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Richard Hamilton on Marcel Duchamp, 1965

MALE 1

Ladies and gentleman, Richard Hamilton is in New York for the Marcel Duchamp exhibition at Cordiae and Ekstrom, which has just opened. And Hamilton prepared the catalogue for this important exhibition last summer with a morning to morning consultation with Marcel Duchamp, which sounds like a very agreeable experience, which I suppose is research. And it is research, if you've seen the catalogue. In addition, Richard Hamilton is responsible for putting into linear and typographical form the copious and unordered notes that Marcel Duchamp made for *The Bride Stripped Bare by her Bachelors, Even*. And this is known at *The Large Glass*. It is *The Large Glass*, which Richard Hamilton proposes to place in perspective this afternoon. [00:01:00] Mr. Hamilton. (applause)

RICHARD HAMILTON

(inaudible) I think (inaudible). Thank you. (laughter)

MALE 1

Slide it onto the —

RICHARD HAMILTON

(inaudible) What ever should I do with that? [00:02:00] (inaudible)

MALE 2

Could I help?

RICHARD HAMILTON

I wish you would.

MALE 2

If you bear with us, we'll try to put the microphone in perspective first. Okay. What do I fix it with?

RICHARD HAMILTON

Thanks. (applause)

The painting that I'm going to discuss this afternoon is not very much in evidence at the Cordiae and Ekstrom gallery. There are certain things in the Cordiae and Ekstrom exhibition, which touch on *The Large Glass*, and those you will see. I feel that it's a valuable thing to have a talk of this kind on the occasion of such an exhibition, because there is the [00:03:00] necessity with the work Marcel Duchamp to see a totality, to see as we see in Philadelphia, the whole of ten years work at one go or 15 years work at one go. And the extraordinary collection of Mary Sisler that we now see presented to us in New York has something of this character of being a unified epoch, a collection of work, which has that kind of unity.

But I feel that we have to extend it into *The Large Glass* and *The Large Glass* is, of course, his most important work. André Breton said about this painting, "I suppose it would be as well first to see it." In America, I'm sure there's less need [00:04:00] to use this preliminary slide, because most of the people who are here this evening — this afternoon — will have been to

Philadelphia and will have at least had some acquaintance with *The Large Glass*. In England, of course, it's necessary to say that this extraordinary object is about 10 foot high. It's on two transparent panes of glass. And what you are seeing in this photograph, which was taken in 1926 at the Brooklyn Museum is not only *The Large Glass*, but also some other works of art. In the center, for example, you can see a Leger. On either side of the Leger you can see two paintings by Mondrian. One of the most remarkable characteristics of *The Large Glass* is the way it absorbs any space that it's in. [00:05:00] André Breton said of this work, "No work of art seems to me up to this day to have given as equitable scope to the rational and the irrational as *La Mariée Mise à Nu*." That's a pretty extraordinary statement. He says, "No work of art up to this day." In the whole of the history of art, no work has given this equation of the rational and the irrational.

And Marcel Jean in his *History of Surrealism* uses *The Large Glass* as the frontispiece for his *History of Surrealism* and devotes a whole chapter to it. He says, "In many respects the work of Marcel Duchamp offers a more complete lyrical scientific synthesis than anything envisaged by other creative artists before him." And here again, it's the widest kind of claim [00:06:00]. No one before Duchamp has done this synthesis of lyrical and scientific. And George Heard Hamilton, Professor of Art History at Yale, said, "It is one of the inexplicable and inexplicably great works of art of our century." Not only is Marcel Duchamp appreciated at this level of the highest of art critical minds of the period, but he's also a great pin up of the glossy magazines. *Vogue, Harper's Bazaar, Life*, and *Time* have all given large spreads of photographic coverages of Duchamp. They very often they don't even bother to show the works. They're satisfied with just a very beautiful photograph of his head. [00:07:00]

But Duchamp has this mystique behind him whereby anything that he does and any of his actions are interesting at the popular and popular level, but also at a very esoteric one. What George Heard Hamilton said that it is inexplicable and inexplicably great. You may feel that this makes it unnecessary to try to explain it. I feel that Duchamp has been at great pains to make the work explicable. He's published a collection of notes about the glass and there is a great deal of documentation, which makes it possible to learn a good deal about it. I find it also very rewarding that one should try to explain it. Some critics [00:08:00] of *The Large Glass*, and I think that they're perfectly justified in taking this attitude, some critics build up the kind of equation of their own around the glass. Some people treat it psychoanalytically. Some people treat it poetically and make a poetic equivalent. The line that I have taken always is that there is a great body of factual material, which can elucidate the ideas and the working of the mind that will explain the glass. The best way, I think, of understanding the work is to trace the path that Duchamp took from 1912 and through to the end in 1923.

In August 1912 Duchamp, after having painted a number of very remarkable works, many of which [00:09:00]are in the Philadelphia Museum or which are familiar to you all such as *A Nude Descending a Staircase*. I came upon him in July and August of 1912, when he was in Munich and a number of very remarkable paintings were produced there and a few drawings. Among these was a drawing, which is now one of the gems of the Sisler collection, a drawing labeled *The Bride Stripped Bare by the Bachelors*. This drawing — sorry, I want the other side, please. One — the left hand. This is a drawing, which has a very similar title to the title, which is given to *The Large Glass, The Bride Stripped Bare by the Bachelors*. It seems in a way [00:10:00] to

be pictorial. It's plausible to suppose that this is a scene of some activity that the title is a description of what is occurring that the bride is being stripped. There is a figure in the middle, which might be a bride. There certainly seems to be some feminine attribute to the central personage. On either side, there are figures, which are in some way more masculine than the one in the center and there could be some kind of violent activity going on, which explains the title.

Another painting that was produced at Munich was *The Passage from the Virgin to the Bride*. And Duchamp had been very concerned with demonstrations, pictorial demonstrations of activity, the kind of investigation he'd gone on [00:11:00] in photography by Muybridge and Man Ray. And *The Bride Stripped — The Nude Descending a Staircase* is a painting, which covers that kind of concern. In the painting that followed it, this one, *The Passage from the Virgin to the Bride*, there does seem to be the same kind of preoccupation. There are changes of form, which denote changes of movement that are sequential relationships. And the difference between this painting and *The Nude Descending a Staircase* is that it isn't quite as literal. There does seem to be a certain change going on, which isn't explained simply by a change of location or description of movement.

There were two drawings that were done at the time at about the time of the painting. One was called *Bride* or there were two versions of a [00:12:00] painting of a drawing called *Virgin*. And it's reasonable to suppose that the title and all of Duchamp's writing, whether it be titles or descriptive notes, do have a significance. *The Passage from the Virgin to the Bride* does suggest that there is a change being described between the two subjects. The bride drawing becomes the — or the virgin drawings, rather, become the bride drawing. And this is a kind of overlapping of all these ideas, a superimposition. It's also a metaphysical transformation. It's not only a kinetic problem, but an emotional one. The transformation from virgin to bride is something that one can conceive of at a quite different level from that of a figure descending, for example. [00:13:00]

The painting of *The Passage from the Virgin to the Bride* led to another painting, which was called simply *Bride*. And it's clear when you see them side by side that the left hand painting is — the bride is taken very directly from certain forms that occur in the other in the other picture. The central passage, for example, is very obviously related to *The Passage from the Virgin to the Bride*. But the differences are that the picture is not a much more tangible kind of object. Much more tangible, but so much less descriptive in the sense of movement. It's taken a kind of graphic language, a system [00:14:00] of describing activity and has then crystalized this into a form or into a group of forms.

When Duchamp came back from Munich after this extraordinarily productive period, he had decided that this was the end of painting for him. And one can see this as not only a crystallization of movement, but there's also a certain finality about it and it's gone very much beyond any painting that was being accomplished at the time. Beyond it in the sense of it being unlike anything that was being done then. I'm not talking about it as a measure of value. But all the paintings that preceded this *Bride* picture are conceivable as related to Cubism, for example, with Futurism [00:15:00] and all the other activities that were going on in 1912. The bride painting does seem to me to be something so far removed from any other kind of activity that it is plausible to think of this as the end of painting for one man, because it is such a tremendous

leap in a new direction. And there was certainly consideration on Duchamp's part of this as being the end of painting for him. He was no longer interested in the kind of activity that he had been engaged on for some time.

When he arrived back in Paris, he returned to his friends. He'd been absolutely alone in Munich working in a boarding house among people, whose language he couldn't speak and the only thing to do there was work. When he came back, he went on a trip with some friends, with Apollinaire, Picabia, and Gabrielle Buffet to Jura in a large car, one of the many cars owned by Picabia. [00:16:00] It was an extraordinarily fortuitous circumstance that these brilliant minds happened to get together this one weekend. Apollinaire produced a poem, one of his most important poems, as a result of that weekend, a poem called *Zone*. And Duchamp wrote on his return a description or at least a kind of poetic and emotional text, which was the outcome of his experience, the experience of being in a fast car with people that he enjoyed being with. In this extraordinary note, there's a slide of it here, he talks about — this is a facsimile of the note, by the way, from *The Green Box*. He talks about a machine with five hearts, "the pure child [00:17:00] of nickel and platinum must dominate the Jura-Paris Road." And he talks about something called the headlight child. This headlight child could graphically be a comet, which would have its tail in front, this tail being an appendage, which absorbs the road by crushing it. The pictorial matter of this Jura-Paris road will be wood. And then, he writes a little note at the end saying details of executions, dimensions, plans, size of canvas as though he is regarding this text as the beginning of something, which will ultimately achieve a graphic finality and that he is even talking about a size of a canvas. So, there is a pictorial object in his mind, but there's certainly no very visual and graphic descriptions in it. It is much more a question of a kind of [00:18:00] programmatic ideas that you got in the work of Roussel. So, he is beginning — although he has said, "This is the end of painting for me," there is envisaged the possibility of a new kind of art.

Also, from this period is a work called *Chocolate Machine No. 1*. This was done at the beginning of 1913, the first thing that was produced after the return from Munich. It is called *The Chocolate Machine* and it is purported to be something, which was seen in a shop window in Rouen. I don't know whether there does exist an object of this kind, which crushes chocolate, but it isn't of any great importance. What is important is that this takes further this concept that Duchamp has had of [00:19:00] an image of movement, which doesn't require the kind of elaborate graphic language that he'd indulged hitherto. It's no longer necessary to show by superimposition that the changes of relationship between forms that movement can be symbolized by something, which is obviously capable of movement. And that's what this impute is for Duchamp.

Another symbolic object, which is now called a readymade and is labeled a work of art was *The Bicycle Wheel*, which is a 1913. This is a photograph taken in 1915 of a second version also available for your inspection Cordiae and Ekstrom Gallery at the moment as part of the Schwarz edition of readymades. This bicycle wheel, I think, has clear relationships with *The Chocolate Grinder*. [00:20:00] It's an object, which symbolizes motion and it's also something, which Duchamp enjoyed just as an object, a kind of a mystical object almost, something that could be looked at not as a work of art, but as a machine in its own right.

The screens are now blanked out, because I think it's necessary to have a moment of solemn pause, because this strikes me as being a great moment in the — one of the greatest moments in the twentieth century and certainly the most significant moment in Duchamp's experience and his work. He went on another one of those extraordinary trips. There were three [00:21:00] such events in Duchamp's life. The first one was going to Munich, which was a very concentrated period of activity where a great deal of work was done in a short period of time. And there was another trip to England to Herne Bay. His sister, Suzanne, was due to go to see somebody and yet have a short stay in Hearn Bay in England. And she needed to be accompanied by somebody who could look after her, a chaperone, and Marcel decided that he would go along and spend the time with her. But during this extraordinary stay — I see it as extraordinary, perhaps you won't be able to visualize a seaside resort in England, the south coast of England near Brighton, as being the place where one of the greatest invention of modern art was made, but it strikes me as being remarkable in the extreme. [00:22:00]

The work at Hearn Bay was all literally all text. There were no drawings as such. There were no paintings. But there was a large accumulation of writing about this new work that he was going to embark upon. By now he'd decided that there was going to be a thing that was going to be called *The Bride Stripped Bare by the Bachelors*, which is the same title as that of the drawing that he'd done in Munich. One of the most important of these notes, this is, again, a facsimile, a photograph of a facsimile. It shows a new part of the note and it gives a couple of pages from ten numbered pages constituting a folded sheet. [00:23:00] This one was headed *The Bride Stripped Bare by the Bachelors*. It said that there were two principle elements, one bride, two bachelors. That the graphic arrangement would be a long canvas, upright. Bride above, bachelors below. The bachelors were to serve as a architectonic base of the bride. And he said that the bride would become an apotheosis of virginity. And he goes on to describe the bachelors as a machine, fat and capricious. At times there's a steam engine, at others a combustion engine. It has desire gears, electrical connections with the bride. And the bride too is a motor and her cylinders operate on love gasoline. Emerging from the bride is her blossoming, which is described as the most important part of the painting. He says, "It is in general the halo of the bride, the sum total of her splendid vibrations." [00:24:00]

Now, all this text is very poetic. Not poetic in any conventional sense of being metrically formed and rhyming, but it is a kind of poetry rather than prose. It's poetic particularly in the use of the words talking about splendid vibrations and the kind of language, which Duchamp would associate with literature and poetic ideas, a poetry of a very extreme kind. These documents seem even at that time to be envisaged as a publishable item. For example, this one — this is now one of those Herne Bay documents, is headed Preface as though it is intended as an introduction. It was a first text. [00:25:00] And, in fact, in 1914, Duchamp did publish a collection of notes of three sets. It's a very exclusive kind of publication. There were only three of the boxes produced, but they were presented in very much the form that these documents were later published as *The Green Box* in 1934.

I wanted the other side, please. No, I should have a picture of the bride on this side now. The bride painting. Can you clear the right hand? Go back, yes. Leave Preface there [00:26:00] and then I would have — and the title on the left. Get with the next slide on this side now, please. No, you're mixing the slides up, I'm afraid. It should be the title page. I'm sorry about this, but

the slides are so carefully sequenced that it does present an impossibility, if they become confused, but that will do. Yes, we've missed out a slide, but it doesn't matter. We'll carry on from there.

The descriptions that were being written down in Herne Bay [00:27:00], the mentions of subject matter like bride and bachelors are descriptions of something quite tangible in Duchamp's mind. And the tangible and visual object, which he is describing and formulating in textual terms is the bride painting itself. The next one on the right now, please. No, that's wrong, I'm afraid. It's one that's already flashed on the screen. It says "A, the upper part." It's a piece of text. I'm afraid we've lost another one. (laughs) Never mind. Leave it. Leave it at that.

And this, [00:28:00] for example, is a description of something, which appears in the middle of this painting. This part of the painting here is being given a kind of function. And the whole of the mechanism of the bride itself is being ascribed to this or to elements in this picture. What you're seeing on the right hand side is not the facsimile but the — it looks as though you are starting from the back suddenly. You've jumped God knows how many slides now. [00:29:00] You can't be taking them in order. Yeah, I'm afraid you'll have to go back and find *The Chocolate Machine*. We should have the bride on this side and *The Chocolate Machine No. 1* on the right hand screen. That's it.

In the same way that the bride painting formed all the ideas and terminology of the bride part of *The Large Glass*, so another painting did produce the bachelor part of *The Large Glass* or did seem to be the main prop. And this chocolate grinder, the picture that he had done just previously to the Herne Bay trip [00:30:00], becomes the central feature of the lower part of the glass. And that is also described and annotated in the notes to *The Green Box*. That's right now. Such notes as this, for example, he talks about the various parts of the chocolate grinder, giving them their nomenclature. There are rollers and there's a thing called a bayonet. And there's a Louis Quinze base. And the part at the top here, this part, he calls the necktie. And in the notes, he goes on to say exactly what the necktie was, what it meant to him symbolically, the kind of materials [00:31:000] that it would be made from, the qualities that it would have in being resplendent and brilliant. But these are terms also that Duchamp would regard as poetic. There's also an agit of spontaneity, which explains the rotation. Everything that happens in *The Large Glass* has to be given an explanation, given a justification. And the justification for this chocolate grinder turning by itself is through an agit of spontaneity, which says that the bachelor grinds his chocolate himself. Well, by this point, Duchamp is beginning to think about the way in which the whole object can be constructed. It is visualized now as being a painting [00:32:00] on glass. And a great many elaborate working studies were produced.

For example, this is a planned view of the lower elements of *The Large Glass*, a view in which the chocolate grinder is seen here. This is a view down on top of the elements as though you were visualizing the things that are seen in the lower part of the glass as being in a space behind the glass and projected onto it in the painting. But this is the circular part of the grinder looking down on the top of it. Behind it as those things that are called sieves. And this area is the symmetry of uniform deliverers that we'll be seeing in some detail later. [00:33:00] We've missed out another slide. There's an elevation going that goes with this one. It's the one before that. This plan is turned and its elevation, which you haven't seen, are converted in this drawing,

which is a perspective drawing of the whole of *The Large Glass* so that an area like this, which is the grinder has become in perspective with the rollers running around the platform here. Not only is everything — no, that's not it. Not only is everything understood [00:34:00] as being precisely located behind the glass, but every part of a millimeter is noted and perfectly described. It seems unlikely that — that's the one. That's the elevation, thank you.

What Duchamp has found it necessary to do is to get a complete understanding of every form that was used in the glass itself. Can we go on to the other slide now, please? The virtue of all this elaborate perspective [00:35:00] was that he was able to partialize the perspective so that since the drawing was going to be 10 feet high, the ultimate *Large Glass* was going to be 10 feet high, he was able to take a small element and work on it separately. He had a sufficient number of location points to enable him to elaborate it separately. He had a sufficient number of location points to enable him to elaborate it separately.

This part, this drawing here, which is another one of the things seen in *The Green Box*, is a drawing of the sieves. By the end of 1913, the conception of *The Large Glass* was absolutely complete. It was all in the form of drawings, diagrams, and texts. And not only was it understood at this level, but there were also descriptions of methods and techniques of execution.

One of the [00:36:00] first things that was to contribute to the form of *The Large Glass* was an object that he made at that time called *The Standard Stops*. He took three pieces of thread exactly one meter long and held them above pieces of canvas exactly one meter above them and let them drop. And these threads took three different curves. The curves of the thread were then translated or transformed into three wooden rulers that you see here positioned above the pieces of thread. This is another object, which is not necessarily at the time of execution considered as part of *The Large Glass*. But *The Large Glass* absorbs into itself in a way that absorbs any interior space that it happens to be in. It also absorbs the whole of Duchamp work. [00:37:00] And the standard stops, which contribute to this — well, it's one way of cutting down my lecture time, I suppose, to lose half the slides, but it's probably not going to cut it down that much, because I seem to be pausing such a great deal. (laughs)

The painting that we have here is another one of those seen at the Cordiae and Ekstrom Gallery. And it's a very remarkable object, one of the most extraordinary things, which has become a painting of tremendous quality, but it actually is a working drawing, a working diagram. We tend, I think, to change our view of a work of art in an extraordinary way. [00:38:00] And the painting as conceived by the artist is no more than a stage towards *The Large Glass*. Not only is it a stage toward *The Large Glass*, but it's also two other images of the same time. But the things that are particularly relevant to *The Large Glass* are these lines, which go on top. There are descriptions of the capillary tubes that go from the top of the malic moulds to the underside of the cones in *The Large Glass*. Since you've missed some slides, which show these things as capillary tubes, perhaps not too easy to relate to them. I'll see what slide we get next.

These are *The Malic Moulds*, a drawing, which was used also as an intermediary in the execution of *The Large Glass*. It's reversed back to front, because everything [00:39:00] on *The Large Glass* had to be worked from the back, because the thing, which was seen from the front is always drawn with lead wires and other elaborate techniques on the reverse side. The intention

was to take these tubes, one from each of the malic moulds, to the underside of the left hand cone on *The Large Glass*. And he used the three standard stops, which you've seen, to make these three lines here. Each of these three groups goes to the underside of the sieve, which is here. These three are made with one set of standard stops and the three here are made with the same set of the standard stops and these three are with the other with the set. [00:40:00] There are three groups of each. There are nine malic moulds, which are all numbered with these round red rings here. Another object that was made at the same time — there are overlaps all the way along the line with *The Large Glass*, with the execution of *The Large Glass*.

And this, which is regarded also as a work of art, a readymade work of art, is something, which was made in 1914 at the time that Duchamp was working on these ideas. *The Malic Moulds*, for example, were something, which were considered and being worked upon at the time he decided this thing [00:41:00] was important to him and he purchased it and kept it around his studio. The malic moulds themselves were partially elaborated in a drawing that you see here. Partially elaborated, because each of the details of *The Large Glass* get separate treatment. This becomes the study for a separate object, which is also treated as a separate work of art, *The Nine Malic Moulds*, another painting on glass. There are studies for each of the various elements of the glass. [00:42:00] This is a reproduction of the smaller glass, *The Nine Malic Moulds*.

I said earlier that the principle element of the bachelor machine is this chocolate grinder. And there was a separate study made for this part of *The Large Glass*. This is *Chocolate Grinder No. 2*. The earlier painting that you saw, which was very differently treated, compares interestingly with this. The differences are that this is no longer an object sitting on a surface. In the earlier glass or the earlier painting of the chocolate grinder, [00:43:00] you saw shadows. There was a surface on which the thing was sitting. This is much more an object in an open space. It's not a representation of an object as much as an object, which is important in two dimensions. I'm afraid you're just jumping out too many slides for me to be able to keep track of what's going on. There are three, but go on to the next one. There are relationships between things that are done earlier. All sorts of very early works that Duchamp produced are incorporated [00:44:00] into *The Large Glass*. This one, which was done in 1911 before *The Large Glass* had been envisaged or any of the paintings that contributed to it. In fact, it was before *The Nude Descending a Staircase¸* the earliest of the documents. And it is included in *The Green Box* as one of the documents. And *The Coffee Grinder* seems to have some relation to *The Chocolate Grinder*. For example, this, which is a fairly late note, considering the sieves part of *The Large Glass*, has a curious relationship to *The Coffee Grinder*. It seems to me that this area here, the thing which is called a butterfly pump is very much like this part of the [00:45:00] small painting of the coffee grinder. Duchamp has said that there's no connection between these two and the juxtaposition of them in this context is a completely personal one of my own. I just regard these as being related. I think we just have to find relationships as best we can. Certainly, Duchamp regards this coffee grinder as being related to *The Large Glass*, because he included it in *The Green Box*.

Another part of *The Large Glass* that was elaborated separately was the glider. This was treated as a semi-circular glass before it became [00:46:00] part of *The Large Glass* itself and a separate study was made. It was the first actual study on glass. In the first place, Duchamp attempted to etch on the glass with hydrofluoric acid, but this was unsuccessful. And he then had to devised a

technique for delineating forms on the glass. And he found it possible to stick lead wire onto the back of the glass to use almost as a pencil to draw with. Everything had to be done flat.

That was one of the difficulties, I think, of working on the glass at all, creating the object. It could never be seen, while the artist was working on it. It would never be seen as it was going to be seen by the spectator. He was always fiddling about with the thing on the back, constructing it in a sculptural kind of way. In fact, he has said that it was rather like working with lead wire was rather like modeling. It has a sort of [00:47:00] malleability of clay. And the whole of the drawing of this object was done in this way with wires and very exquisitely. But not only was it drawn with wire, but there were also elaborations, technical elaborations and details about this treatment and how it was to be done, how it was to be drawn, what the color would be like, and what significance the color would have. The object itself has a certain function, a contributing role in the working of *The Large Glass*. For example, it is to move backwards and forwards on runners. The whole thing is envisaged as oscillating between certain well-defined limits. There is [00:48:00] a mechanism devised, which is quite implausible. He has a bottle of Benedictine, which is going to be the weight, which is going to pull the thing forward to the right. He says that this bottle of Benedictine, the weight can vary in density, which will then permit it to rise and allow the chariot, sleigh, or glider to revert to its other position. Whether the functions are plausible or not is of no concern to Duchamp. He devises his own physics, devises his own laws. His causality is inherent to the object and not to normal causality. [00:49:00]

One of the most extraordinary things about *The Large Glass* that I find is that it is exquisitely beautiful, something that I hadn't expected. I was very well acquainted with *The Large Glass* before I actually saw it, having spent some time with the documents. But the surprising thing about the experience of *The Large Glass* itself is that it is extraordinarily elaborately worked and very exquisitely worked at a sheer technical level. The lead wires, which you can't see very well in any normal photograph of *The Large Glass*, for example, or the semi-circular glass. This is a rather untidy knot of wires, for example, in any normal photograph. I photographed it myself while I was there, because I enjoyed so much the experience of seeing how it was done.

For example, there are three wires to each spoke, [00:50:00] one lead wire, which goes down the center and then becomes part of the axle. A lead wire runs along the central wire and returns up against the adjacent spoke. And the other one of the triplet going down the other side, comes and joins this spoke. So, the network in the middle here is a faubergian exquisiteness. A curious color of this thing is a kind of deterioration — (inaudible) deterioration that's taken place and I'm sure Duchamp doesn't in the least object to.

By this time, you are no doubt beginning to wonder where everything is again. It's very difficult, I think, to bear in mind unless you're very familiar with *The Glass* [00:51:00] where everything is. The terminology that I've been using, which I've been forced to use, if I talk about the cones, it establishes a point on the painting for me. It may not establish a paint on the painting for anyone, who isn't as familiar as I am. The chocolate grinder, which has been mentioned often enough, is here. The cones, which you've seen something of, the drawing of, are here. The malic moulds are there. And the water mill, which you've just seen is a separate detail, is here. The bride painting, the bride part of the picture is up here. And the thing, which is most closely related to the bride painting is this part here.

This is a photograph taken by Marcel Jean of *The Large Glass* and is another [00:52:00] indication of the quality that *The Large Glass* has of looking different every time you see it. I want to look at now at the glass in a greater detail. In 1915, Duchamp had completed separate studies of each of these parts that I've just described to you. The semicircular glass had been done. There had been a separate study of *The Nine Malic Moulds* on glass. He had done the chocolate grinder painting and had written notes and lavish descriptions of every aspect of it. But *The Glass* itself had not yet been started. In 1915 Duchamp went to New York. He arrived here as a celebrity. He was 27 years old. [00:53:00] He'd shown at the Armory Exhibition and achieved a great notoriety. He was met on his arrival by Arensberg and they became close friends and Arensberg immediately got him to work. One could imagine that Duchamp acquainted Arensberg with all his thinking over the last few years, the work he'd done since *The Nude Descending a Staircase*. And one can also imagine the tremendous excitement that Arensberg must have felt as an admirer of what he knew. And he immediately encouraged Duchamp to start work and made an apartment available to him or at least let him work in his own house, working on the carpeted floor. Well, he purchased the glass and began. The part of the glass that he started with, there were two big panes. The [00:54:00] part that he started on first was the bride and the bride was virtually completed before he began the lower part of the glass. I've said that the upper half of the glass, the bride part, comes from this painting. Just how closely it comes from this painting is rather difficult to believe. When Duchamp painted the picture, he'd given it almost immediately to Picabia in 1912. And so, he didn't — and the picture, the bride painting couldn't have come to New York with him. But this thing that you see on the left is a little demonstration of the closeness in the bride painting to the bride as it appears in *The Large Glass*. What I did was to take a reproduction of the picture on the right and cut it with a pair of scissors to [00:55:00] to get all the stuff that arrived on *The Large Glass* itself. And it's possible to cut around to make a full extraction, abstraction from the bride painting and arrive at this. I then pinned it up on a piece of glass, a glass window in my home and photographed it. The reason that it looks a little yellow is simply that it was color film and the light made it yellow, but it is actually a black and white reproduction.

And Duchamp quite obviously put a photograph of *The Large Glass*, a photograph of the bride painting underneath *The Large Glass* and simply painted what he saw. It's a virtual copy. He must have made an enlargement, a photographic enlargement brought with him either a photograph of *The Large Glass* from which he could — of *The Bride* from which he could work. In fact, [00:56:00] he intended to try to put here a photographic emulsion on the glass and project this painting or the partial painting onto it, so that it would be a direct photographic treatment. This was impossible. It didn't work out. All of his experiments failed and then he had to resort to using paint. But he used the nearest things and the kind of photographic techniques that he could. The top half of the glass was completed before the bottom part was even begun.

I wanted to remind you of a piece of text that you saw earlier when he talked about the blossoming. He said that this was the most important part of the painting, that the blossoming was to provide [00:57:00] something that he called an inscription. And this inscription is described as being obtained with draft pistons. And these three openings that appear in the blossoming flower that emerges from the top of *The Bride*, which is part of *The Bride*, has within it three openings, irregularly shaped, roughly square. And these have a function of providing or

controlling rather the inscription that appears across the top of the painting. There's something, which he calls a letter box, which appears in the top of *The Bride*. This letter box contains a random collection of alphabetic units, which seem to flow almost like the flow from a cathode to an anode across a thermionic valve. And the [00:58:00] three openings serve the same purpose as the grid in the thermionic valve of controlling the flow of information across it. The way that the actual way of their control, the mechanism of their control is not elaborated in any way. I see here that there is a very peculiar kind of a mysticism, fantasy about what the messages could be that could pass across this milky way or conscription or blossoming of the bride, the halo.

The draft pistons are one of a group [00:59:00], again a group of three uses of chance that he made in *The Large Glass*. He took squares of fabric and placed them above a radiator. And these squares were distorted and the distortions were recorded and each of the three of these openings is a square as distorted by some factual occurrence. It's a very real shape, because it was a real square and this real square was modified in the same way that a piece of threat exactly one meter long can be dropped exactly from a height of a meter and produce a curve of some arbitrary significance so the three openings of draft pistons in the halo have this similar kind of arbitrary stringency. [1:00:00]

There was a third use of chance. Everything that Duchamp did in *The Large Glass* is worked in this triple way. In fact, he says somewhere that the number three is used as a refrain. And the third use of chance was in the shots, another area of the upper half of the glass. On the right hand side, there was to have been a group of nine holes. And the position of these holes was determined by projecting a match dipped in paint at a target. He took three shots from one point, three shots from another, and then moved the canon again and took three more shots. Ideally, there would have been one mark on the canvas, the mark where the target was. But since inadequate skill and the inadequacy of the instrument were such that it would not permit absolute accuracy. [1:01:00] There were nine points. These nine points he says could become absolutely anything. There was also a drawing, which shows the kind of complications that can derive from any given random situation. If you have nine spots, any nine spots, you can then join all these nine spots up. You can then produce a plane. If you put vertical lines from each of the spots after having joined them all, you then begin to visualize a tower and will produce — you have a three-dimensional object. And from this you can go on adding dimensions and you can make anything from something, which has started as nothing. It's a kind of parallel of the life force itself. It's a question of starting with molecular units and building up the most complex [1:02:00] organisms.

With the lower part of the glass, which you see here, is differently worked from the top part in that it was a question of redoing a lot of things that had already been done. They'd all been executed in separate studies and there were perspective drawings of everything. Among the things that hadn't been done, however, were the things called the sieves, these series of cones. There was no separate study for that, although there were separate studies of almost everything else. In the notes he describes the sieves as having a peculiar quality, a peculiar paint quality of what he says was porosity. [1:03:00] But this porosity was achieved through a process called dust raising. This is a fairly late stage of the glass in 1920. And it was described as being a period when dust was going to be bred on the glass and allowed to accumulate over a period of months, a fixed period. And the varnish was then going to be dropped over the cones, which

would adhere this aging through the creating of dust to achieve something, which was described as porosity. The color that's produced as a result of this alarming technique is seen here in this photograph of the detail of (inaudible). It had a peculiarly luminous richness about it. *The Glass*, which you all know was broken in 1926 [1:04:00] when it was returning from the Brooklyn Museum. And what you see now is not only the porosity and richness of the sieves, but a good deal of fracturing.

Certain parts of certain ideas of *The Green Box* didn't get as far as execution onto the glass itself. This, for example, is a fairly elaborate note, which can be searched for in *The Glass* unsuccessfully. Somewhere in the top part — somewhere around here in the top right hand corner of the lower part of the glass, there would have been an area called *The Boxing Match*. There was a hand of gravity, a juggler, who would have been standing at the junction between the two planes of glass, but this didn't actually get onto it. [1:05:00] *The Boxing Match* drawing is of 1913. Well, in 1918 Duchamp had gone to Buenos Aires, you know. He went to Buenos Aires to avoid the possibility of being pulled out by the American forces. He'd left France in 1914, which is, I suppose, a significant date. And his move to Buenos Aires is a significant in 1918. He handed over *The Glass*. *The Glass* became nominally the property of Walter Arensberg. It becomes part of the Arensberg collection in 1918, although the date of completion is ostensibly 1923. [1:06:00] Now, but up to that point, up to 1918, anyway, everything that had been on the glass had been visualized as early as 1913. There is nothing that's added in the years that he was in America except the halo of the bride itself. But everything was a question, I think, of executing over a long period ideas which had been completely formulated in that one intense phase of activity in Herne Bay and the year that followed it in France.

In Buenos Aires, something quite different is introduced, a completely new concept. And he produced one work that I think that period that should follow this trilogy of the Munich activity, the Herne Bay activity, and the Buenos Aires [1:07:00] activity have this in common that they were periods of exile in a way. He went voluntarily each time, but there is a kind of isolation, which he experienced, which produced tremendous results. On each of these periods of absence from friends and his normal environment, there is a sudden surge of creativity. And the surging in Buenos Aires is a concern with optics. The painting that he did there was another glass picture. It was called *To Be Looked at with One Eye for Almost — Close to — for Almost an Hour*. The painting, which is in the Museum of Modern Art, which you know very well. The peculiarity of this object is that it was a mirrored glass and the silver was cleared away, scraped away, leaving the drawing in reflective lines. [1:08:00] The title, which always arouses a certain amount of amusement is really a quite serious request for you to look at the painting for an hour with one eye and close to, because the point of the painting is achieved in that way. There is, for example, in the middle of the picture a magnifying glass. If you look closely at the object, there are hallucinating effects as a result of the way it's contrived. The ambiguities of the pyramid, for example. It's one of a classic optical tricks to superimpose these lines and superimpose a drawing of this kind and it introduces an optical illusion of inversion. [1:09:00]

The Museum of Modern Art photographed the painting after. This is the Buenos Aires version, which was a snapshot taking by Marcel with the lights of Buenos Aires behind a balcony. The one on the right is a more straight forward painting. It illustrates once again the change that takes place in a change of ambience of an object of Duchamp, you know, one of these glass

objects. This Buenos Aires painting did produce something, which became part of *The Large Glass*, the part called *The Oculus Witnesses*, the oculus charts that are on the right hand part of *The Large* — the lower half of *The Large Glass*.

This is a drawing, which was used to transfer the drawing onto the back of the glass, which was silvered for the [1:10:00] work. He wanted the lines to be as in the other glass in silver reflective. And he drew the lines onto the back or onto the silvered back of the glass and then scraped everything away that wasn't drawn, a period that took three months of careful scraping. The result is seen in another photograph that I took in Philadelphia. What you see here is the silvered part of the glass, the drawing. It seems to be colored, but the reason that it's colored is that there's a reflection of a woman in a red dress opposite the glass. They're called oculus witnesses, oculus charts.

When you read the documents, there's [1:11:00] an air of complete fantasy and irrelevancy about so much of it. It's difficult to accept this as anything but sheer surrealist dogma at times. But one doesn't have to look very far ever to see the answer. This photograph, for example, I suppose you do have to look quite far actually. This one came from Man Ray quite recently. I saw it in a Mamet collection of photographs that he'd taken at the time he was working on the rotative experiments. And this one does show on the wall of Duchamp's studio some oculus charts. They are opticians' diagrams. The lower one if the one that you're very familiar with of letters getting successively smaller. There is also above it [1:02:00] a drawing of concentric rings, which test astigmatism. And what we are seeing her are three oculus charts drawn in perspective in a triple tier.

Towards the end of *The Large Glass*, towards the final workings, there's no doubt that boredom has set in very strongly in Duchamp's mind. The Arensbergs moved to California in 1921 and *The Glass* was regarded as being too fragile to move, so ownership was transferred to Catherine Dryer. Catherine Dryer then had become the nominal owner in 1921. There are still two more years to go on *The Large Glass* [1:13:00] and she is the owner.

Another — this is just another example of the absorptive quality, the way in which *The Glass* looks so different on every occasion. The painting on the right hand side is not *The Large Glass* itself, but a replica made in Stockholm a few years ago. Its interest is that the glass is not fractured. It's the nearest experience that one can have of *The Large Glass* as it was in 1923 or '26 before it was broken. It has a certain coarseness in comparison with the working of *The Large Glass* itself.

In 1934, [1:14:00] Duchamp began to disclose that other aspect of the glass, which was his notes. And he began to publish the collection of documents that we now know as *The Green Box*, a box which has the title of *The Large Glass*, carries the same title (inaudible). And it contains every document that Duchamp wished to associate with *The Glass*. They were published in absolute facsimile. Every torn edge, every variation of paper quality. And this collection of documents was purchased in the main, I suppose, by art lovers and was immediately put onto the shelves of the libraries and was far as I can see was totally ignored as far as the content was concerned for something like [1:15:00] 30 years. The one person, who did read the notes when they were published was André Breton. And he began to relate the notes to *The Large Glass* and to try to

make people see what their significance was. But I don't think that even this extraordinary research and its valuable contribution to art history of our time really bore fruit. It was regarded just as another kind of André Breton fantasy.

Another photograph of *The Large Glass*, it's now in Philadelphia. It went there are as part of the Dryer bequest in 1953 [1:16:00] and is not likely to be moved from Philadelphia again. They've firmly planted it into the ground. *The Large Glass* was broken in 1926, but the discovery of the breakage took a very long time, because Catherine Dryer didn't look into the box that returned to her and it wasn't repaired until the 1930s. It was then sandwiched between other sheets of glass and furs and there is, I think, no likelihood of it suffering further damage now.

The way in which the notes of the box relate to *The Large Glass* can be made, I think, a little clearer by the use of this diagram. [1:17:00] And I think it's necessary to make clear what the notes do for *The Large Glass*. The reason that the notes were published and the reason that they exist is that they do add another dimension to it. They aren't simply working drawings. They aren't simply things that were done to help Duchamp to work on certain parts. The text that accompanies the glass is a document, which gives it its life. It feeds it with the animation and gives it its significance. *The Glass* regarded separately is a very much inferior object than the total work of art, which is a literary text allied to a visual presentation of it. It's impossible looking at *The Large Glass* itself to know to gain the kind of information, [1:18:00] which is given in the notes. For example, we know from *The Green Box* that there was something in the top part of *The Glass*, which gave it its activity. Everything is explained. And if something is there without explanation, that fact is noted.

For example, dew is the thing which powers this engine, this internal combustion engine, which is the bride. It has to be explained that the dew is converted into a combustive material by chemical processes within the fire itself. This is the power that activates the bride. It's fed [1:19:00] into — it's converted into love gasoline. The love gasoline goes into reservoirs, it's fed into the cylinders and explodes and does all the sorts of things that internal combustion engines normally do. It's fired by a desire magneto and the various functions of these elements here are all clearly determined in all the functions. There's a progression from this central point of activity. From the given fact of the dew and its conversion, there is a movement, which goes across from the letter box up in this corner across the inscription down to a point where the shots and the pulls are found here. [1:20:00] It's the significance of these triangular points, which are meant to be arrows showing a movement across *The Large Glass*.

The lower part of the glass has also given elements. One of the notes says, "Given A, the waterfall, B, the lighting gas." And the significance of these two black marks of mine is that these are the two given substances. The water provides the power, which can turn the water mill. The water wheel here rotates as a result of there being a given substance up here, which is water. The water wheel helps to provide the oscillation of this machine here, this part of the machine, which is the chariot, [1:21:00] the sleigh, or the glider. That reciprocates aided by something, a bottle of Benedictine, which can vary in its density, which goes up and down. You see no visual equivalent of this idea and therefore it's shown in the dotted line in this diagram. But there is something described, which enables the reciprocation of the chariot to occur. The movement of the chariot backwards and forwards permits the opening of these scissors. There's a sliding

sleeve at the top of each of these arms, which extend the chariot and the reciprocating movement of the chariot closes and opens the scissors, which are on the top of the bayonet of this thing, which he called the chocolate grinder. The rotation of the chocolate grinder [1:22:00] provides no part of the narrative of activity of the bachelor apparatus. The opening of the scissors permits a splash to occur here. It's a splash, which is the end of the cycle of activity of the lighting gas. It's another given substance. The lighting gas is like the raw material, which is processed in this factory, this production plant at the bottom here. First of all, the lighting gas is enclosed in these nine malic moulds. They mould lighting gas. The lighting gas is a volatile substance. It has not form, but it is imbued with character, the personalities of these malic moulds. And each of these malic moulds has his own shape, the shape of either a priest, [1:23:00] a bellboy, a *gendarme*, and so on. Each has a very precise character and they are uniforms and the lighting gas is imbued with that character. It then passes through the capillary tubes, which are these lines going to the underside of the sieve. In the capillary tubes, this lighting gas is deemed to harden into needles, into solid needles. And at the underside of the sieves, they break off. Since they're described as being lighter than air, they are permitted to rise and pass through the sieves. And in going through the sieves, they change their orientation. They are disturbed and their psyche is also upset. When they come out of the other side, they are liquid and there is something here, which is described, but which doesn't appear in *The Large Glass*, the pump, the chute, and the [1:24:00] opening of the scissors causes this big splash that is to occur down here. The splash is not in the painting itself. The oculus witness witnesses the splash, which rises up through them to the dividing point between the glass — between the two panes of glass. But a mirroric reflection of the splash is allowed to go through and it joins the area of the shots and the pulls up here. This sounds like a complete fantasy, but it is as well argued as any theory of mechanics or engineering that the kind of terminology seems to relate to. [1:25:00]

The last two slides are the glass as it now appears in Philadelphia, photographs that I took a year ago when I first encountered the glass. An extraordinary object, which I suppose I spent something like six years of devoted interest in and which continues to provide surprises, continues to provide new experiences, and even new facts. For example, in the Cordiae and Ekstrom Gallery at this moment, there are a collection of 50 odd documents, which might have been reproduced in *The Green Box*. These seem to have been completely unknown. They were certainly completely unknown to me and are an absolute mystery, so another great chain of [1:26:00] activity is going to be added to what we already know of this.

What you've heard is a very inadequate description of what goes on in *The Large Glass*. And not only is it inadequate, because of my own limitations, but it's also inadequate from the point of view of time. Every time I give this lecture, it takes longer to do and I keep cutting things out, even when they're not cut out accidentally. But I always feel at the end that there is so much more that has to be said that there are certain things that I've left out as a result of the constriction of time. It's probably the ideal three part lecture. Perhaps you've gained enough even from this inadequate rendering of it to understand or to appreciate rather these statements made by [1:27:00] André Breton that this is the only work of art to this day to have given as equitable scope to the rational and the irrational and to have really justified an extraordinary claim that's made for it. Thank you. (applause)

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Marcel Duchamp's "The Large Glass" / Richard Hamilton. *1965/1/17*. Reel-to-Reel collection. A0004. Solomon R. Guggenheim Museum Archives, New York

