General Observations

Scholastic educational cinema completes and raises to the highest level of efficiency and resourcefulness that positive method which, invoked and prescribed by great educators for centuries, has remained until today a timorous and ineffective teaching method. It is true, despite the fact that theoretically all the needs of this method are well recognised, we continue to find ourselves having to give almost all our lessons (this is no exaggeration) _verbally_, as in the past without the help of any adequate illustrative material. A few faded maps and charts on the classroom wall; meagre and invariably out-of-date collections in the so-called educational museums; experimental equipment that is rudimentary and lacking precision when it exists at all; all the educational material of the method so pompously called modern positive method, is very limited.

However, this method establishes that the foundations of knowledge, and therefore, for teaching as well, should be based on: (a) _Intuition_, direct and immediate relations between subject and object; (b) _Observation and experimentation_, which include the condition that the experiments must be repeatable, both in identical situations, and where possible, also with variations; (c) _Genetic-evolutive investigation_ of certain processes.

Motion pictures can fulfil these three methodological criteria completely, thoroughly, and without limits, for educational as well as for scientific ends. We must not forget that some phenomena can never be repeated in an identical manner, but, by using motion pictures as a method, we discover, to our surprise, that these phenomena remain permanently available for our analysis for as many demonstrations as may be required.

However, let’s put aside the considerable help that motion pictures can provide for scientific investigation, which makes results obtained or experiments attempted in any laboratory available for observation and control by any scientist anywhere in the world; and let us focus simply on the educational function it can provide. We have discovered that there is no longer any object, fact, or phenomenon, any case and any place, visible to the human eye that cannot be reproduced for direct and immediate perception by any other person. There no longer exists an observation or experiment that once it is performed cannot be repeated hundreds of
times as desired in any situation, in any place, or at any time; and finally, because of motion pictures, we are no longer limited to fragmentary images, stationary and isolated from reality, but we can reproduce these phenomena in their successive stages whenever necessary, throughout their complete cycle, from beginning to end.

We would also like to add that, for teaching purposes, motion pictures are even better than direct observation, given that they are always accessible. And although this may seem a paradox, it is fully justified by the following considerations:

1. By using motion pictures, we are able to concentrate on a particular aspect we wish to study, in this way intensifying the focus on that aspect alone. Observation is carried out in real working conditions, which are more complex, and attention can be distracted in various directions, provoking associations that do not serve the purpose or can be harmful, and, in that case, makes analysis of the subject all the more difficult;

2. Motion picture viewing does not require any effort other than focusing the attention, which can be concentrated on the object in question; a visit to another area, a factory, etc., requires an effort by the whole body and, in a certain measure, provokes a dispersion of forces;

3. Motion picture screening is far more rapid than any other form of inspection, and saves considerable mental effort, not to mention the question of the time that any form of on the spot inspection requires;

4. Motion pictures can be repeated hundreds of times as required, fully, or partially, but this is not possible in field trips, where it would be impossible to reproduce the same conditions;

5. Motion pictures can collect and assemble in a single reel images of objects and phenomena that are remote from one another in both time and distance, a fact that is extremely helpful for any comparisons, any work for analysis or synthesis, and for more accurate and efficient identification of contrasts, similarities, analogies, etc., and this is something that is impossible under any other conditions.

In short, the advantages to be gained by using motion pictures for teaching are so great that it is perfectly valid to conclude with another seeming paradox: if motion pictures did not exist, then they would need to be invented purely for educational reasons.

However, motion pictures cannot enter the schools as they are today, but must adapt to the needs of education, both from a technical standpoint, which concerns the way in which the projections are made; and from a
particular method with which the material of the projections themselves must be selected and ordered.

The Technical Aspects

For the technical aspects, it is well to consider the following fundamental points:

1. There is considerable concern about the effects that motion pictures may have on the eyes. Already back in 1908, in *Aerztliche Sachverständige-Zeitung* (*Journal of Medical Experts*) Dr. Paul Schenk published a strong warning on this subject:

   The modern man is systematically destroying his eyesight. We are suffering from an excess of luminous stimulations. In motion picture theatres, even more than the intensity of the light used during screening in a dark environment, the incessant oscillations and flickering of the light at such frequent rhythms is even more harmful. The dazzling effect criticised so much, produced by motion pictures, is such a serious problem that this aspect alone eliminates any pretext of using motion pictures as a ‘hygienic’ means of culture. This negative influence is made even worse by the far too rapid and unnatural succession of the various scenes. In addition, when the individual frames are shown in rapid succession one after the other, there are slight deviations between one and the next that are increased even further when they are enlarged. Strained and overtired eyes are the inevitable consequence caused by incessant oscillation of luminous stimulation. The dazzling effect produced by the motion picture is none other than the even more intense glittering provoked by the light source, and it is damaging to the eyes. Therefore, purely for health reasons I feel I must protest against the introduction of motion pictures in schools.

These comments by an expert eye specialist from Berlin are not an isolated case, but simply one of the many demonstrations of hostility and implacable aversion shown towards motion pictures for reasons that are certainly serious from an artistic and moralistic point of view as well as that of public health.

But we want to adopt motion pictures in schools with the frugality and measure that are necessary because of its educational purpose,
the same approach taken on by the entire educational system. And therefore, while paying close attention to the objections, which seem well-founded and serious, all the same we can avoid the radical and certainly excessive pessimism shown by many even authoritative adversaries of motion pictures; and we can attempt to reap the benefits of the best these means have to offer.

As far as the flickering and the resulting dazzling effect harmful to the eyes is concerned, it is a well-known fact that this depends mainly on the small number of images projected within a certain period of time (approximately fifteen per second), whereas theoretically, the established number should be more than double this amount. This disadvantage cannot be eliminated except through technical progress, but these techniques are so numerous and so continuous that we feel confident that the problem described will be soon resolved. But since the problem is worsened by the excessive enlargement from the distance to the projection box and deficiencies in the light source, the equipment used for educational motion pictures must find a way to reduce as much as possible any cause of malfunction.

Moreover, care must be taken so that pupils are not subjected to long screenings, and the room must not be darkened completely, first for obvious disciplinary reasons, and also because the luminous stimulus produces a far more intense effect when surrounded by a very dark room.

2. Another condition that must be met is that the screen must be sufficiently large so that it can easily be seen by all pupils from their desks... They must be able to see not only the complete scene, but must be able to see all the details clearly; this is not an easy task when we remember that the scenes could be filled with figures rich in interesting details, which must, however, be easily observed by the pupils without straining their eyes.

In fact, if the rapidity with which the scenes alternate is combined with very small images, then the screening will occur before the dazzled gaze of the pupils without leaving any clear and distinct image in their minds. It is extremely important to take this essential concept into consideration when designing the educational equipment before spending sums of money that could be totally wasted.

3. A third aspect concerns a special characteristic for educational motion picture equipment, which should be able to pause the film projection at any moment necessary to maintain a stable image fixed on the screen.
The reason for this is obvious. In this manner, the teacher can attract the pupils’ attention to certain points, encouraging them to participate in analysing, identifying, proposing hypotheses and deducing answers, providing opportunities that could otherwise be minimized or even lost completely if the images are fleeting or pass too rapidly. Another aspect that should not be neglected is the fact that this could also contribute towards savings in educational costs because when motion pictures contain the same images that are normally shown using fixed projection, this provides the possibility of observing the images, both still or in motion, using the same piece of equipment.

4. A fourth aspect of scholastic motion pictures concerns screening colours. Films should be coloured with natural colours. This condition is essential when the colour is an integral part of the filmed reality, as we will see for geographical, scientific, and technological films, etc. It may not be so necessary for other films that represent contemporary aspects, partly because the colour is not necessary in order to understand the action, and partly because it is easy to compensate with a little imagination. However, when films concern historical representation, coloured screenings should be shown. Not simply because they are more captivating, attract the imagination, and create more interest, but also because they complete the realistic effect of the scenes that are shown.

The Method

As far as the method is concerned, both in terms of the educational content and the way it is used, it should be established first that the general standards to be followed for educational motion pictures are the same as those applied for general and special educational programmes.

Evidently, there is not a pedagogical principle that does not extend to the choice and the use of the motion picture screenings in the schools.

Moreover, still with the general standards in mind, we would recommend the following:

1. All screenings should be used in moderation, even more—used sparingly and only when necessary; not for pure entertainment. In fact, the sometimes irresistible influence of motion pictures often leads to their excessive use, creating an authentic passion, above all in the children, who are attracted to the motion picture for the simple fact that it is a motion picture, but with the result that a single screening can
lead rapidly, in fact almost immediately, to boredom. It is for this very reason that motion pictures have to constantly offer something new, and this creates avid but superficial interest, which is easily sparked and just as easily switched off. Each one of us may have had the same experience, no matter how much a motion picture may have interested us; it is extremely rare that we would watch it a second time. Having to sit through the same film three times would be intolerable. This would not happen so easily if the screenings had a truly useful content that inspired the viewers to want to learn more on the subject to fulfil some more strongly felt cultural need. And therefore, this must absolutely not happen with educational motion pictures, precisely because if films of a more frivolous type were created, this could represent the greatest danger for the application of the entirely new process. Therefore, we must attempt to prevent and combat fatigue, which is the inevitable result of overindulgence. Good motion pictures should be able to be seen more than once, like reading a good book. Scientific, technological films, etc., should be shown again at appropriate times, each time analysis is needed, and the very opportunity of being able to see the film again should dispel any boredom.

2. Each screening should be preceded by an introductory explanation, conversation, or reading to attract the attention of the pupils and to awaken them with a feeling of anticipation, which is the best way to stimulate curiosity.

The teacher can direct the pupils' attention to salient points during the screening, stopping the film where necessary, either to analyse some image better, or to point out some important detail, or even to ask the pupils what they imagine will happen, or what they would like to happen later on. This helps to stimulate their intuition, imagination, logical powers, deductive and inductive capacity, as well as their critical sense, etc.

To help the teacher provide all these additional aspects, each film should be accompanied by an explanatory text for the teacher's use and, if necessary, also for the pupils' use, in order to identify the salient points of the film and to provide useful advice on how it should be used. In this way, scholastic motion pictures can also be used to enrich the general culture and educational training of the teachers. Following each screening, the class should be involved in long discussions, comments, summaries, exercises in learning nomenclature, etc. A clever teacher will first let all the pupils feel free to express themselves, and could even use this liberty of expression to make useful observations concerning
the *eyewitness psychology* (not to mention many other activities), which are extremely important for practical daily life (an example is the explanation of the functions of justice), so that pupils learn to give a correct version of what they have seen.

3. Each screening must contain exactly the number of images (neither too much nor too little information) pertinent to the subject in question in a natural, logical, and motivated order. The contents must not be shown in a manner that is fanciful, desultory, arbitrary or absurd, but must evolve naturally in a perfect concatenation of logical deduction, from introduction to consequence—a demonstration of cause and effect.

The essential requirements for good educational motion pictures should be, from a psychological point of view—authenticity, from a logical point of view—coherence, and from scientific point of view—the causal connection between phenomena described. Any form of deceptive or untrue portrayal of life must be prevented at all cost; no lack of correct logic, no insinuation of false notions to represent the real world must be permitted, when using a form of representation as realistic as a motion picture. Errors can acquire the unquestionable authority of things that have been seen, becoming implanted through the fascination of immediate intuition, in other words, that knowledge which for us assumes the highest level of obvious certainty.