

The evolution of form in Andrei Tarkovsky's films

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1. The centrality of form

The aesthetic theory of the philosopher Luigi Pareyson¹ starts from the idea that art consists in the pure production of forms. The artist is the one who translates himself, that is, his own interiority, his own vision of the world, in the act of producing a form which we name *work of art*. And since the content of the work of art is nothing else than the interiority, the vision of the world of its author, it is in the form that the content resides. Different visions of the world in fact will generate different ways of creating forms, each of which will be peculiar to the particular interiority that has been translated into it, and the outcome of which will obviously also be different forms. It follows that by walking along this path backwards we can go back to the author's poetics through the analysis of form.

These ideas apply very well to a director like Tarkovsky who paid extreme attention to the creation of a cinematographic form of great originality and charm, the analysis of which can give us a key to reading his poetics. The development of quantitative analysis methods will be of great use in moving in this direction.

2. The temporal macrostructure

Let's start by considering a parameter that is only apparently simplistic: the average duration of the shots of each film, shown in fig. 1². We see that it gradually and moderately grows up to the 33 seconds of *Mirror* and then shows, from *Stalker* to *The Sacrifice*, a further, and this time considerable increase that takes it to around 60 seconds. Even the duration of the longest shot (fig. 2) follows a similar evolution: up to *Mirror* it does not go beyond 4 minutes, while it reaches 7 minutes in *Stalker* and 9 in the last two works.

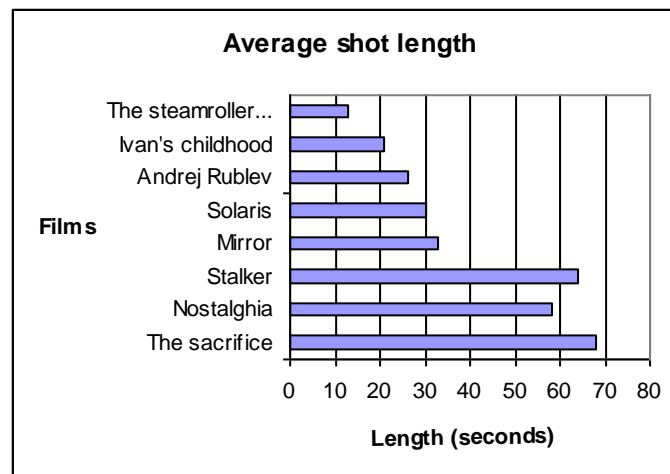


Fig. 1

¹ Luigi Pareyson, *Estetica. Teoria della formatività*, Sansoni, Florence, 1974, p. 23 et seq.

² Here and in the following graphs in fig. 9, 11 and 12 I have excluded the documentary takes of *Ivan's childhood* and *Mirror* and, in *Solaris*, the footage of Berton. The sequences constructed on archive material (or shot as though they were) observe in fact different rules of composition from those adopted for the sequences constructed on original takes; in particular the duration of the shots in the former is much shorter. The conception of time that characterizes the parts shot by Tarkovsky therefore seems significantly different from that of chronicled time. Therefore the information relative to the newsreel shots would have been misleading for this analysis.

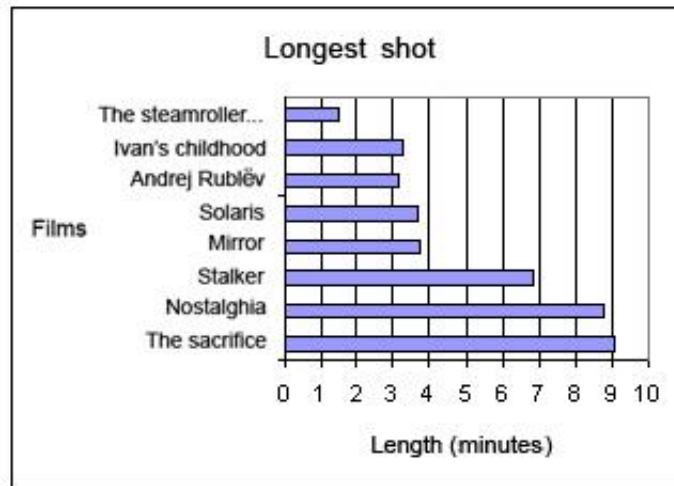


Fig. 2

It is clear that something happened between *Mirror* and *Stalker*, and we can therefore hypothesize the existence of two distinctly different stylistic phases. The duration of the shots, however, for Tarkovsky is not a primary parameter; the rhythm, the filmic time is something that is born within every single take, something that the editing has only to support. We must therefore think that the change we find in this parameter is an outward symptom of a change of a deeper nature.

Let's go a step further by adopting a representation of the time structure of films that can tell us something more, like the one shown in fig. 3 and 4 where we have the progressive numbering of the shots on the x-axis and time on the y-axis. In these graphs, each line of the histogram represents a shot and its length represents its duration.

Using this type of representation we will obtain for all films up to *Mirror* graphs extended mainly horizontally, like the one in fig. 3 relating to *Solaris*, that is to say characterized by a large number of shots of relatively short duration. The last three films, on the other hand, have a structure similar to that shown in the graph in fig. 4 relating to *Stalker* (film with a duration very close to that of *Solaris*³): the number of shots has been considerably reduced and their duration has increased, generating a graph extended especially vertically.

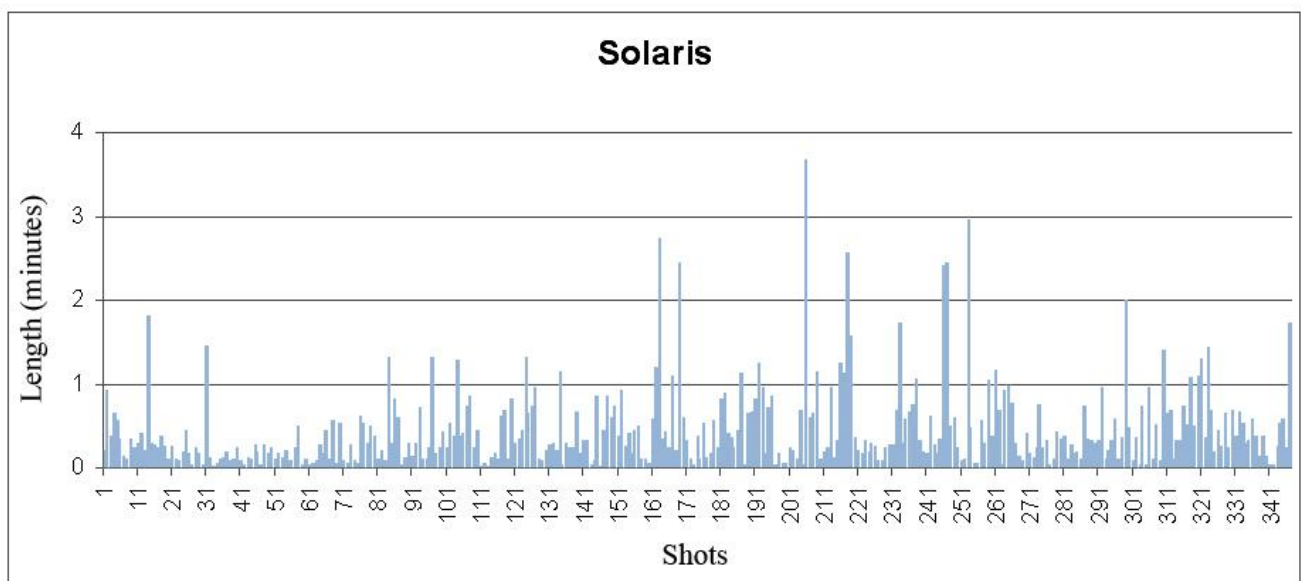


Fig. 3

³ *Solaris* lasts 157 minutes, *Stalker* 149 minutes.

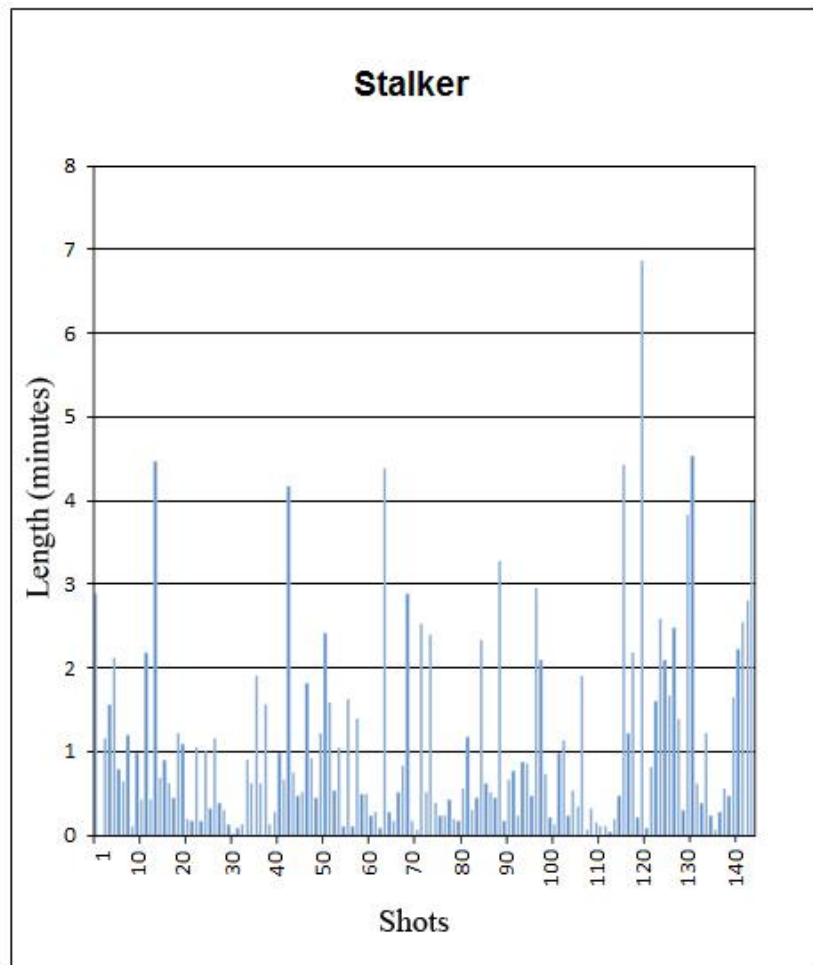


Fig. 4

Tarkovsky therefore seems to tend towards a structure based on long takes (plan-séquence in French or piano sequenza in Italian), but to what extent?

To answer this question I used a different type of representation: the *graphs of the duration classes*, in which I divided the duration of the shots into six classes⁴ expressing the quantity of shots belonging to each class as a percentage of the total number of shots. An example of such graphs is that of fig. 5 relating to the film *The Weeping Meadow* by Theo Angelopoulos, which shows that 4.3% of the shots that compose it have a duration of between 15 and 30 seconds, 28.3% between 30 and 60 seconds etc., while the class of the shortest shots (between 0 and 15 seconds) is empty.

The films of Angelopoulos' maturity, notoriously structured according to long takes, all have a structure similar to that of fig. 5. If we imagine tracing their envelopes, we see that, with few exceptions, they tend to approximate a Gaussian curve (fig. 6) centred on a "peak class" of rather high durations (which, in the case of Angelopoulos, is often 1 to 2 minutes).

The Gaussian envelope is actually very frequent in films structured on long takes, so we should stop to consider its meaning. The Gaussian curve represents the probability density of a series of random events centred on a maximum probability value. In our case the events are obviously the durations of the shots. The fact that in a film structured on long takes they are distributed according to this law means that the director, despite having opted for this filmic structure, does not plan the duration of

⁴ The breadth of the classes is defined according to multiples and submultiples of 1 minute in order to make reading intuitive. Furthermore, starting from the 15-30 seconds class it grows with geometric progression. This is to obtain a better resolution on shorter durations where even a small difference is significant whereas it is irrelevant in a class of long shots.

each shot (hence their random nature); such durations are therefore not a primary parameter but are derived from other stylistic choices. On the contrary, any deviation from the Gaussian curve can be interpreted as the deterioration of pure randomness, that is, an intervention of the director's will on the duration of the shots.

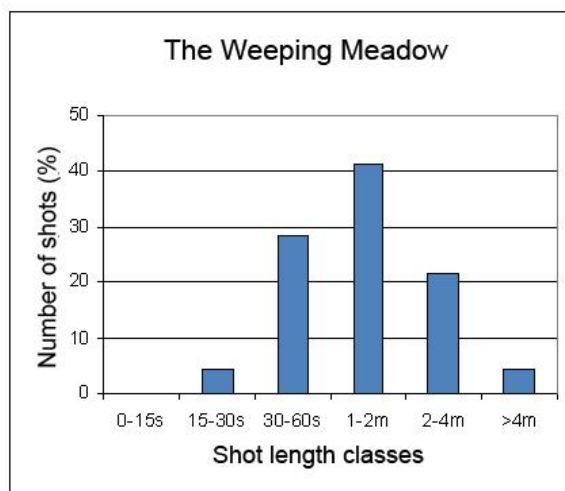


Fig. 5

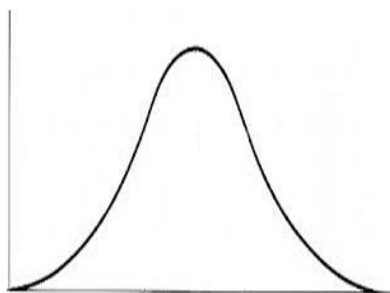


Fig. 6

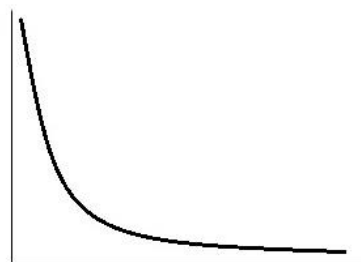


Fig. 7

If we now consider the same graphs obtained for the eight Tarkovsky's films (from fig. 8 to fig. 15) we obtain clearly different structures. Up to *Andrej Rublëv* the envelope is the typical one for edited films, that is approximate to a hyperbola (fig. 7), with the peak located on the shorter duration class. In *Solaris* and *Mirror* this structure tends to become "hybrid" corresponding to an increasingly frequent use of long shots; this hybridization manifests itself in the form of inflection points in the envelope, located in the zone of the intermediate durations where it presents a first hint of convexity. The envelope thus tends to approximate the right side of a Gaussian curve.

With *Stalker* the areas of the graph corresponding to medium and long duration shots are filled up considerably but at the same time the class of shorter shots remains dominant. Only with *Nostalghia* and *The Sacrifice* does the left part of the graph tend to empty as it approaches the structure of long takes without ever reaching it however. Tarkovsky was therefore not "the champion of long takes" although no doubt he had set out along that path. Rather, he tended to use cinematographic language in all its depth (for example, *The Sacrifice* contains both the longest and the shortest shot of his entire filmography).

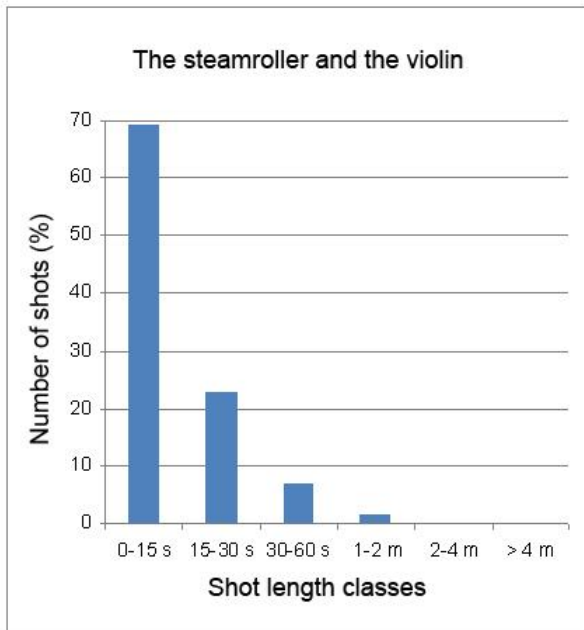


Fig. 8

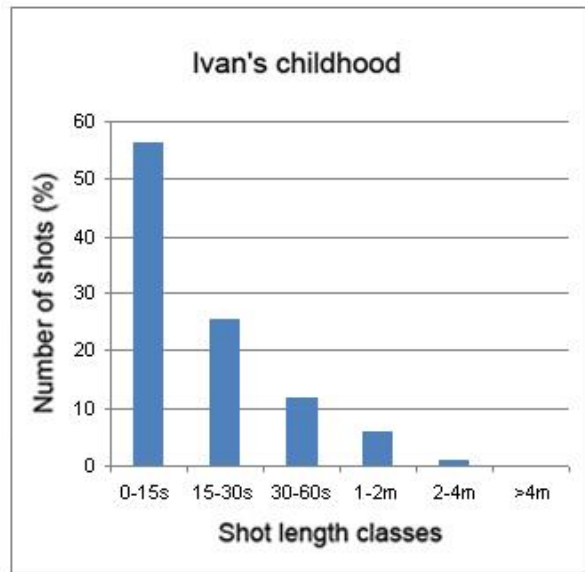


Fig. 9

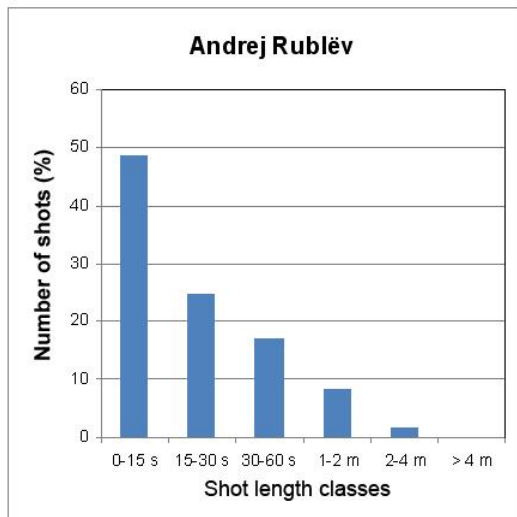


Fig. 10

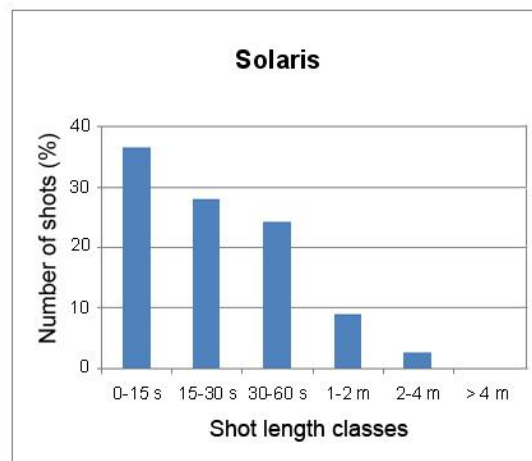


Fig. 11

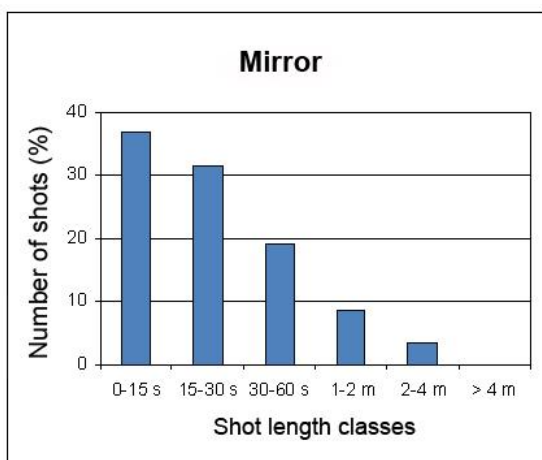


Fig. 12

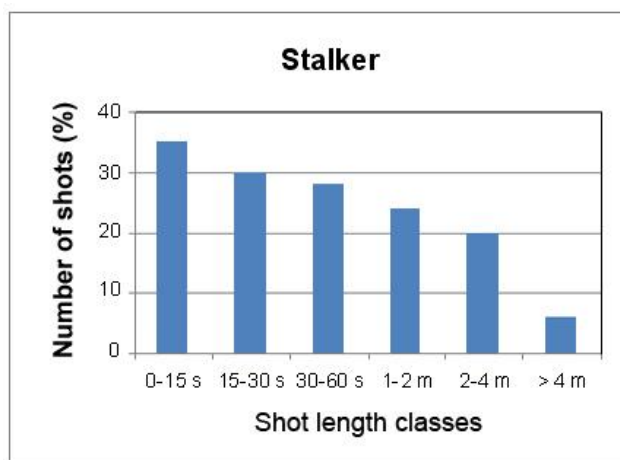


Fig. 13

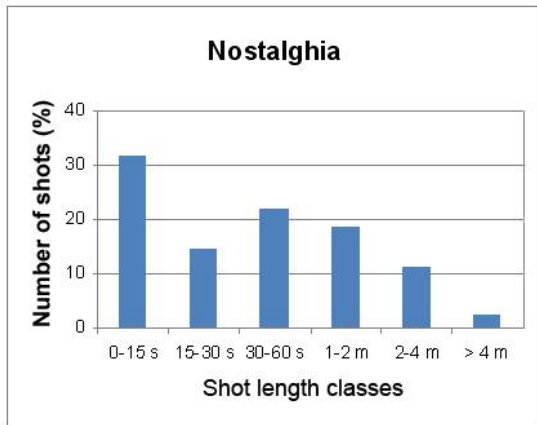


Fig. 14

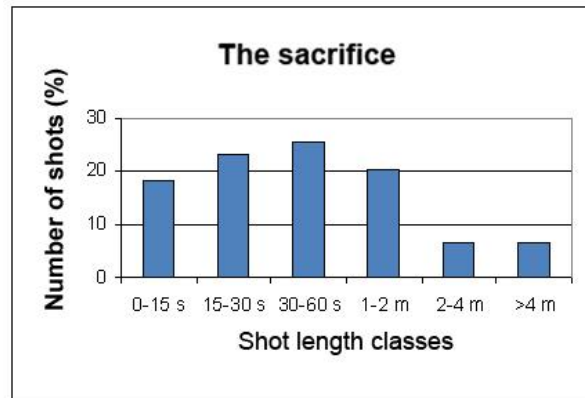


Fig. 15

For a more precise understanding of this aspect of his stylistic development let's consider the standard deviation⁵, illustrated in fig. 16. We note that, like the average duration of the shots, it moderately increases up to *Mirror* and then increases drastically in *Stalker* and *Nostalgia*, and even more in *The sacrifice*. This means that the increase in the average duration of the shots that we have seen starting from *Stalker* is not a symptom of a rigid shift up toward longer durations of the takes but rather of their distribution over a wider interval, as the graphs of the classes of duration enabled us to qualitatively observe previously.

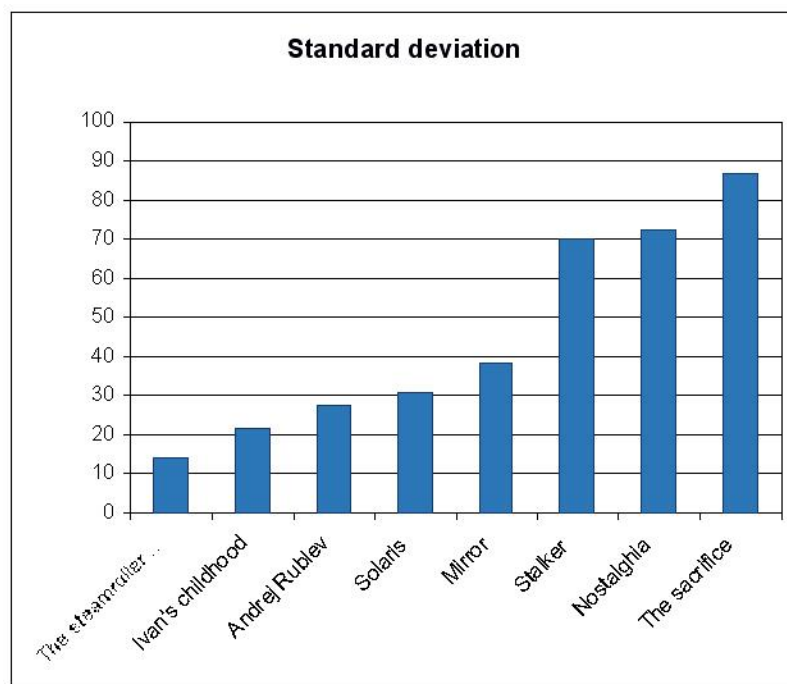


Fig. 16

Anyway, that Tarkovsky was attracted to long take filmic form is already shown by *Stalker*, whose hybrid structure we have seen in fig. 13. Let's start again now from the shot duration graph in fig. 4 and make the moving average at 5 points, obtaining the graph in fig. 17⁶. In it we see a succession of

⁵A parameter that expresses the size of the interval in which the values of a statistic variable are distributed, in our case the duration of the takes.

⁶As is known, the moving average makes it possible to highlight the general trend of a parameter, purifying it of local oscillations. In the graph in fig. 16, the *i*-th value is obtained as the arithmetic average of the shot durations from *i*-2 to *i* + 2 of the graph in fig. 4.

large areas in which the structure with long shots prevails, separated by short interludes with an edited film structure. Furthermore, after shot 108 the duration of the takes increases considerably (up to that moment the average duration was about 50 seconds, from that moment on it goes up to about 100). This change occurs in correspondence with the Professor's phone call, that is, starting from the moment in which the three characters arrive in the vicinity of the Room, the place where Truth is fulfilled, the heart of the Zone and the destination of their journey, the threshold of which, as we know, they will not cross. From this moment on the film takes on the structure of long takes, with one last exception in the sequence of the return to the bar, structured according to a shot-reverse shot⁷ whose two sides are the worlds, now close to separating forever, of the family of *Stalker* and of his two travelling companions.

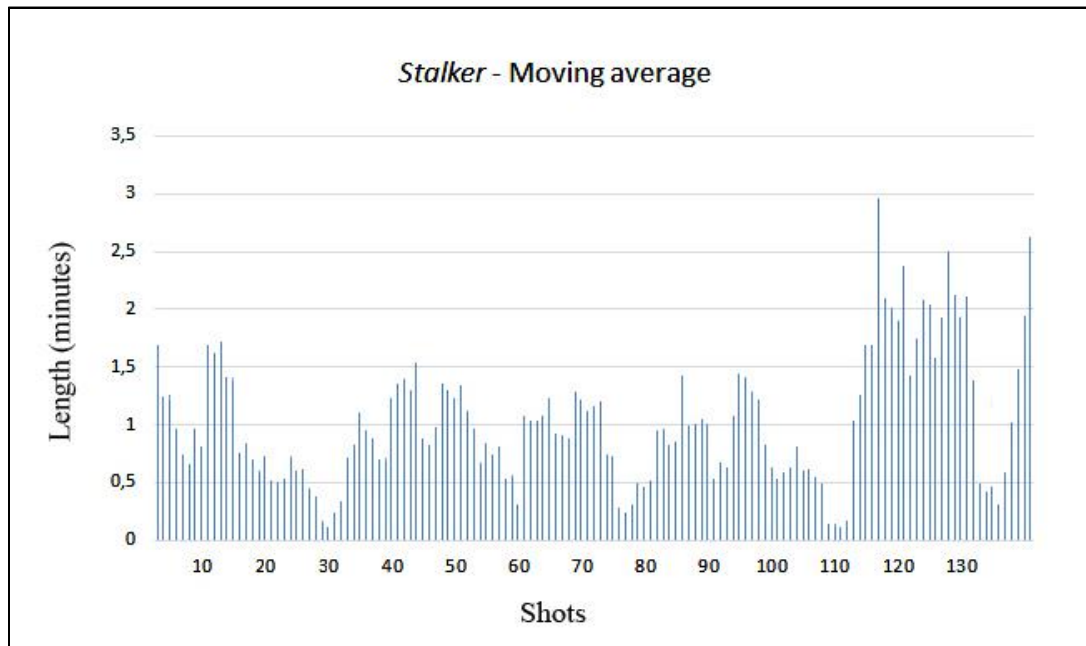


Fig. 17

3. Internal structure of the shots

Let's now take the next step, which is to enter the takes and analyze their internal structure. I concentrated on doing this mainly for the camera movements, adopting the graphic notation shown in fig. 18 regarding the symbols I used for the panning shot, the still camera and the tracking shot (including zooming⁸ in the latter).

I also considered a scale of five values for the speeds:

VS	Very slow
S	Slow
N	Normal
F	Fast
VF	Very Fast

Figs. 19 and 20, relating to *Mirror* (a fragment of the initial sequence and the barn fire), show a dominance of the panning shot (alone or combined with simultaneous tracking shots), a camera movement that involves a continuous, *dynamic* change of direction of the gaze. All of this disappears

⁷ But with shot durations that are in any case much extended compared to the conventional shot-reverse shot.

⁸ Strictly speaking, zooming is not exactly like a tracking shot along the visual axis because in the former there is a gradual variation in the depth of the perspective. The approximation that we thus introduce is however acceptable for the purpose of this study where, as we shall see, we want to highlight the passage from a dynamic structure to a static one of the filmic space.

in the second style: from *Stalker* to *The Sacrifice* (fig. 21, relating to the initial dialogue between Otto and Alexander) the dominant camera movement becomes the (real or optical) tracking shot, therefore an orientation of the gaze fixed *statically* in a certain direction while the panning shot takes on a purely secondary role, never describing space⁹.

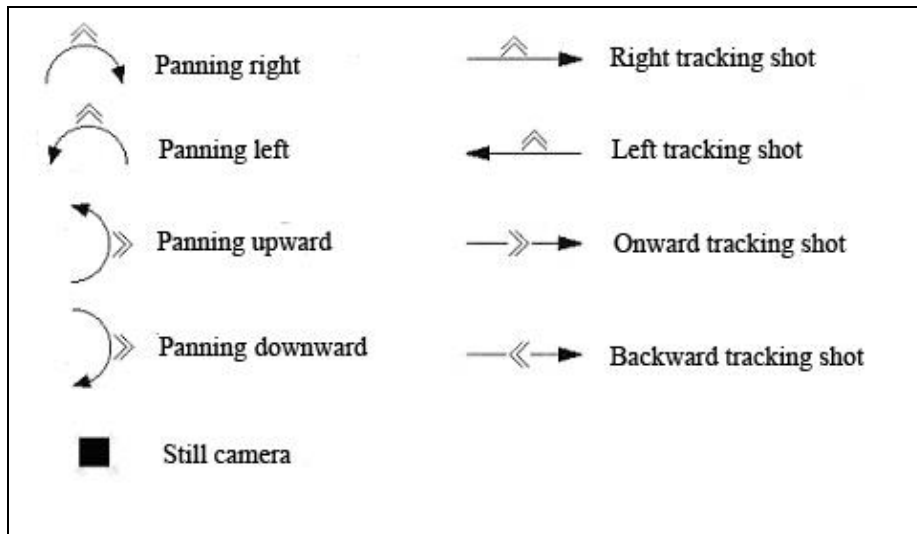


Fig. 18

Particularly interesting is the comparison between fig. 19 and the close-up of Eugenia during her first dialogue with Gorčakov in *Nostalghia* (fig. 22). In the first case we have a combined movement of tracking and panning that gives a plastic and dynamic vision of the mother's face, while in the second, its perfect antithesis, we have a prolonged stasis of the camera on Eugenia's face whose image is not only fixed statically over time, but also detached from any perception of spatial depth.

A rarefaction of the filmic rhythm combines with the transition from panning to tracking shots: in the shot in fig. 20 we have 9 changes in the camera movements in 58" (one every 6.4 seconds), in the shot in fig. 21 we have 6 in 9 '4" (one every 90.7 seconds). Normal speed (N) is dominant in fig. 20 while in fig. 21 it is present only for one third of the duration of the shot; in the remaining two thirds the movement is instead slow (S) or even freezes in a persistent stasis (the latter is however unusual in Tarkovsky).

Furthermore, the spatial structure of the staging is simplified by being reduced to a straight line coinciding with the visual axis in the case of longitudinal tracking shots or, in the case of lateral tracking shots, to two parallel or slowly converging straight lines (the latter is the case in fig. 21) along which the camera and the characters move respectively. Camera movements are characterized by such well-calibrated regularities as to suggest that the movements of the characters are defined according to the movements of the camera and not vice versa. In other words, the internal structure of the shots is such that the clear division between subordinate and independent camera movements dissolves.

In Tarkovsky's work, moments in which the camera "speaks" in the first person and itself becomes a character are also of particular relevance. They are the moments dominated by the presence of independent camera movements in the strictest sense of the word, that is, freed from any narrative function. Fig. 23 shows how these movements remain quite modest up to *Solaris* and instead take on considerable importance in *Mirror* and *Nostalghia*, while their partial minor presence in *Stalker* and *The Sacrifice* can be explained with the aforementioned absence in the second style of the separation between subordinate and independent camera movements.

⁹ This secondary role is indicated in the diagrams, decreasing the size of the corresponding symbol.

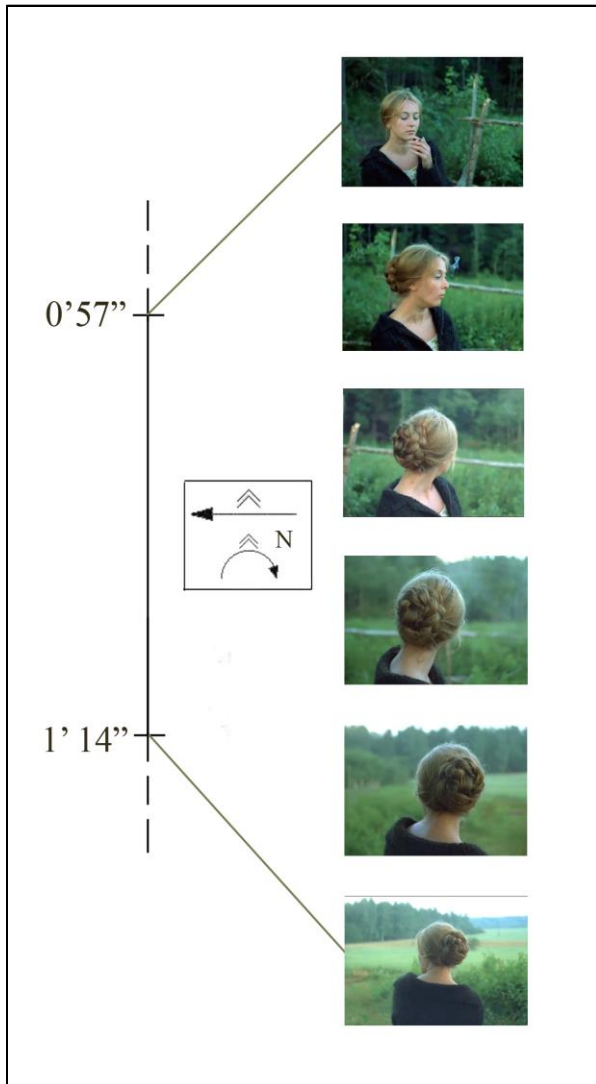


Fig. 19

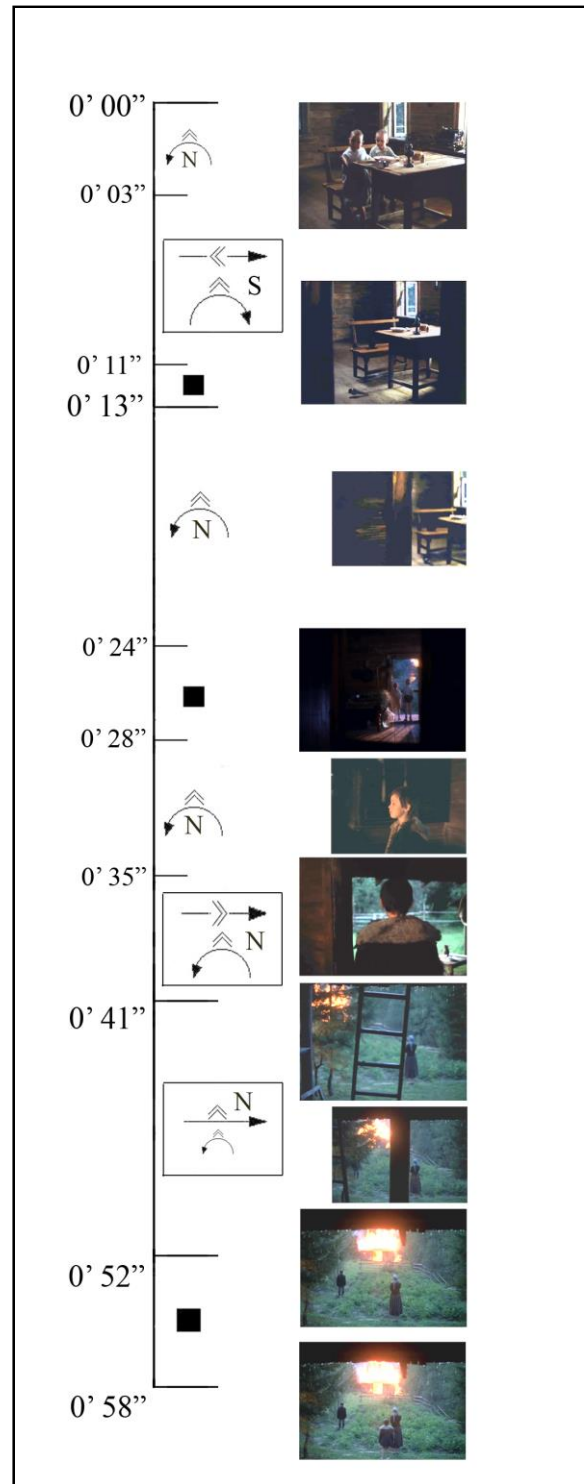


Fig. 20

Speaking of camera movements again, let us now focus on *The Sacrifice*. We can divide the film into three sections: the morning, the nuclear nightmare and the return to normality. The passage from the first to the second section is characterized by a sudden collapse of the time pressure at the moment of the break between the strong dynamism of the scene of the aeroplanes' passage, and the rigidly static figure of Alexander bending over the model of the house. This collapse is prepared throughout the first section, structured as a dynamic *crescendo* that starts from the rarefied static nature of the long initial long take (fig. 21) and culminates precisely in the scene of the aeroplanes' passage. The panning shot as a camera movement describing space once again plays an important role in this context as a bearer of

dynamism; we can in fact see in fig. 24 that the panning shots gradually become denser as the section's final climax approaches.

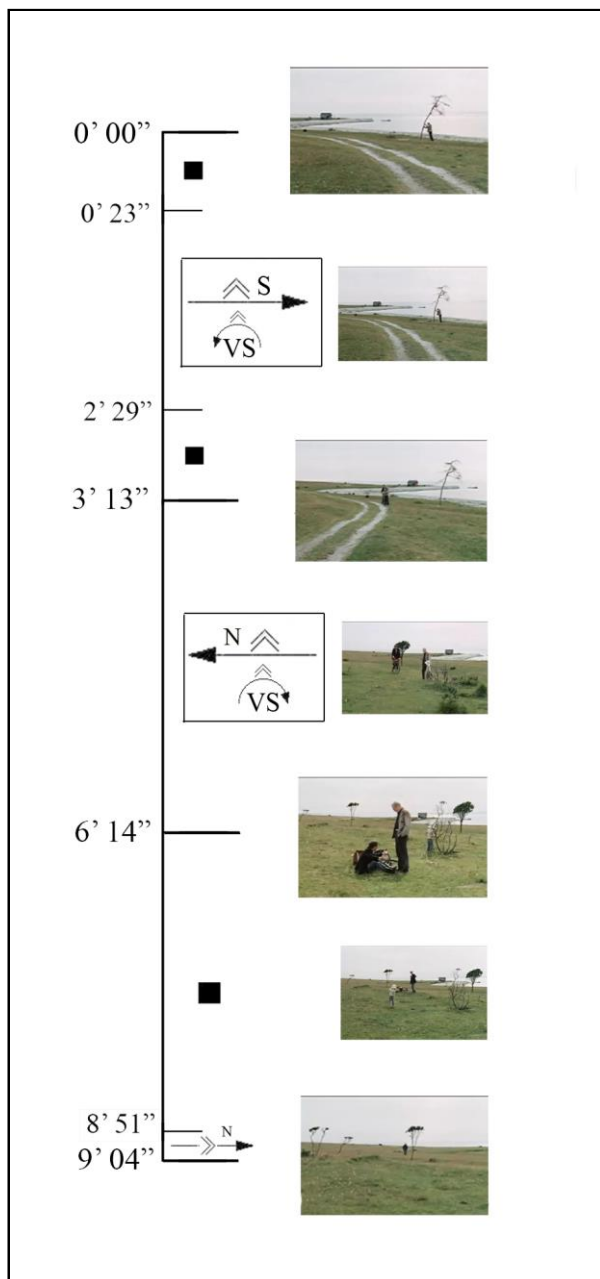


Fig. 21



Fig. 22

4. The editing

At this point in our analysis it will be useful to imagine the visual component of films structured in three syntactic levels: the first level is the image considered in its figurative values, and therefore according to the visual arts methods of analysis; the second level is the internal structure of the shot; the third level is the set of relationships between the shots, that is the editing. The first level is essentially spatial and therefore synchronic; the second and third levels are temporal and therefore diachronic. As we have already mentioned, for Tarkovsky editing is not just a relationship between shots but something that is born first of all within them. In his vision of editing, therefore, the second and third levels interact.

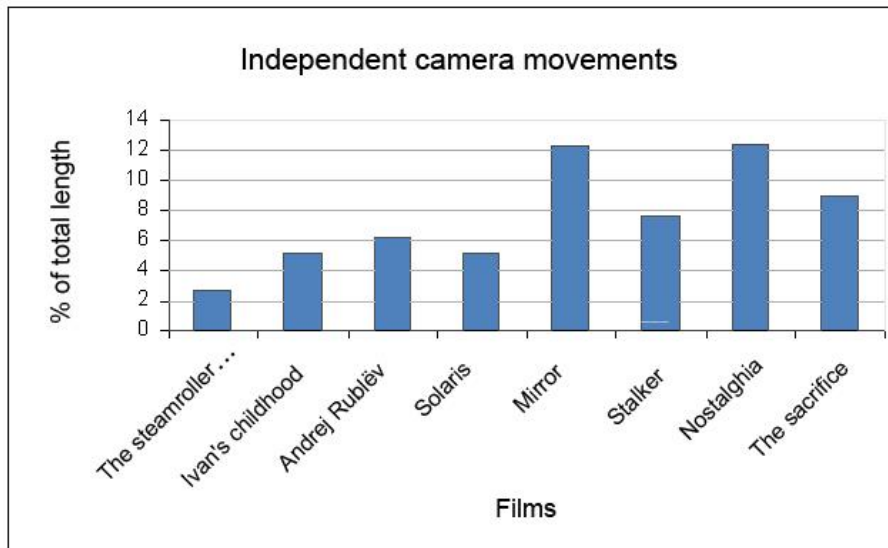


Fig. 23

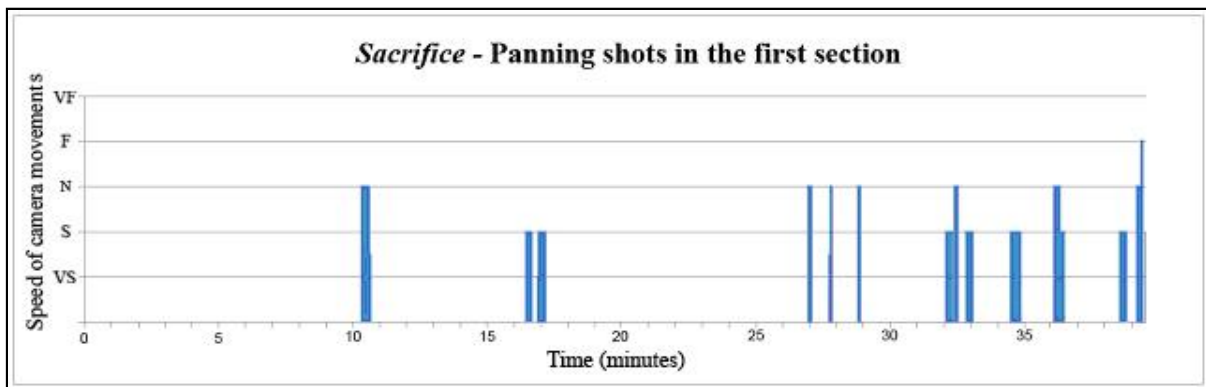


Fig. 24

Crucial to understanding how Tarkovsky saw editing is his concept of *pressure of time* within the shot; but what is its meaning? Is this just a metaphor? Or is it a quantifiable parameter? Probably a correct answer lies somewhere between the first and second hypotheses. As a first approximation, I have assimilated it to the density of events that take place within the shot. A parameter that certainly contributes to determining it is the *transition*, which I defined as the passage from one centre of interest to another or a change in the position of the camera in front of the same centre of interest. This parameter is certainly insufficient to render by itself a much more meaningful concept such as the pressure of time, but it gives us a first significant approximation. A transition can take place on the second level (for example when the camera switches from one character to another) or on the third, when you go from one shot to the next. Let's now define *frequency of transitions* the number of transitions per minute. Fig. 25 shows this parameter, relative to both levels, for the main sequences of each film. Once again we notice a clear change after *Mirror*: the transitions are rarefied, therefore the filmic pace slows down considerably. The only exception, in *The Sacrifice*, is the aforementioned sequence of the aeroplanes' passage, the peak of dynamism in the first section.

How many transitions are on the second and how many on the third level? Fig. 26 shows a fairly even distribution in the six central films, not far from 50%. Only in *The Sacrifice* do 65% of the transitions take place within the shots, a further symptom of a greater attention that Tarkovsky concentrated, in his more mature creative phase, on the long take as the heart of the film structure. As for the fair distribution of the transitions between the second and third level lasting up to *Nostalghia*, it entails a consequence: the fact that in the films of the second style the duration of the shots

increases, the frequency of the transitions decreases and except for the last work, they do not focus on the second level, leads us to think that *the increase in the duration of the shots in the second style has mainly extra-diegetic purposes*, i.e. linked to a different conception of time rather than to a different way of organizing the filmic representation of the narrative concentrating it within the shot. In the latter case, the increase in the duration of the shots would not have entailed an overall decrease in transitions, but only a decrease in the transitions on the third level to the advantage of those on the second, and therefore a percentage increase of the latter already starting from *Stalker*. The new importance of the extra-diegetic component is in fact one of the characteristics of the second style.

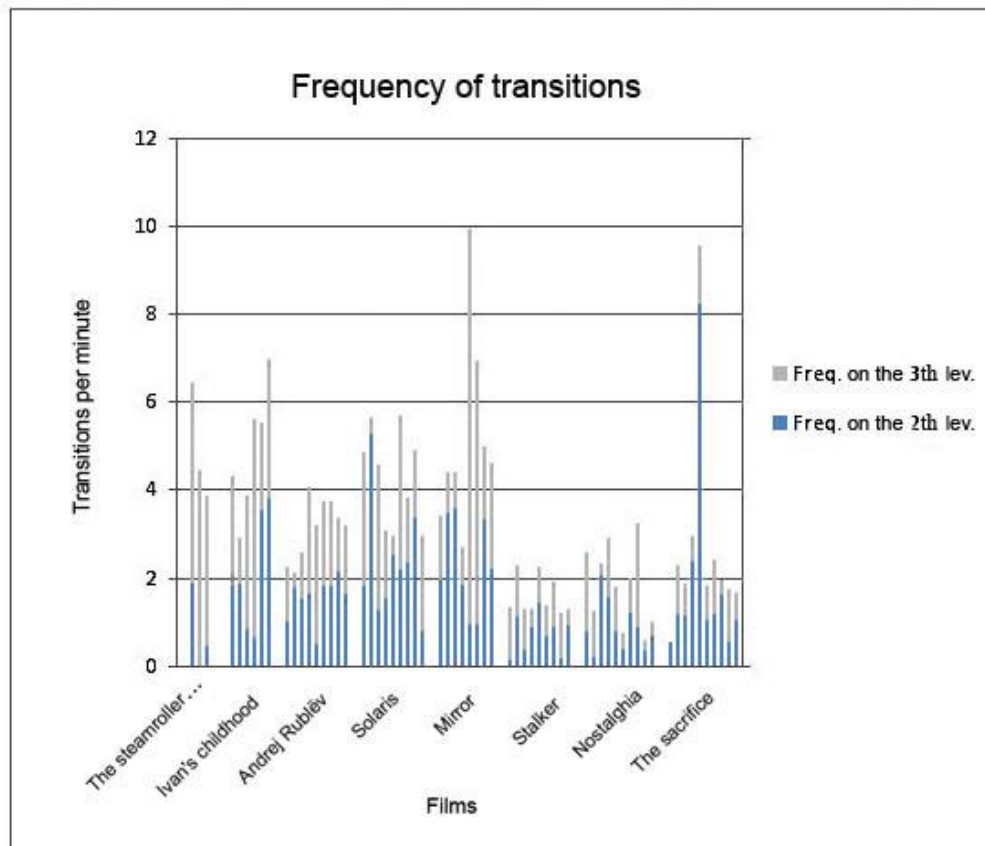


Fig. 25

The transitions considered so far are instantaneous or of short duration. However, in Tarkovsky's works there are also transitions within the medium-long duration shots, which we will call *distributed transitions*. They can be filmic (slow and prolonged camera movements¹⁰) or profilmic (progressive displacements of a character with respect to the camera). Fig. 27 expresses the presence of such transitions as a percentage of the total duration of each film while fig. 28 shows the average duration. As you can see, there is also a sharp increase in these parameters starting from *Stalker*. This was basically predictable, since distributed transitions are a further syntactic element tending towards a more rarefied filmic rhythm and to a reduction in the pressure of time.

¹⁰ Not to be confused with independent movements, as here we are talking about transitions operating within the narrative structure.

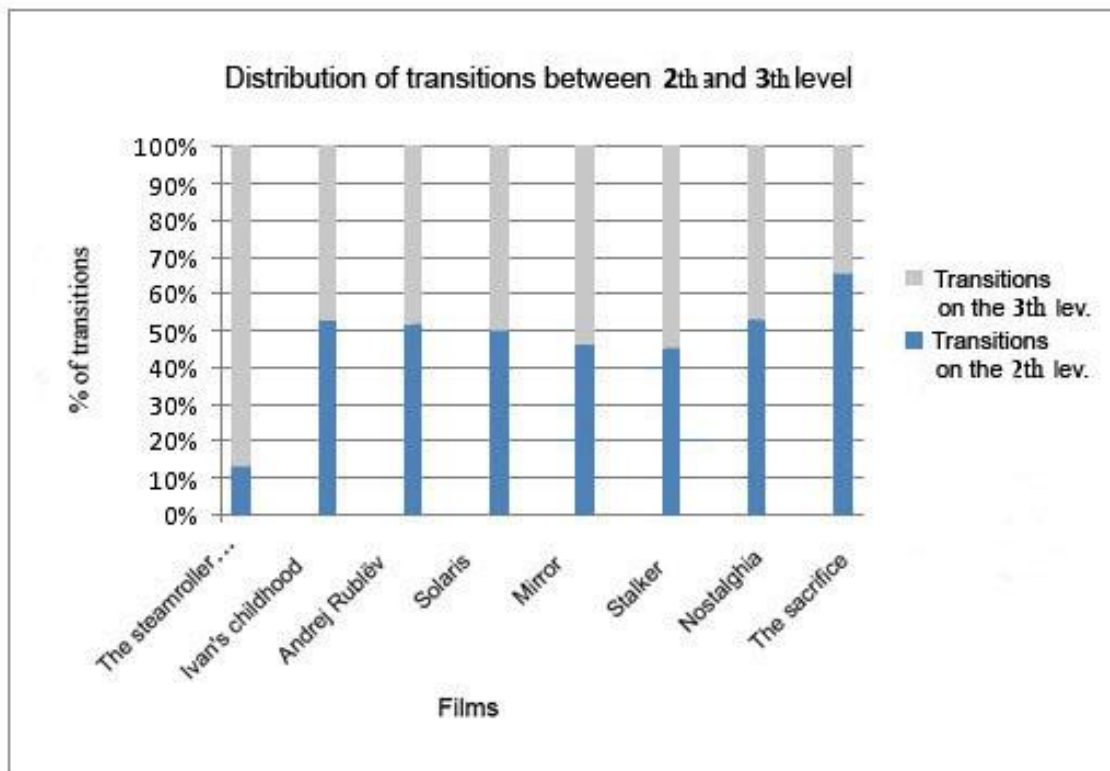


Fig. 26

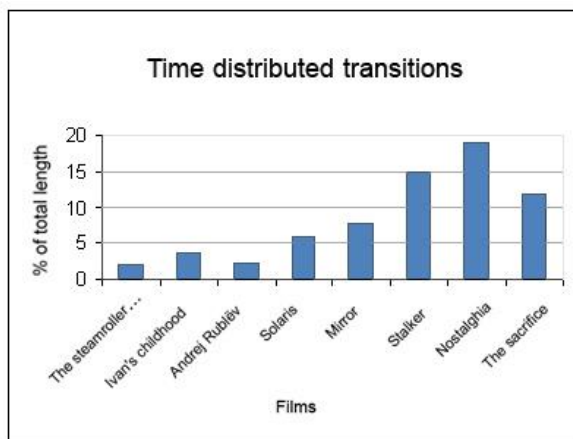


Fig. 27

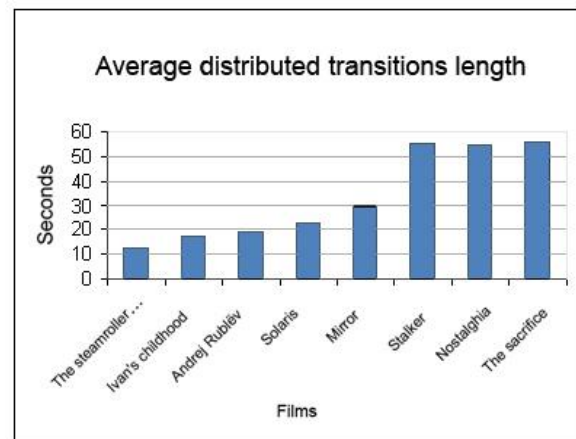


Fig. 28

5. The images

This analysis, although centred on time, therefore on the diachronic components, would be incomplete if we neglect the synchronic dimension (the first level): the image. In each film we can in fact identify moments in which the image “speaks” as such, through its visual values, both thematic and formal and in the latter, both chromatic and compositional. We will call these moments *meaningful images*¹¹. And here too we see a clear change between *Mirror* and *Stalker*. The two images in fig. 29 and 30, taken from *Mirror* and *Nostalghia*, exemplify it. In fig. 29 we have a diagonal and therefore dynamic composition, accentuated by the angle of the visual axis, oriented upwards and to the left with respect to the wall, which introduces, by hinting at a vanishing point, the perception of the third dimension; the character on the right is visually dominant (which corresponds to the narrative situation); finally, the colours are quite intense. The image in fig. 30 is totally different: the lines are horizontal and

¹¹ Not to be confused with the photogram, as this is a purely technical entity, not perceptible as such.

vertical, the visual axis is orthogonal to the background wall, the rather flattened perspective inhibits the perception of the third dimension, the two figures have equal visual relevance and finally the colours are reduced to a minimum, almost bordering on black and white.



Fig. 29



Fig. 30

6. Conclusions

We can summarize the set of changes that took place between *Mirror* and *Stalker* (which, as we have seen, involve the totality of the filmic form) through concepts such as *rarefaction* in the conception of time, *planarity*, or annihilation of the third dimension, in the conception of space and finally *staticity* in the conception of both. In interpreting these results, an important reference in Tarkovsky's inner world will be very useful: his proximity to Russian icon painting (which he famously considered the highest art form ever created by man) and, on the contrary, his repeatedly declared distance from Italian Renaissance art. Let's start from this, and first of all note that Italian and Russian painters both painted the same religious subjects. The difference then, the abyss of difference, is in the form.

We find the first signs of the Renaissance painting in Giotto, whose figures are dominated by convexity; they seem to project into the space. In every respect they possess an entirely earthly, physical, carnal force that contrasts with the transcendent nature of the subject, just as a composition with strongly dynamic tensions (it too increasingly present in western painting from Renaissance onwards) conveys the restlessness of an act intended for the physical world, contrasting with the contemplative state of mind that one adopts in the search for the "transcendent", in whatever way one wishes to comprehend it. Dynamism (the aesthetic mirror of the incessant becoming of earthly life) and plasticity (the mirror of the intrinsic substance of earthly existence), in other words, are the formal characteristics of immanence. As Arnheim argues: «The best European art of the past centuries, even where it still used conventional religious subjects, expressed a philosophy of the here and now (...) [which] interprets and evaluates life in terms of material existence, instead of presenting this existence as the mere object of immaterial powers.»¹²

Conversely, a flat and static form immerses the gaze in *another* space, in *another* time, away from whatever the subject may possess of what is earthly and material. This choice leads towards the spirituality of the image. And it is a fact that the particular way of forming that we see from *Stalker* onwards *expresses* such an inner state mirroring it visually as in the space of the image as in the time of the shot, up to involve the whole structure of the film. Besides, in this new filmic form diegetic action, without ever getting entirely lost, is muted; just a thin shadow over there on the horizon and the flow of time as such, no longer hidden by the cumbersome succession of narrative events, is the subject that unfolds for contemplation in presenting itself to the eye as a *cantus planus* of images.

So Tarkovsky immerses us in a narrative where the representation of so-called action, that is, of the immanent part of life, has been ineffably rarefied and has switched in the representation of an interior landscape. Diegesis gives way to meditations that become images, immersed in silence and time. A

¹² R. Arnheim, *Toward a Psychology of Art*, University of California Press, Berkeley and Los Angeles, 1966, p. 43.

different time. For that to happen, everything has to stop. One meditates by staying still, one can still meditate while walking calmly; one cannot meditate while rushing. In this new Tarkovsky's universe the restless contrast between before and after, cause and effect, give way to the uniform and infinite unfolding of always. This, too, is tension towards the transcendent, but it is also *another* way of relate ourselves to the immanent life.

Annotation

In order to create the graph in fig. 25 I have traced the transitions of each sequence in "scores" like the one reproduced in fig. 31, relating to the *Madonna del parto* sequence in *Nostalghia*.

In it the continuous horizontal lines signify the presence in the field of the centre of interest; the oblique dashed lines indicate a passage from one centre of interest to another by means of a camera movement; the horizontal dashed and dotted lines mean the presence in the field of the centre of interest but in a secondary position (for example in the background). The numbers in brackets indicate the durations of the shots in seconds.

