore distinguish between the support plane and the figure plane - this crossing of the ocular line, leaving its trace (*figure 3*) on the figure plane, is what we are dealing with in terms of the construction of perspective. And it is this that must reveal to us, materialize for us, the topology from which it follows that something occurs in the construction of vision that is none other than what gives us the basis and support for fantasy, namely a loss that is none other than what I call the loss of the object *a*, which is none other than the gaze, and on the other hand a division of the subject.

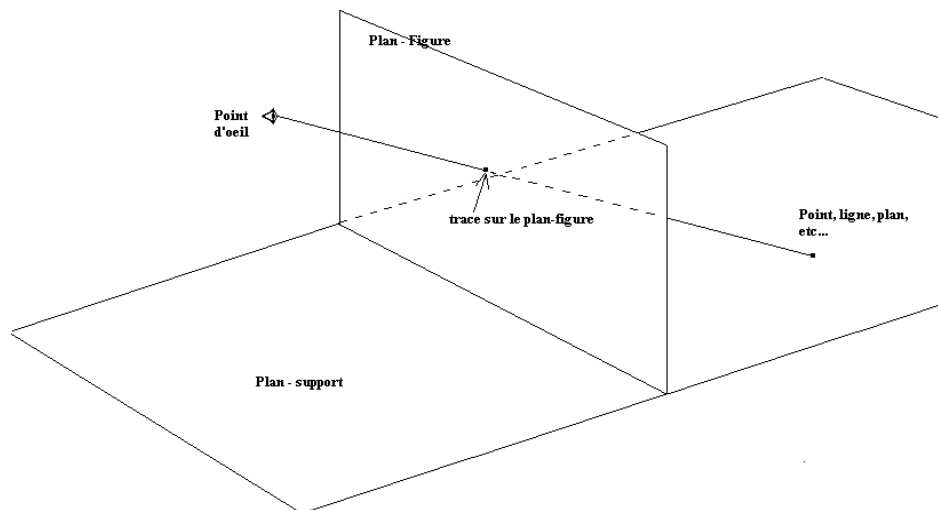


Figure 3

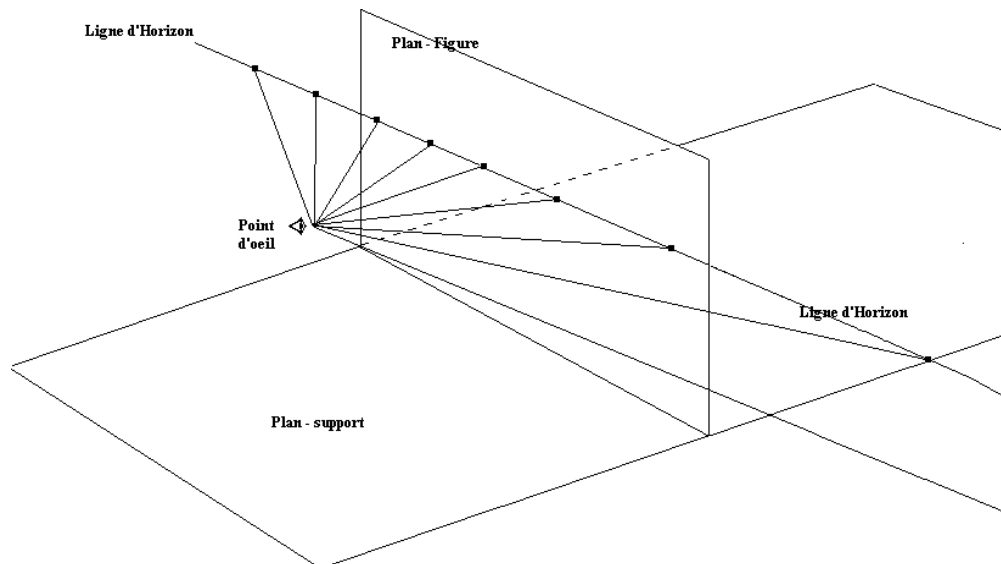


Figure 4

What does perspective teach us? Perspective teaches us that all lines of sight that are parallel to the supporting plane will determine a line on the figure plane that is none other than the horizon line (*figure 4*). This horizon line is, as you know, the major reference point for any perspective construction. What does it correspond to on the supporting plane? If we adhere to the principles of consistency in this combinatorial geometry, it also corresponds to a line. This line is, strictly speaking, the one that the Greeks could not fail to notice and which is, strictly speaking, this line, also a line, and according to our principles, also a straight line, which lies at infinity on the supporting plane and which we can intuitively conceive of only as representing, if I may say so, the whole (*more likely the tour*).

It is on this line that the points where the parallels converge in the supporting plane are found, which manifests itself in the point, the figure of convergence of almost all lines parallel to the horizon. We can visualize this in general, and we see it in the writings of the best authors. As you well know, when you see a road stretching toward the horizon, it becomes smaller and smaller, narrower and narrower. We forget only one thing: the danger of such references, because everything we know as the horizon is determined by the spherical shape, as we notice when we are told that the horizon is proof of the roundness of the earth.

However, please note that even if we were on an infinite plane, there would still be a horizon line for anyone standing there. What troubles and disturbs us in this consideration of the horizon line is, first of all, something I will come back to later, namely that we only ever see it in a painting.

We will see later what the structure of the painting is like. Since a painting is limited, it does not even occur to us that if the painting extended infinitely, the horizon line would be straight to infinity, so much so that on this occasion, we are satisfied with simply thinking in a roughly analogical way, namely that the horizon can be circumnavigated. Another point to note is that a painting is a painting and perspective is something else. We will see later how this works in the painting.

But if you start from the conditions I have given you for what must be drawn on the figure plan, you will notice this: a painting made under these conditions, which would be those of strict perspective, would have the effect, if you assume, for example, because you have to cling to something, that you are standing on a plane covered with a grid at the moment when this grid ends, of course, at the horizon—we will see how in a moment.

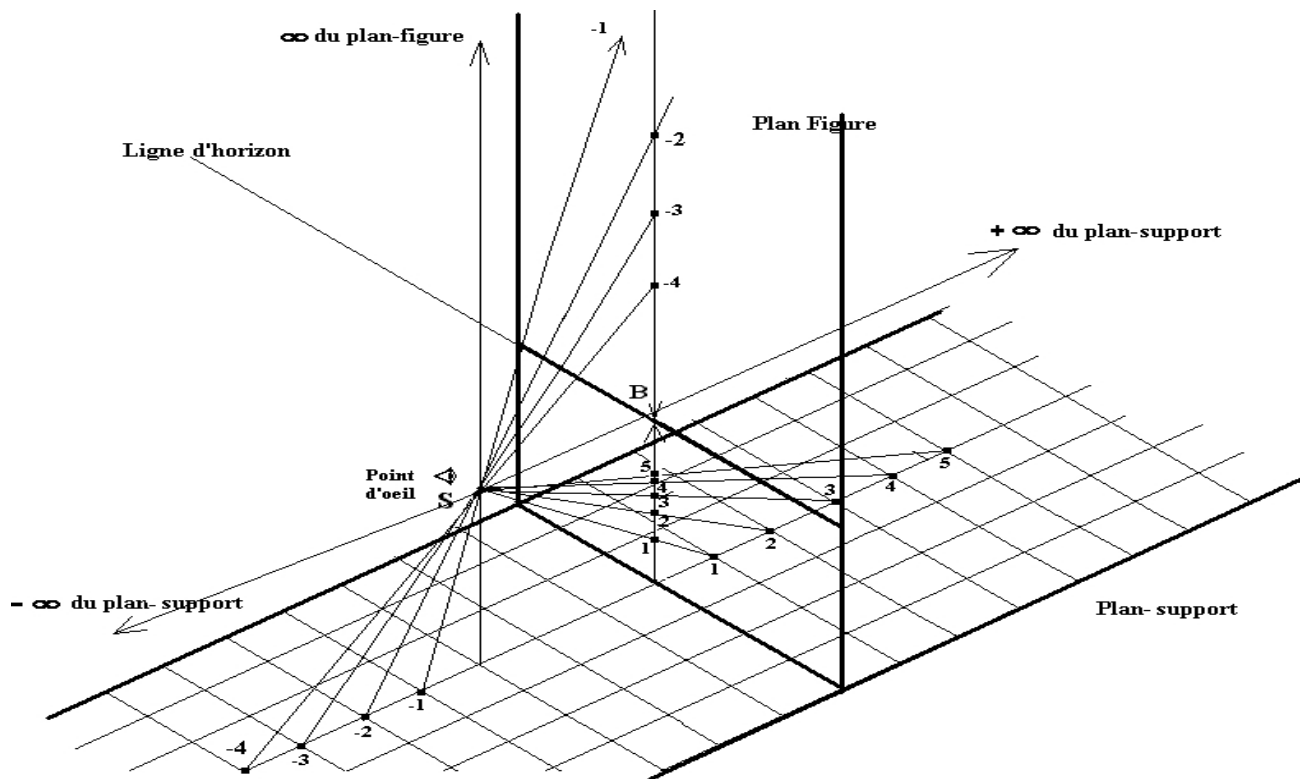


Figure 5

And above the horizon? You will naturally say: the sky! But not at all, not at all. Above, what is on the horizon behind you, as I think that if you think about it, you can immediately grasp it, by drawing the line that joins the point we have called S to what is behind it on the supporting plane, which you will immediately see will project above the horizon (*points -1, -2, -3, -4 in Figure 5*). Let us say that at this horizon of the projective plane, the support plane comes to join the same point on the horizon (*point B in Figure 5*). For example, the point that is on your far left on the horizon line of the supporting plane will be joined to another point that is on your far right, also on the horizon line of the supporting plane. Do you understand? I mean.....No? Let's start again.

You have a surface in front of you. You have a grid in front of you. Let's assume, for simplicity's sake, that it is horizontal, and you are vertical. It is a line connecting your eye—I'm going to keep things as simple as possible—with any point on this infinite grid plane, which determines on the vertical plane, let's say, to make you happy, which is the projection that will determine the point-by-point correspondence.

Every point on the horizon, i.e., at infinity on the supporting plane, corresponds to a point on the horizon of your vertical plane. Think about what is happening. Of course, this is a line that, as I began to say, has nothing to do with a visual ray. It is a line that starts behind you from the support plane and goes to your eye. It ends on the figure plane at a point above the horizon. A point corresponding to the horizon of the supporting plane will correspond to another point touching it from above (*see point B in Figure 5, where the images of the points at $+\infty$ and $-\infty$ on the supporting plane meet, reached at the limit when following 1, 2, 3, 4, 5,*

or - 1, - 2 - 3, - 4, etc.) if I may say so, on the horizon line, and what is behind you on the right, since it passes and intersects at eye level, will come exactly in the opposite direction to how it would appear if you turned around, meaning that what you would see on the left if you turned around toward this horizon, you will see it dipping to the right above the horizon on the projective plane of the projection.

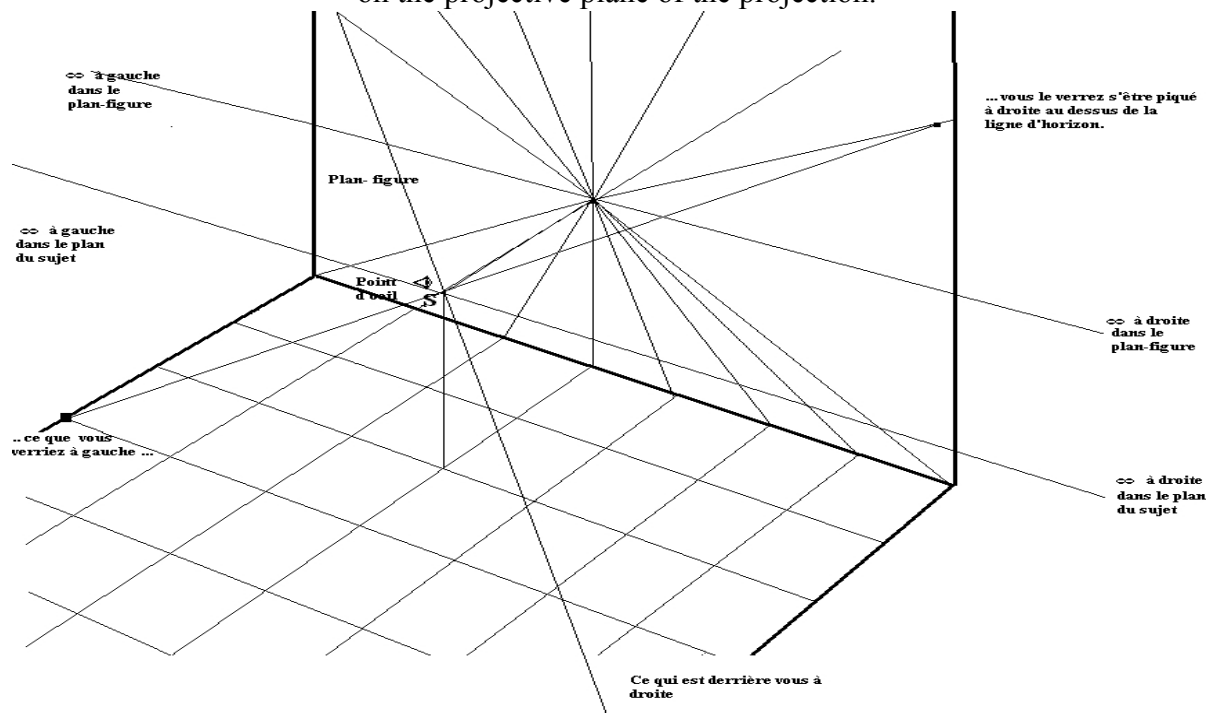


Figure 6

Comment: Lacan points out two different things in succession:

- First, what is traced in the plane-figure when the subject takes in the "horizon" (as in Figure 4), generating a set of lines parallel to the supporting plane: The horizon line is then traversed twice. The first time when the subject "looks" ahead, the second time when he looks behind him. The two points at infinity (left and right) of the horizon line are then tied together in this survey.
- On the other hand, what is traced in the figure plane when the subject follows any line of the support plane. The images of two points at infinity in front on the right and behind on the left, for example, come together on the horizon line at a point similar to points B in Figures 5 and 7.

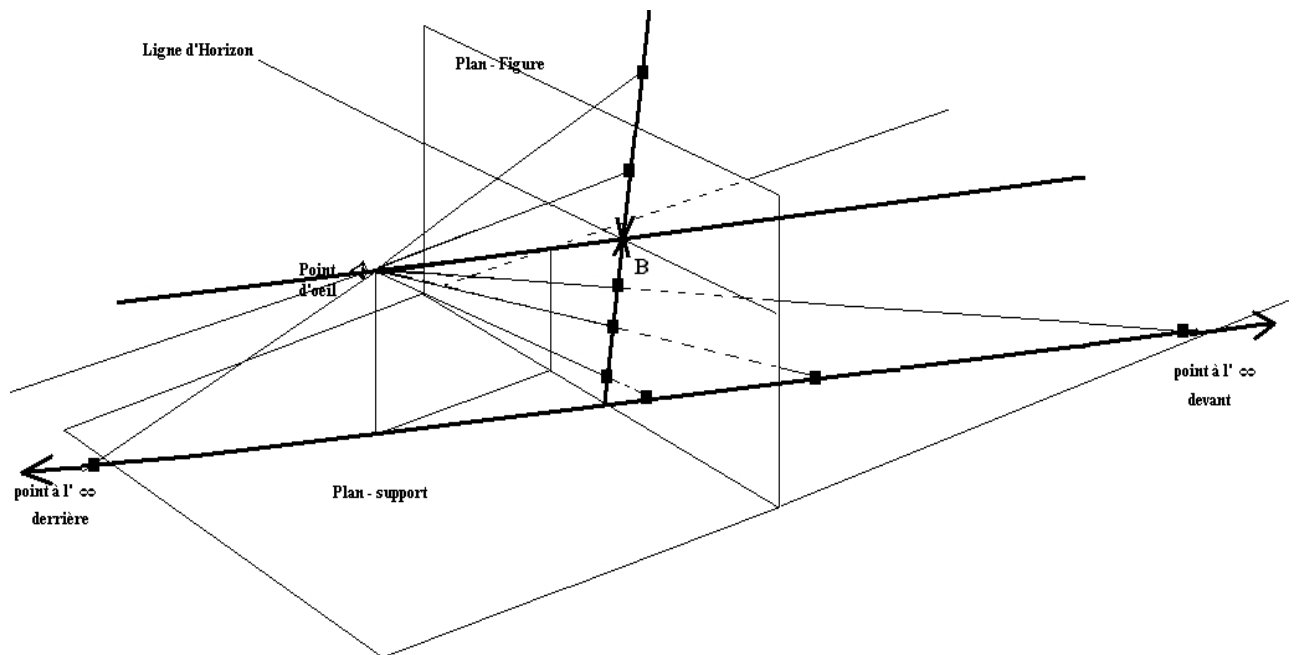
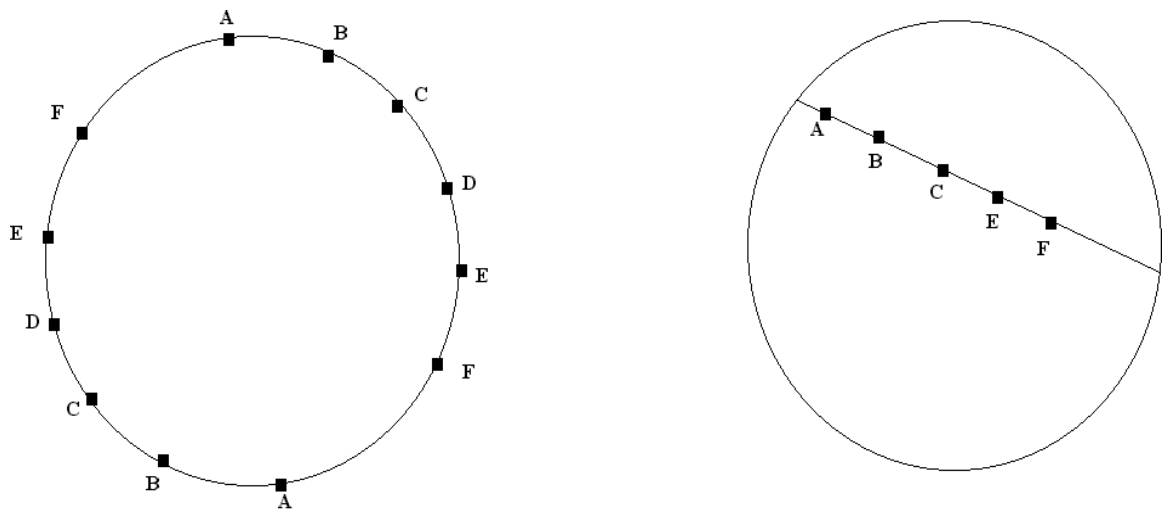


Figure 7

In other words, what is a line that we cannot define as round, since it is only round in our everyday understanding of the roundness of the Earth, it is from this line, which is infinite on the supporting plane, that we will see the points come together, coming respectively from above and below and in such a way that, for the posterior horizon, they attach themselves in a strictly inverse order to that of the anterior horizon.

I can, of course, on this occasion, assume, as Plato does in his cave, that my head is fixed and therefore determine two halves that I can talk about, concerning the support plane. What you see there is nothing more than a simple illustration of what happens when I represent the projective plane on the board in the form of a *cross-cap*, namely that what you believe, instead of a spherical world, is a certain bubble that is tied in a certain way, crossing itself and causing what first appeared as a plane at infinity to come into another plane, having divided, reconnecting to itself at the level of this horizon line; and reconnecting in such a way that at each point on the horizon of the supporting plane, what comes to be tied? Precisely the shape that I have already put on the board of the projective plane, namely its diametrically opposite point. This is why, in such a projection, it is the rear point on the right that comes to be tied to the front point on the left.



ce qui s'est présenté d'abord comme un plan à l'infini, vient dans un autre plan, s'étant divisé, se renouer à lui même, au niveau de cette ligne d'horizon

Figure 8

Such is the case with the horizon line, which already indicates to us that what gives coherence to a meaningful world with a visual structure is an envelope structure and not an indefinite expanse. Nevertheless, it is not enough to say these things as I have just described them to you. For I forgot to mention the grid that I had put there solely for your convenience, but which is not insignificant because a grid is made up of parallel lines, and it must be said that, assuming that I have fixed my mind on this, all the parallel lines in space, as you will have no trouble imagining, no trouble picturing, all the parallel lines will meet at a certain vanishing point on the horizon, a single point, namely that it is the direction of all the parallels in a certain given position that determines the single point on the horizon where they intersect in the plane figure.

These remarks, which are fundamental to any science of perspective and which any artist seeking to organize anything, whether a series of figures on a canvas or the lines of what we call a monument, which is the arrangement of a number of objects around a void, will take into account; and that this point on the horizon line that I mentioned earlier in relation to the grid is exactly what is commonly referred to as the vanishing point of perspective, I don't see that I am adding anything truly transcendent here. This vanishing point of perspective is, strictly speaking, what represents the eye that looks at the figure. The eye does not have to be grasped outside the figure, it is in the figure and everyone, since the science of perspective has existed, has recognized it as such and called it as such. It is called the eye in Alberti; it is called the eye in Vignola; it is called the eye in Albert Dürer. But that's not all. For I regret that I have wasted time explaining this point, which is nevertheless truly accessible; that is not all. That is not all at all, for there are also things that lie between the painting and me.

The things that are between the painting and me can also be represented on the same plane of the painting using the same process. They will go into depths that we can consider infinite; nothing prevents us from doing this, but they will stop at a point that corresponds to what? On the plane parallel to the painting that passes—I will say, to make things easier for you—that passes through my eye or through point S. We have two traces here. We have the trace of what the painting cuts through the support, which is the opposite of the horizon line. In other words, it is what, if we reverse the relationships, and we have the right to do so, constitutes as

The horizon line in the medium, the infinite line in the figure. And then there is the line that represents the section of the medium by the plane of the painting. These are two lines.

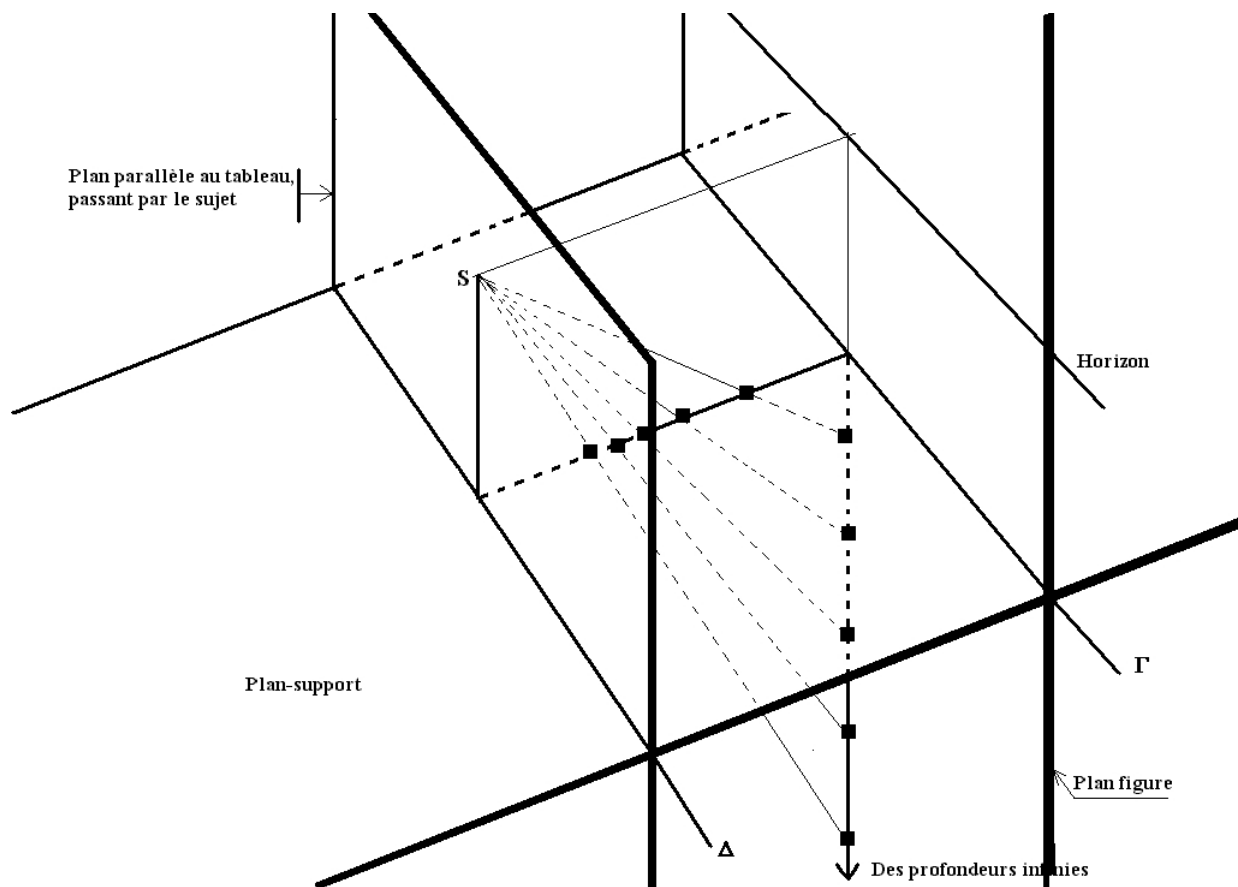


Figure 9: The things that are between the painting and me.

Comment: The two traces in question are obviously the two straight lines Δ and Γ in the figure. 9. Lacan makes a slip of the tongue here by referring to them identically. The first, Δ , is in fact not "the trace of that by which the painting cuts through the support," but rather the intersection with the support plane of the plane parallel to the painting and passing through the subject. The line Δ and the horizon are in fact in a reciprocal relationship: one is the image of the infinite line of the other's plane.

It is late, and I will tell you something much less rigorous due to the little time I have left. Things take longer to explain than they first appear. Strictly speaking, this means that there is another point of view, which is formed by the line at infinity on the plane of the figure and its intersection with something that is there, namely the line at which the plane of the figure intersects the supporting plane. These two lines intersect because they are both in the plane of the figure. What's more, they intersect at a single point because this point is indeed the same on the line at infinity.

To stay with the domain of images, I would say that this distance between the two parallels that are in the supporting plane, those determined by my fixed position as a viewer and those determined by the intersection, the meeting point of the painting with the supporting plane, this

gap, this gap which in the figure-plan is represented only by a point, a point which itself is completely hidden because we cannot designate it as we designate the vanishing point on the horizon. This point, which is essential to the entire configuration, is quite particularly characteristic, this lost point, if you will accept this image, which falls in the interval between two parallels as far as the support is concerned. It is this point that I call the point of the subject looking. So we have the vanishing point, which is the point of the subject as the viewer, and the point that falls between the subject and the plane-figure, which is what I call the point of the viewing subject.

*Comment: This point is the intersection in Figure 9 of three straight lines: Δ , Γ , and the horizon. Lacan emphasizes a remarkable feature of the perspective device: in this device, most of the visible points on the supporting plane have a visible image on the figure plane. Some points on the supporting plane are not visible on it, but have a visible image on the figure plane. This is what forces us to infer their existence. They are called the points at infinity of the supporting plane. Conversely, certain points on the supporting plane, located on line Δ , have no image in the figure plane. What forces us to infer their existence in the figure plane is their visible existence in the supporting plane. However, there is one point that is visible neither in the support plane nor in the figure plane, and this is the point discussed in this paragraph: the unique point of intersection of *three* parallel lines (i.e., lines that meet at infinity) Δ , Γ , and the horizon. It is this point that Lacan emphasizes as literally the lost point of the dispositif. What requires us to infer its existence is only the principle of projective geometry according to which any pair of coplanar lines has a point of intersection. Lacan provisionally places the subject who is looking at this point. Later, however, Lacan will situate the subject who is looking at another point in the device, namely the point of distance, a third point perfectly marked on figure XVI of the seminar.*

This is not new. What is new is introducing it in this way, finding the topology of the barred S [\$], which we now need to know where to place the *a* that determines the division of these two points—I say these two points insofar as they represent the subject in the figure. Going further will allow us to establish a device, a completely rigorous setup that shows us, in terms of the visual combination, what fantasy is, where we will have to situate it in this whole, which is what will be discussed next.

But right now, so you don't think I'm taking you to some abysmal depths—I'm not doing depth psychology, I'm doing geometry, and God knows I've taken precautions, having read everything there is to read on the subject of perspective, from Euclid, who got it so wrong in his *Aphorisms*, to Michel Foucault's latest book, which refers directly to these things in his "Des Suivantes" in the first chapter of *Words and Things*. I have tried to give you something that is entirely supportable, so to speak, but as for this perfectly defined point that I have just given as the second point representing the seeing subject in projective combinatorics, do not think that I invented it. But it is represented differently, and this different representation has already been called by others besides myself, the other eye, for example.

This point is well known to all painters. For since I have told you that this point, in its rigor, falls within the interval as I have defined it on the supporting plane, to be located at a point that you cannot naturally point to but which is necessitated by the fundamental equivalence of what is projective geometry and which is found in the point-figure, it may well be at infinity, but it is there. How is this point used? It is used by all those who have painted pictures using perspective, that is to say, very precisely from

Masaccio and Van Eyck, in the form of what is known as the other eye, as I mentioned earlier. This is the point used to construct any flat perspective as it recedes, as it is precisely in the supporting plane.

It is constructed in exactly this way in Alberti (*figure 11*). It is constructed slightly differently in Jean Pélerin (*figure 10*). Here it is:

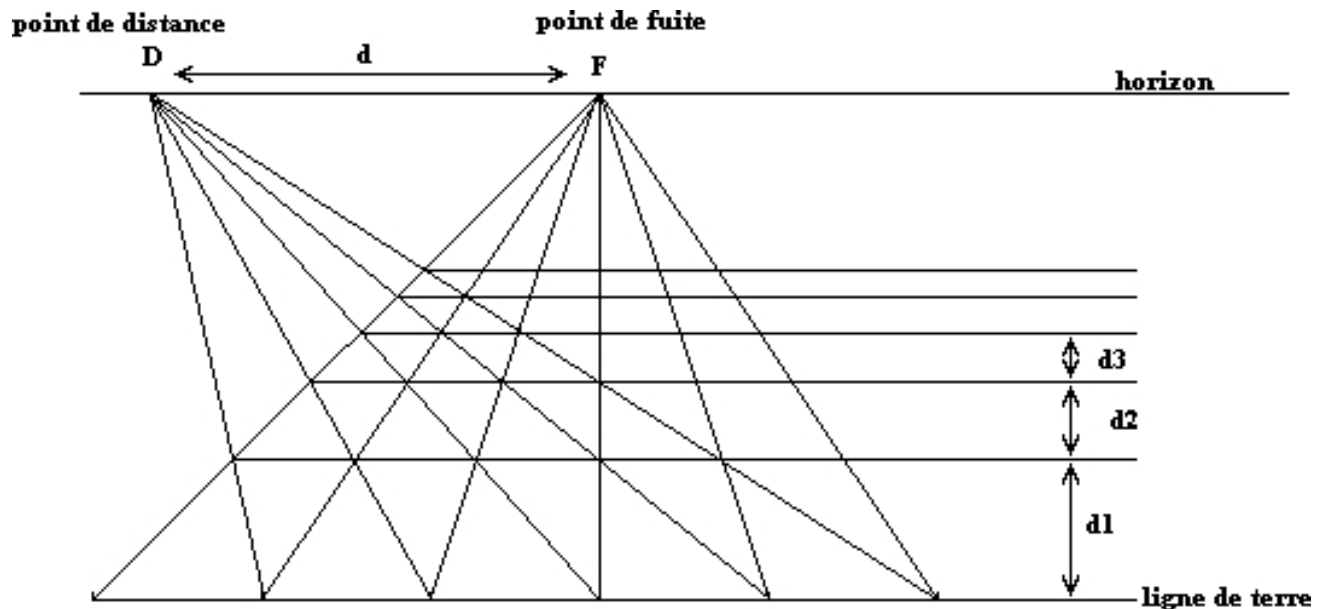


Figure 10: The second eye according to Jean Pélerin

This is what we need to discover with perspective, namely a grid, for example, whose base is supported here. We have a reference point. If I go along with it, I mean, if I simply want to make things easy for you to understand, I place myself in the middle of this grid reference point and a perpendicular line drawn from the base of this grid gives me the vanishing point on the horizon. So I already know that my grid will be arranged like this, with the help of my vanishing point.

But what will give me the height at which the grid will appear in perspective? Something that requires me to use my other eye. And what people discovered, rather late in the day since the first theory was ultimately put forward by Alberti, a contemporary of those I have just mentioned, Masaccio and Van Eyck, well, I will take a certain distance here, which is exactly what I gave you earlier, like the interval between my block and the board. At this distance, taking a point located at the same height as the vanishing point, I make a construction, a construction that passes through Alberti via a vertical line located here (*figure 11*). Here I draw the diagonal; here a horizontal line, and here I have the limit at which my grid will end, the one I wanted to see in perspective.

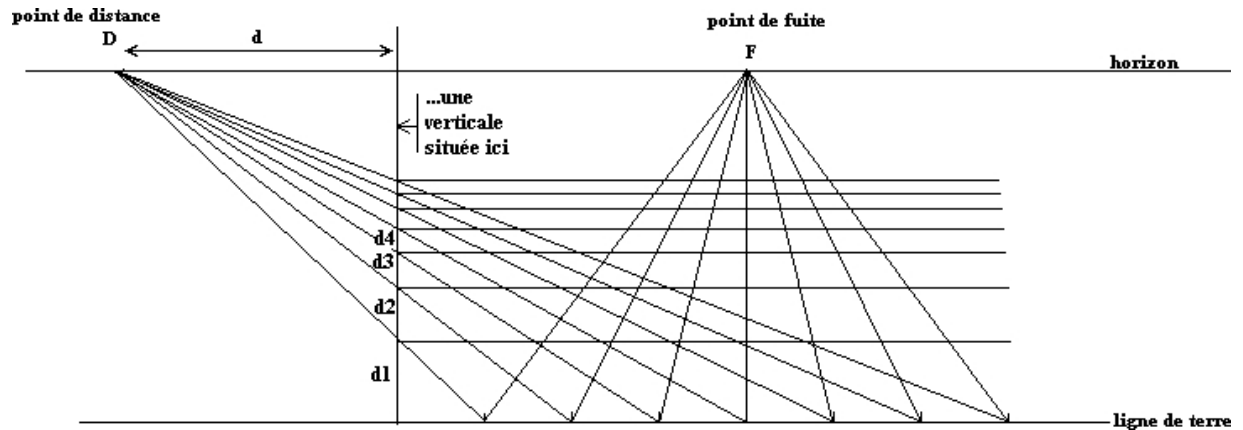


Figure 11: The second eye according to Alberti

The indication here of the point at which you yourself must stand in relation to the painting in order for the entire perspective effect to be achieved for you—as you can see, this opens up another dimension, which is exactly the same one that surprised you earlier when I told you that above the horizon, there is no sky. There is sky because you put a backdrop on the horizon that is the sky. The sky is never more than a backdrop in reality, as in the theater, and likewise between you and the sky there is a whole series of backdrops.

The fact that you can choose your distance in the painting and any painting within the painting, and indeed the painting itself, is a distancing effect, because you are not painting yourself at the window opening in which you are framed. You are already painting within that frame. Your relationship with this painting has to do with fantasy, which will give us some reference points, a reliable figure that will enable us to manifest the relationship between the object a and the barred S. That is what I hope, and I hope that a little sooner than today, I will be able to explain it to you next time.