

The pleasure of movement

The pleasure of movement is what the animator feels when giving life to a drawing.

It is rather foolhardy to try to describe this feeling. Generally speaking, writing about movement is a difficult business, as it is a subject that is both abstract and invisible. Nobody has ever really seen it. Movement makes itself known through the displacement, modification or transformation of things. The fact that some of these things are themselves invisible, such as, for example, the wind and sounds (displacement of air), and water (the interpenetration of currents), does not make the task any easier, all the more so in view of the fact that the movement which will be considered here is particularly remarkable, being no more than an illusion.

This poses a major problem: even if we know what to say about the illusion of movement, how can we say it? In what way, exactly?

It seems to me that the only possible and appropriate way to describe an animator's feelings when creating this illusion is to talk about it in an intimate, personal way, as it is a question of trying to share one's own experience. Even though the pleasure felt when creating movements may depend to a large extent on the animator's interaction with the devices and tools employed, that pleasure cannot depend simply on the correct use of one or other technique or method. It must, above all, depend on sensory and emotional perceptions. This is why I have decided to adopt this tone and style to try to convey, as best I can, a whole series of experiences, which are largely inexpressible.

As I am an animator, I intend above all to describe the act of animation; that is to say the process by which the animator creates, step by step, the illusion of movement. At this early stage of the process, the drawings of these steps will not yet have been embellished with any decorative aspects; thus, all through the present text, the word 'drawing' should be understood in its plainest sense, devoid of all artifice other than the bare lines that give it shape. My intention is to concentrate the reader's attention on the subject from which the pleasure derives: movement.

I have been involved in animation for a very long time. I make what people commonly call animated cartoons.

I have noticed that the meanings of some words are extended more and more as time goes on, and gradually become less clear.

The word "animation", for example, has become an ambiguous term, loaded with different meanings. Used for such a long time by so many different people to mean so many different things, it has become hackneyed and tarnished, so that it is now particularly difficult to respond to the simple, naive question: 'What is animation?' – without getting lost in muddled answers.

The problem comes from the fact that the many users of the word are referring to three things at once: a discipline (which gives the appearance of life to pictures); a certain kind of film (animated films); and a group of different jobs (all more or less connected with the film industry).

If only, each time we employ this word, we could stop referring exclusively to a heritage of films mainly of two predominant styles, "cartoon" and "realistic", I think we would finally realise that animation is an infinitely rich language, containing a much richer vocabulary than has been used up to now.

Animation is a remarkable method of poetic expression, made up of images linked together by absences or blank spaces. In a more general way, we can say that it is a way of inscribing and describing movements with pictures.

Animation is also my own way of being and of thinking. It gives me the means to draw movements that are unreal, free and emancipated from physical and biomechanical laws.

So, although I also draw, and always have done, I do not draw in order to make beautiful drawings. I do it, above all, so that I can represent the movements that are floating around in my imagination.

These animated representations can only be given form by using a very particular type of movement, which is called "apparent movement". This is based on a strange mental phenomenon, a kind of psychic response to a series of intermittent luminous stimulations.

This phenomenon (nowadays called the Phi effect) makes millions of filmgoers all over the world believe that images they see projected on to a screen are moving, when they are not. The images do not move on the screen; they are animated inside the spectator's head. How?

We will leave it to Joseph Plateau, the inventor of the Phénakistiscope, to explain the workings of the device he perfected around 1833, based on Faraday's wheel, which allowed him to produce the illusion of movement:

“Cut out a circle of white card, at least 25 centimetres in diameter. Divide it into a certain number of equal sectors, 16 for example. Then, near the circumference and going in the direction of the dividing lines, pierce a series of slots such as AB, 3 to 4 mm wide and two centimetres long. Blacken the other side of the card and pierce a small hole in the centre, so that it can be spun on a wire or large needle. With the device set up in this way, spin it fairly rapidly in front of a mirror, with the white side facing towards the glass, and look with one eye through the kind of blur formed by the moving slots. You will thus see an image of the circle in the mirror; this image, as demonstrated by Mr Faraday to whom we owe this experiment, will appear completely immobile. You will distinguish the 16 slots and the 16 lines separating the sectors in an absolutely fixed, static state, however great the speed at which the circle is rotated...
...If a figure of any sort is drawn in one of these sectors, and this same figure is repeated in the same way in each of the other sectors, it is obvious that, when we conduct the mirror experiment with the circle, all these small figures will be perceived in a state of perfect immobility. If, instead of only having identical figures, we arrange for the series of figures to pass by degrees from one shape to another or from one position to another, it is clear that each of the sectors whose image will come successively to occupy the same place in the mirror in relation to the eye, will carry a figure which will be slightly different to the one preceding it; so that, if the speed is great enough for the successive images to be linked together, and not great enough for them to merge and become confused, we will think that we are seeing each of these small figures gradually changing in state. We can straightaway imagine what curious effects can be produced parting from this principle...”

It is a recognized fact that to create animated cartoons, you have to be able to draw anything with ease. But as soon as too much value is attributed to drawing itself, movement immediately takes second place.

In fact drawing only plays a partial role in the art of animation. It serves to indicate, evoke or suggest the shape, which will only be fully revealed by movement.

Personally speaking, when I animate, I always try to make movement the essential element, the primordial substance of what I am trying to express.

I like to animate in an intuitive way, without previously working out a fixed plan, without necessarily imposing any formal logic on to my work. The result of this approach is a series of investigations or experiments, rather than films.

This attitude is, obviously, poles apart from what I have done and still do in my professional life, as part of my job. The constraints of story-telling and commercialism restrict professional life to precise objectives. The most trifling, insignificant characters and shapes fidget and wriggle about, rather than move, always in a way that is functional, utilitarian, and, most of the time, realistic.

It is at the meeting point of all these criteria that we find, I think, the absurd tragedy of industrial animation and of its figurehead, the cartoon film. The tragedy is that movement, the founding principle of this extraordinary means of expression, has been completely forgotten about.

Let us, then, talk about movement.

When the need to animate comes upon me, it is a sign that I have already imagined a movement in its entirety. I owe this approach to creating movements to having studied the work of Etienne-Jules Marey. He was the first, as Pontus Hulten pointed out, “to transcribe an idea of time in terms of space”. I learned to imagine a movement in its entirety by looking at his many fascinating chronophotographies.

I then take pencil and paper and start by drawing the shape I want to animate in a situation and posture that corresponds to a precise step in the development of the movement I want to express. This step might be at the beginning, middle or end of the movement.

At this precise moment in my work, my desire to animate is often held up by the following reflection: if, at the beginning of the process of creating a movement it is possible, indeed desirable, to think of the movement as a whole, putting it into practice requires consideration of the parts, and the work of

animation has to begin with the relative position of each step of the movement. It is therefore necessary to know how to recognize, inside the imagined movement, “the most visible attitudes”, as Marey so rightly says. It is also at this stage that the relationships and interdependence are established between drawings and the movement, between the figures drawn and the animation.

Drawing is a magical act, starting with lines that are gradually transformed into contours, which in turn end up by suggesting figures that convey a meaning.

Animation proves to be an extremely subtle art, in that between the use of a phenomenon (apparent movement) and the development of a process (the composition of the movement image by image), slip those singular ingredients common to all forms of representation: figures.

Drawn figures impose a fearsome tyranny. They defy time with their terrible presence, imposing the immovable durability of certain gestural codes and postures.

Conventional, set figures have existed in great numbers ever since humanity started using them to represent things and ideas. Even minimised and reduced to simple semiotic functions, they always attract attention in a way that is too exclusive.

Whenever I start work, I have to battle against figures that impose themselves on me too easily. As soon as I start to draw, I have to tame them and submit them to the logic of the movement I am trying to capture rather than the movements implicit in them.

The implicit movement of a figure is always trite and commonplace, in the sense that it can never be more than a stereotype, recalling something worn, debased and tarnished. At best it can only convey a hackneyed gestural code.

Unless I imposed this requirement on myself, I would be condemned to go on copying stereotypes, sinking animation a little deeper into the mire of decadence in which it has been ever since its beginnings.

This statement deserves an explanation.

Ever since its beginnings, like humanity itself, animation has taken a wrong turning.

Although it was the result of a series of scientific experiments, animation quickly got lost in the entertaining wanderings of its first applications, the optical toys that enchanted families and a certain public.

For example, the public that visited the Musée Guimet, where Monsieur Emile Reynaud, around 1892, regularly showed them the luminous mime shows of his Praxinoscope.

His ingenious device and his curious shows were to give birth to naive little stories, so animation was ever afterwards enslaved to the needs of story-telling.

Later, when cartoons began to be filmed using cinematographic cameras, things got even worse. The cinematograph contributed to the emergence of the cartoon film industry, which started filling screens with a vast menagerie of rats, mice, rabbits, dogs and cats of all shapes and sizes. This strange population was to confine cartoon films for a long time to a dominant style, where the obligation was to make people laugh, to produce caricatures and to be childish.

Then the scene was taken over by inane princesses, idiotic princes and a whole gallery of “enchanted” animals with long eyelashes, all of them animated in a sickeningly realistic way. All these insipid products fed the general belief that animation could only be judged worthwhile or beautiful if it gave a good imitation of reality. Much later, with the advent of 3D, this tendency went from ‘bad’ to ‘appalling’.

Of course, during the development of what is now called “the world of animation”, there also appeared here and there some remarkable authors, artists and creators who tried to make something other than animated rubbish. All of these, alas, remain unknown to the general public.

Meanwhile the cartoon industry was swept by the shock wave of television.

To meet the huge demands of this new medium, schools were created to turn out professional animators by the yard, preferably young (so that they could be used and exploited in the right way), and duly and newly qualified.

Finally, helped by globalisation, the professional animator for the mass cartoon industry was transformed into a foreign factory worker, from a distant, poor country, making a precarious living in the same way as others beg for charity.

End of the explanation and a passing fit of bad temper.

The customary figures are therefore models imposed by time, tradition and culture. Insofar as they concern everybody, they also concern nobody in particular.

The animator has to tame them for different reasons. First of all is the fact that the customary figures of pictorial representation derive from the logic of inanimate posture.

They are fixed figures, designed as such. They illustrate ideas, rather than conveying the meaning of these ideas, whereas animators should build their projects to create movements upon neutral figures, which lack, if possible, reference to preconceptions.

Why?

The animator is not a creator of figures, but a creator of the movements that reveal them.

The truth of figures does not, therefore, derive from their pictorial representation, but rather in the artificial movement that animates and identifies them, whatever their appearance.

In this case a violation of the codes of implicit movement will be produced, a gap in the representation of the figure, which will thus enable the real purpose of the apparent movement to be expressed.

Up to now, it has become a habit to systematically respect the word order in terms such as ‘animated drawings’, ‘animated pictures’, ‘moving images’, thereby giving priority to the drawings and images rather than to the movements which animate them.

But as soon as these terms are reversed: ‘drawn movements’, ‘pictorial movements’, and so on, the problem becomes something altogether different, and an inexhaustible field of artistic research and experiment is opened up.

It sometimes happens that I create a movement completely in reverse. By adopting this method I am, perhaps, trying to give a certain strangeness to the movement I am trying to create, for I am fond of all things strange and unexpected.

I admit that this taste for the unexpected and strange can be troubling. It can cause some difficulties, for those who watch my animation later, to recognize or identify what I wanted to represent. This does not bother me given that, as far as I am concerned, animation is an art that has to surprise by its unreality. It allows me to construct, as with poetry, a language mode that is situated beyond language. But let us go back to talking about movement...

Once I have drawn the few most representative steps of a movement (some call them key steps), I then begin the most important part of work as an animator: completing them with intermediate steps (ensuring the relationships), then later with complementary steps (ensuring the links) and finally the steps called “intervals” which give the illusion of continuity to the apparent movement.

In the Taylorist production line normally employed to manufacture a cartoon film, this interval work is given to assistants called “in-betweeners”. I hate these kinds of terms, which transform the act of creation into mechanical filling-in. In fact this mechanization or automation (whichever one wants to call it) is, for the moment, practically impossible in that, in a drawn animation, all the steps are, by their nature, different. On this subject, let us recall what Joseph Plateau so intelligently said so long ago: If, instead of only having identical figures, we arrange for the series of figures to pass by degrees from one shape to another or from one position to another, it is clear that each of the sectors whose image will come successively to occupy the same place in the mirror in relation to the eye, will carry a figure which will be slightly different to the one preceding it; so that, if the speed is great enough for the successive images to be linked together, and not great enough for them to merge and become confused, we will think that we are seeing each of these small figures gradually changing in state. These, then, are the intervals, each one of them, which give us the perfect illusion of movement.

As an interval is an element segmenting a distance that separates two steps, it is, first of all, a space. The size of the space is proportional to the speed of the movement.

Should the interval then be mechanically considered as being the average step between two steps of a movement? This is where the ambiguity lies when we consider the subject of “intervals”.

Putting a third step in place between two extreme steps is not an interval, as this new step does no more than divide, regularly or irregularly, the interval/space that already exists into two new spaces. Therefore an interval is not the same as a step; it really is the space wedged between two steps.

Does this space consist of time?

Or would not the interval be better described as a “space tool”, with which we can model time?

All the same, the length of an animation has no relation to the nature of the interval.

The length of an animation depends on the number of steps in it, and consequently the number of intervals, not their nature. On the other hand, the nature of the interval has an influence on the properties of movement (speed, dynamics, illusion of continuity). As for the general form of movement, this depends essentially on trajectories.

The greater or lesser significance of a movement depends on how great or small the harmony is between the duration, the form of the trajectories and the placing of the intervals. I would even say that its “authenticity” depends on this.

150 pleasant-looking steps can convey nothing at all, as far as movement is concerned, unless they maintain subtle relationships of distance between them, and unless they have been placed in a coherent way within a given space.

The composition of a movement therefore entails, firstly, fragmenting a duration/space (trajectory), and then modelling these fragments (intervals) according to certain criteria.

In any case, the space is always more important than the step, as it is the space/interval that determines how perceptible the step’s movement is.

As the interval is the invisible part of the movement, its reason for being, I would, until further notice, be extremely reluctant to entrust the task of elaborating it to somebody else.

As I consider animation as the work of a creator, I intend to be the creator of all the elements that make up the movements that I create. I create movements image by image and so the nature of each space between each image is important to me.

Actually, in this business of animation, drawings play the role of mediating between nothing and movement.

At the start there is nothing, and then there is the first drawing, then another and then yet another. Seen in transparency, massed together, piled up one on the other, as in a chronophotographie they stop, after a while, being drawings and become steps in one or several movements. Then, according to certain dynamic “a priori” criteria, other steps need to be added, other drawings to be made, which slow down the movement in certain directions, which complete it, which elongate it.

All this is extremely exciting, all the more so because, although I can see each detail, I cannot see the complete effect of what I am doing. It is the moment when I am negotiating the passage from one step to another, from one drawing to another, from one image to another. I love this time when, at each instant, I run the risk of getting lost and where I am trying to see the invisible.

In what way?

The whole problem of composing a movement lies in the question:

How do you pass from one drawing to the next?

By flicking from one drawing to the next (as, in a certain way, Dr Paris was already doing in 1827 with his famous optical toy, the *Thaumotrope*), the animator tries to obtain through this game of more or less rapid to-and-fro substitutions, a third drawing which does not yet exist, and will try in this way to make an invisible, passing step appear between the first two drawings, leading to an attempt to sketch a continuity that is completely illusory. The answer to the question – How do you pass from one drawing to another? – is in fact that there is no passage. As all the steps of a movement are different, given that the figures pass by degrees from one shape to another or from one position to another, the continuity of a movement consists of a series of substitutions alternating with gaps or omissions, like the shutter of a film projector.

In other words, one does not pass from one drawing to the next, one jumps.

In this sense the visual narration of a movement is similar to a continuous sequence perforated with holes.

Thus, faced with the blank sheet of paper on to which I project through my eyes the movements I have already imagined, my hand does no more than draw the most appropriate shapes to express them.

It is impossible for me to copy the things and beings of the exterior world since, ingested by my eyes and digested by my mind, they are transformed into other things which then come out of me through my gestures and leave marks on the paper.

It took me some time to accept an obvious truth: drawing consists essentially of leaving marks on a support.

For many years I thought, like everyone, that I was drawing to express ideas.

I finally realised one day that my drawings were expressing the movement of my gestures above all else, and that the marks drawn on the paper represented signs or indications rather than ideas. From then on I began to attach very great importance to signs, to things that remain and to passing things. Throughout the world, innumerable treatises, journals, notes, observations, analyses and essays exist on the subject of the image, but those dealing with movement are rare.

Books on western imagery are generally extremely dull, and where they deal with the creative process, they almost always start too late. The basic question of “before” and “after” the act of creation is only rarely approached.

Let us imagine ourselves at the water’s edge.

If we want to make circles appear on the surface of the water, we have to start by throwing in a pebble. But before throwing (throwing is an action) there is something else: the desire to throw the pebble to obtain the circles. Why should we want to make circles, disturbing the peace of the moment, instead of contemplating the astonishing play of sparkling reflections made by the light on the surface of the water?

There is, therefore, something in the process of creating circles in the water that takes place beforehand, and this something is desire. Desire animates the will, more or less strong, that one has to throw the stone. It will define the intensity of the gesture we then make, and will affect the periodicity and magnitude of the circles.

And afterwards?

Afterwards the memory of the movement of passing things remains with us. It is, then, in this way that I interpret my work as an animator. The composition that I want to reveal to the eye starts well before I begin to draw. It is a question of bringing it out of myself by drawing.

But, after all, I could be content just to draw. Why do I want to do animation as well?

For now my reply is: to express an idea in its totality.

Each step of a movement, each drawing, is a sign or indication. The sum of all these signs reveals the idea and the idea, in its totality, can only be in movement. I like to think that drawing belongs to the art of things that remain, and animation to the art of passing things.

By doing animation, I have the feeling of transforming stable things into passing things.

When I sit down in front of my plan, before I start to animate, I mentally scan the following sequence:

At the start there is the line.

The line that evokes shapes.

Shapes that evoke figures.

Figures that evoke movements.

Movements that evoke transformations.

Transformations that evoke links.

Links that evoke meaning.

Meaning that evokes the reason for what I am going to do.

After which I start work.

On the subject of transformation, the great Chinese painter Shitao, “the monk Bitter Pumpkin”, said: Antiquity is an instrument of knowledge; transforming consists of knowing this instrument, while at the same time avoiding becoming slave to it. But I can see nobody capable of using Antiquity in this way with transformation in mind, and I always deplore the conservative attitude which remains stuck within antique works of art without being able to transform them; such knowledge reduces one to slavery; knowledge narrowly confined to imitation can only be without potential; thus the right-thinking man will only borrow from Antiquity to found the present. It has been said that the perfect man is without rules, which is not to say that there is no rule, but that the rule is the absence of rules, which constitutes the supreme rule. Everything possessed by a constant rule must also by necessity imply variability within it. If there are rules, there must also be change. Starting from the knowledge

of constants, one can apply oneself to modifying the variables; as long as one knows the rule, one must apply oneself to transformation.

I apply myself to transformation. I love transformation.

To give movement to a figure or any other form, the animator handles a major device that permits the alteration or modification of the structure of the shapes that make up the figures: transformation.

This device generates, in its application, its own rules and narrative conventions.

The transformation of figures and shapes over time is the field in which the art of composing movements best expresses all the singularity and independence it possesses compared with all other arts and forms of expression.

Transformation of a figure over time is in itself a separate art form, but it can also be used as an effect, as a transition used to link two images together for aesthetic, narrative or other reasons.

It seems, however, that many people, lacking in sufficient thought and depth of education in this field, have still not understood the fundamental role played in animation by movements of a metamorphic type.

This is partly explained by the fact that these kinds of movement represent, in many respects, a disturbance or cataclysm in the senses' perception of things in movement.

It should therefore be stressed that for drawn animated images, the notion of transformation is a basic element inherent to the animator's work, whatever the figure or shape that is being animated.

The animator's job is to modify the image by means of successive alterations.

The figures, even if they may suggest solid volumes, are no more than "deformable" contours.

The rotating movement of a face, for example, is made by no more than slight modifications of contour and transformation of the lines that suggest the movement of the different parts.

Here modification, change, correction and alteration do no more than adapt the line/contour to the demands of creating a likeness. Movement remains subordinate to things other than itself.

It is the prisoner of a certain respect for the permanence of the figure.

So the art does not lie in figures and shapes in movement, it lies in the movement of shapes.

Let us imagine the exact opposite of this process.

Let us turn our attention to the figure in movement and imagine an independence of movement so strong that it will modify the order and arrangement of the figure so as to change it completely. This movement, now liberated, in the way that a gust of wind makes itself known through the clouds whose shape it can change as it pleases, is at once meaning, content and narrative.

Let us take two dissimilar figures. The transformation of one into the other will make the border that separates them disappear, and will create an ambiguity that can be divided into three steps:

1 Deformation of the figure – 2 Figure in evolution – 3 Formation of a new figure.

These three steps correspond to a transformation in which the narrative is the course taken between point A and point B by all the points of the moving figure.

These steps take place inside the course that is itself divided into two spaces by another step: a transitory phase. These spaces do not necessarily have the same value. The course can be divided in a regular or irregular way, depending on the narrative strategy desired.

Depending on how the transitory phase is moved around inside the course, the proportions of the steps will change. This change will act upon the narrative movement, thus intensifying or lightening the effects of evolution and expectation on the transformation.

Transformation is only narrative when the duration of the last step and the first step is shorter than, or equal to, all the other steps in the movement. In this case our attention is concentrated on the movement within the course and not on the steps at the beginning and end.

As soon as the duration of the beginning and end steps increases, our memorization of them also increases and immediately distracts our attention. The transformation then becomes a linking device between two steps and ceases completely to be an event in itself.

I now look at these two drawings and observe their differences. In the second, the thickness of the lines is not the same, the upstrokes and downstrokes are no longer in the same places, because the

shape has changed, but mainly because I want the first drawing to turn into the second. I will now slip a few other drawings between the two first ones. These will serve to delay the transformation. If there are large numbers of them, and I take account of the appearance of each one in relation to the next, the transformation will take place smoothly. But I might not want this smoothness. In this case, I will make each intermediate drawing without paying any attention at all to its relationship to the one before it and the one after it. So, as the movement takes place, the lines will come to life, and in stirring about, they will even risk disturbing the movement of transformation. In this way three movements will be superimposed on one another and combine: the lines, the shape and the transformation. What reason might I have for doing this?

Each step has its purpose. It has to combine with other steps to make up a unity. This unity is called movement, and this movement is in itself a narration.

Each movement has its purpose. It has to harmonise with other movements to compose a metaphor, which will have a meaning different from the meaning the movements had separately. And this new meaning has to have a function, and this function is what gives balance to the metaphor.

Suppose that I want to animate a cat. It is no longer a cat; it is an idea.

But how can I animate an idea?

In any way at all except by looking at or copying the movements of a real cat.

But will it look like a cat?

Yes, if my drawing looks like the idea one has of a cat.

But will its movements look like those of a cat?

No, because it is no longer a cat, it is an idea, and an idea is not animated by life but by an appearance of life.

Suppose now that I want to animate a cube that moves like a cat.

Will it look like a cat?

Obviously not.

But will its movements look like those of a cat?

Yes, certainly, so long as I can understand the movements of a cat and apply them to a cube, or any other shape for that matter.

And I indulge in this kind of monologue all the time I am working, like a sort of incantation or prayer, whether it is about cats or anything else, to arm myself against the innate tendency that is in all of us: imitation, or worse, pleonasm.

Alas, I have to recognize that people like pleonasm. And imitation and simulation even more.

The belief in an animation that is only judged worthwhile or beautiful if it gives a good imitation of reality is tenacious. We owe this belief to the huge mass of clichés about verisimilitude and to the rather simplistic way that we have of identifying the things represented as if they belonged to a *tableau vivant*.

All the same, "In a picture, houses may be crooked, yet they do not fall down, and it does not matter whether a tree is capable of blossoming next year, nor whether a man can breathe. A picture is not a "tableau vivant" ... It is not secular law that is in force here, it is artistic law." These words are by Paul Klee.

In animation, violation of the parallelism between the direction of the figure and the direction of the movement is a long way from being accepted; it is too disturbing. It is perhaps movement that is responsible for this disturbance. It no doubt perturbs old habits, acquired over tens of thousands of years, based on ways of interpreting static images. Our thinking may have become technologically modern but our tastes remain rooted in ancient times. It follows that the public, colleagues and clients like to be reassured by animations that pile up signs that are at once parallel, simultaneous and one-directional.

Something that has always amazed me is everything I think about while doing this painstaking work of animation.

At every moment I have to concentrate my thoughts back to the movement that is being born and that I cannot yet see. At the end of this discontinuity shines the flame of a promise of supposed continuity, which I will not be able to see until later. And all the time while I am negotiating the passage from step to step, I discover so many things, so many wonderful phenomena that I constantly wonder whether it is really sensible to go on doing what I planned or whether I should not do something

completely different. It is like a journey. The landscapes I discover on the way are so astonishing that I am often tempted to turn from my path and go elsewhere. But I force myself to keep to my route, always hoping that I will not regret it later.

When I arrive at the result and finally see my animation being revealed in real time, it must astonish and surprise me, otherwise I will feel a huge regret for all the paths I did not go down on the way. Each time I animate, or compose a movement, I discover plenty of other things that have nothing to do with animation, nor with movement. I then ask myself the question: might not animation be a means of discovering things, rather than of obtaining them?

How otherwise can I explain the fact that I have been practising animation for such a long time (and always with the same enthusiasm)?

Or perhaps I am mad, and animation is my own way of controlling my madness, my own occupational therapy? This is quite possible.

Where does the animator find sources of inspiration for composing movements?

As far as I am concerned, I never draw inspiration from the work of other animated filmmakers.

My sources are music, poetry, as well as the writings of certain authors. My real creative nourishment comes from the life that shows itself in everything I see. I therefore make a special effort to see well when observing the movement of beings and things: their most unobtrusive gestures, their way of moving from place to place, the movement of their shapes, their appearance, and their silences.

I particularly like silence and silent gestures. I also like to look through a window at distant things happening while hearing the sounds of the environment near to me, sounds that do not belong to what I am looking at. I find this discrepancy enchanting.

The word window is more than a common word for me; it is a concept. For me, opening and closing windows is an act that belongs to dramatic art.

To see, to look, to project one's thoughts through a window, implies a contemplative attitude, but also amounts to opening out towards an external image. Closing a window is the conclusion of one vision, open towards the outside, and the beginning of another, interior vision.

We can use the page-window or the screen-window to describe images, whether they are written with drawings or drawn with words.

I think of this each time I want to represent something by drawing. I begin by defining the limits of the space of my representation, because it is difficult to fit the multiplicity of everything I see and imagine into it. For want of being able to include everything, it is a question of reducing it all to a few signs and inscribing them inside this two-dimensional window-space.

As soon as it is defined, this space immediately opens up into another space, that of the outside, in which anything is possible, perhaps even the impossible.

The representations that move in the window-space (representing the screen) attempt, then, to tell us, in a segmented way, about what is happening in the space outside, a vast subjective territory with unlimited boundaries. These attempts are the result of different points of view and ways of seeing.

Seeing is my way of capturing and absorbing the things and the movements of the things around me. Seeing is something that can be learnt, practised and refined like the jeweller's craft, but, alas, nobody can teach it to us. To see well, we must be able to rely on the purity of our senses. Mine are often tainted by false ideas and emotions, by bookish culture, by thoughts borrowed by convenience and laziness from others, by outdatedness, so that in the end all this jumble prevents me from seeing straight. Anger and passion also prevent me from seeing, and when I cannot see well I am ready to swallow bad things, and bad things, once digested, generate terrible images and ideas, accompanied by ugly movements.

But why is it necessary to try to be able to see well to be able to invent drawn movements? Why?

The movement of a bird, of a wave, of a moving cloud, of a passing car, of somebody's footsteps, for example, provide my basic nourishment as an animator, my reserves of invention, so long as I manage to absorb them through my senses. After this they build up inside me and are transformed into pure dynamics, stripped of the images that made them perceptible. Then one day, when, for no apparent reason, I feel the desire to animate a particular shape or figure, all this dynamic heritage, which seemed to have fled, will come rising up from somewhere or other (perhaps from the depths of my soul, who knows?). I then have to lie in wait to capture in passing what is most appropriate for the

composition of the metaphor. It may be that the bird's movement is adapted to the turning of a human head, that the force of the wave is used to animate somebody's hair, or that the footsteps are used to make a geometric figure move forward. This is what I do, or rather this is what I let myself do by means of things perceived and transformed, in order to invent and create new movements.

But...

The methodology of "seeing well" is extremely difficult to put into practice. Why?

Because seeing is at once difficult, complicated, tiring and compromising. And because, basically, not many people are interested in seeing. Most people prefer to understand.

I myself constantly try to see without understanding. Let things really be what they appear to be.

But seeing without understanding means learning how to unlearn.

Unlearn?

What, then, is the point of acquiring this and that and accumulating so many things that bring us status, sometimes wealth, stability, security, that help us so much to mould an identity, to gain recognition, if we have to unlearn it all?

Unlearning is a revolutionary idea that runs counter to all the cumulated notions that have ruled us from the time we lived in caves to the triumphant liberal capitalism of our own times. It is absolutely necessary to me, indispensable, for me to be able to think, do and say everything I have just written.

Apart from me, what other madman would want such a revolution, I wonder?

Nevertheless I remain persuaded that all those who think people go to the cinema to see images are wrong. And those who think pictures were painted so that we can see images are wrong, too. People go to the cinema because it tells them stories, and pictures were painted to decorate empty walls (humanity hates empty spaces).

What I say and write about movement is no more than the result of my observations.

I see, and as I see, I look, and the things I look at make me think. I try not to think while I am looking, I think afterwards.

Then I write or draw.

When I write, I like to write with the point of my pen slowly sliding over empty pages in little notebooks. Sometimes the pen does not work, it will no longer write, because the ink has run out or because the weather is too hot and the ink has dried up and that annoys me and time goes by.

I like to feel time going by.

On the other hand, when I do a drawing, I always draw fast, too fast. Then I say to myself that I acquired my habit of drawing at top speed as a result of my need to animate.

Always this hurry, this frenzy to get results as quickly as possible. How wrong can you be!

Animation is an art where the pleasure derives from the fact that it is slow and peaceful, and you forget time going by. And this pleasure comes from movements, drawings and a lot of invention.

Let us now translate these last, very subjective considerations into slightly more industrial terms, grappling with modern reality. In this case animation is not an art but a business, rather a bustling one, in which there is no time to lose. And this business would like to incorporate a bit of movement, if possible without drawings (the paperless society) and with a whole lot of invention relating to developing systems for automating the different steps involved in manufacturing an animation. This state of things, as well as the ideas that go with it, is neither new nor modern. The history of animated films could be compared in some ways to a mad rush towards crazy inventions designed to speed up production and reduce costs.

The most inventive of animators, Winsor McCay (1867-1934), was the first to publicly express his bitterness about this mad attraction for efficiency at any price. At a dinner given in his honour by New York cartoonists in 1927, he declared: "Animation should have been an art, that's how I thought of it... But when I see what you guys have done with it... a business... not an art, but a business... what a shame!"

It is true that these bitter reflections came from an artist for whom animated films were "the future of art".

Apart from the future, Winsor McCay always practised animation as if it were an art, and he was right to do so. It is also possible that he was able to hold these opinions because he never had to depend on

cartoon films to earn a living. Whatever the case, many other artists and authors of animated films, who nevertheless did not make cartoons, have followed his example.

The debate between art and industry has always led to great confusion. This confusion derives from the strange mixture between the industrial development of cartoon films and other animation techniques, which, for various reasons, have remained part of a craft industry not far from the practice of an art. All in all, if we confine ourselves to the cartoon film as a model, there is a risk of useless arguments going on forever.

It is no longer the time for these mutually uncomprehending debates; it is time art and science met together to develop appropriate tools that respect the rules and methods of, if not an art, a set of practices. It is time to consider animation as a subject that deserves to be studied. Along these lines, and in order to clear up misunderstandings, we should begin by listing and describing the different means the animator disposes of to animate images. The purpose is to give to all those who are involved in technological development, as well as those who are, or will be, called on to play a determining role in the invention of new digital methods, some simple information about 2D animation technology which, for want of anything better, should never be ignored.

Afterwards, we shall see.

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