



ANTONIO DAMASIO & MARINA ABRAMOVIC

November 12, 2010

LIVE from the New York Public Library

www.nypl.org/live

Celeste Bartos Forum

PAUL HOLDENGRÄBER: Good evening, good evening, good evening, good evening.

My name is Paul Holdengräber, thank you for that applause, much appreciated. I'm the Director of LIVE from the New York Public Library and my goal as all of you know is to make the lions roar, to make a heavy institution dance. In effect, I had the pleasure of taking Antonio Damasio and Marina Abramović up to the Reading Room, and Antonio's question was how high are the ceilings in the reading room, and I had no idea. Does anybody here know? Nobody knows. I thought I had a very sophisticated group of people

here. Well, in effect I've never really posed myself that question but I have posed myself the question which is why I say this each and every time at every introduction, which I wonder how heavy this institution is. Does anybody know? I would really love to know.

And my goal quite simply however heavy it is is to make this institution dance; I don't know exactly what kind of dance, but to make it jive, to make it come alive, and to make that happen what I do is I invite the most brilliant, the most entertaining, the wisest, the deepest, the funniest, and people you wouldn't suspect would naturally come to the library, like Keith Richards a couple of weeks ago, or on Monday you may have heard we will have the pleasure of welcoming here to the Library Cornel West and Jay-Z, and we will be—Cornel West and myself will be interviewing Jay-Z. What that will do will be probably a bit like tonight, an experiment, we won't quite know where the conversation will go but I think it will be rather interesting.

Remaining this season there's also next Friday coming up, Siddhartha Mukherjee will be joined by Nicholas Wade. Siddhartha Mukherjee wrote a book which is coming out next week called *The Emperor of All Maladies: A Biography of Cancer*. You will be reading about it this weekend, it's quite tremendous. Cancer becomes a protagonist. We also have an evening on the *National Lampoon*, which ends our season. We began with Stephen Breyer, we end with the *National Lampoon*. We begin the season in January with a tribute to Gypsy Rose Lee, in case you were curious, and we have an evening with Derek Walcott, and in a week's time I'll be interviewing Zadie Smith.

I'd like to thank Joe Dolce for bringing this event to my attention—thank you very much, Joe. And I want to let you know that there will be a book signing after the event. I haven't asked Marina if she will sign books—we will see, but I imagine that Antonio Damasio will. And Antonio Damasio, in case you don't know, is the director of the University of South California's Brain and Creativity Institute. I just—I would love to be able to say that I run a creativity institute. Damasio's books include *Descartes' Error: Emotion, Reason, and the Human Brain*; *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*, named one of the ten best books of the year by the *New York Times*; and *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*. He lives, I believe, in Los Angeles.

Marina Abramović is a New York-based Serbian Montenegrin performance artist who began her career in the early 1970s. Abramović explores the relationship between performer and audience, the limits of the body, and the possibilities of the mind. And I'm particularly intrigued by how the conversation will go tonight. I think it will really be an essay—we will see how it develops.

In his new book, *Self Comes to Mind*, Antonio Damasio discusses how the brain uses emotion and feeling to create a sense of self in animals and in humans and how the elaborate version of the human self opened the way for creating the tools of culture. Tonight he is, perhaps surprisingly, joined in conversation by Marina Abramović. Marina Abramović has long tested the relationship between the audience and the ego of a performer. Her last exhibition, retrospective, in New York, staged at the Museum of

Modern Art, was *The Artist is Present*, I hope many of you went to see it, a seven hundred and—here I really like the precision—a seven hundred and thirty-six hour and thirty minute static silent piece in which she sat immobile in the museum’s atrium.

I wrote to her somewhere around March—I don’t know if she remembers this. I wrote to her and I said to her that I wanted to invite her to the New York Public Library and I got a response—I’m not sure if she wrote it—but the response was, “Marina Abramović will remain silent until May 31st and she looks forward to being in touch with you after that date.” Well, tonight is such a date, and Marina Abramović considers each public appearance as an experiment and she never rehearses. I do want to, though, provide you with some full disclosure here. We did have one phone conversation together with Damasio and with Abramović. And I think that they’ve met before. I do not know if they are friends. On the conference call, we spoke but didn’t say too much, partly because I did much of the talking, from fear that a lot might be lost in the green room, and it is said very often, improvisation is something you prepare. I think you prepare it only to a point, and the dance happens onstage.

Now it is my great pleasure to bring to the stage the person who considers herself maybe affectionately now the grandmother of performance art and thrilled to invite to this stage Antonio Damasio and Marina Abramović.

ANTONIO DAMASIO: This is completely unrehearsed.

MARINA ABRAMOVIĆ: You definitely have to start. Because you made the book, I didn't.

ANTONIO DAMASIO: Very good. Let's start by saying welcome, good evening, a pleasure to see you all here. I thought you would be driving up to the Hamptons on this beautiful day and trying to enjoy a great weekend. I'm glad you came. Can you hear me at the back? Can you hear me at the back, ah, very good. They did say that the chin was the place, but one never knows. So the other great pleasure is that I'm here with Marina. Marina is an artist that I admire and an artist that I like, and I even like her personally, so that's quite a lot.

The occasion, as you obviously know, is about the launching of a new book, a book that is called *Self comes to Mind*. The title explains a good part of what the book is all about. It's about the arrival of this process called the self into a mind, which is essential, in my view, to generate a conscious mind. So you can have a very plain mind but unless that mind has in addition a process of self, that mind will not be conscious. There is a subtitle to the book and that is "Constructing the Conscious Brain," and it is there on purpose so that people realize that I'm not going to talk about it, for example, from the perspective that Marina can talk as an artist not being involved in neuroscience. I'm going instead to talk about the conscious mind and the generation of the self from the perspective of neuroscience and neurology, and what I really want to understand is how the brain puts it together, and we'll see what she will ask me, and we'll start a conversation, but I can tell you one thing—it is not an easy process.

To have a brain to begin with, but rather a brain capable of creating a conscious mind, is really one of the most spectacular orchestrations that you can have in the entire universe. We're really talking about the most complex system in the universe that is producing something very beautiful, complex, and very dignified, which is the human mind as we know it, and it is something that I would like to dispel the myth that there will be for the mystery of consciousness any solution of the type that we have found for, for example, sometimes the cause of one disease or some aspect of one's biology which can be given in a very, very short sound bite. Nothing like that is ever going to happen with consciousness, precisely because it is so complex, so we will always be talking about something that is generated from the working together of numerous parts of the brain—not one, not two, not ten, but many, many parts of the brain, working in time pretty much like musicians in an orchestra can work trying to produce the performance of a musical piece.

Something that is really quite magic about the musical performance that we can call the conscious mind is that it is not written beforehand, so whereas a great conductor in front of a great orchestra can have everyone with their respective scores and can produce music according to what is written in the score with some freedom of interpretation on the moment, we actually don't do that, but there's something much more beautiful and much more mysterious, which is that we are writing the score as we go. Not only that, we do not have a conductor in the house, which really means that as we go, we're both generating the score and we are generating the conductor—this illusion of a conductor

that is guiding the performance but in fact only arises once the performance begins. So this is a very—it's almost paradoxical when represented this way, but this is, I think, the most accurate way in which I can summarize it rapidly. So, this being my beginning, time to hear from Marina.

MARINA ABRAMOVIĆ: So when I read this book I really got scared, because being artist and reading, you know, book, this kind of book is so difficult because there's so many terms you don't understand at all, so much about neurons and protons and, you know, the left hemisphere brain and the right hemisphere brain and so many different explanations, so I was thinking, "Okay, I read the book but now I really try to forget like I didn't read and start reading all over new." There were so many questions that I wanted to ask you know the science which I really don't have answers, because artists always work from intuition, they don't use so much rational part of the brain, ideas come like some kind of a mirage, like a three-dimensional, you know, the hologram image in the space, and then if idea is really interesting and you become obsessed by an idea, it's a good way to, you know, to get really into it and realize and to see how that works in real space, in real time.

But all these things, you know, come and somehow, we could call inspiration, we can call state of mind, we can call ecstasy, we can call so many different things, and then always interesting which part of the brain we are using, what is this all about? But before all that, I would like to start with a very simple question, because as Paul start all event talking

about weight or how high is the space, so my simple question: How much weigh the brain?

ANTONIO DAMASIO: How much does it weigh?

MARINA ABRAMOVIĆ: Yeah, how much weigh the brain? What is the weight of this brain?

ANTONIO DAMASIO: Twelve hundred grams.

MARINA ABRAMOVIĆ: How much?

ANTONIO DAMASIO: Twelve hundred grams.

MARINA ABRAMOVIĆ: Twelve hundred grams.

ANTONIO DAMASIO: A little bit more than a kilo, three pounds.

MARINA ABRAMOVIĆ: It's always the same, are there differences, say, big people, fat people, have more brains or less brains, or there's always the same brain weight no matter what?

(laughter)

ANTONIO DAMASIO: Fat people have fatter bodies, but not fatter brains.

MARINA ABRAMOVIĆ: So the brain is always the same. That's incredibly interesting.

ANTONIO DAMASIO: Within limits. So you cannot imagine that we all have exactly the same number of grams, the same way that we don't have the same weight or the same height or anything like that, so there are small variations, but there is a range that is considered normal, and, you know, if you go to *The Merchant of Venice*, Shakespeare talks through Shylock about three pounds of flesh, and of course we're talking about those three pounds of flesh that are, you know, in the brain, so, of course, this weight of the brain is only gathered after you develop and you become an adult, it tends to change with old age, there is some atrophy, and it changes a lot.

MARINA ABRAMOVIĆ: You mean become less weight or strength in a way?

ANTONIO DAMASIO: Yes, and it changes quite a lot if you have diseases such as Alzheimer's disease, in which the weight of the brain is very much reduced.

MARINA ABRAMOVIĆ: And then another question which I have is this always bothers me, but, you know, there is so many experiments made then when the person die

that twenty-one gram become lighter, and they say that exactly this twenty-one gram which measure the soul leaving the body and it's a very artistic question—

ANTONIO DAMASIO: It's a very artistic question, with due respect, it's entirely wrong, **(laughter)** not to worry about that. That's it. **(laughter)** You want me to say more?

MARINA ABRAMOVIĆ: So there is possibility soul have the weight?

ANTONIO DAMASIO: Well, I think the soul does have a weight, because if you consider the soul the most refined state of our mind, as I do, then it has a weight because it is generated by circuitry in the brain in a certain state, and that circuitry, whatever it is at that particular moment in a certain state of mind, will have weight, because it will be the weight of all the neurons that are involved in that circuitry at that moment, but it will not be twenty-one grams, it will be much more than that.

MARINA ABRAMOVIĆ: Did you ever measure?

ANTONIO DAMASIO: No, but you can make the calculation because, you know, look, we've got something on the order of trillions of synapses and many, many billions of neurons making up those twelve hundred grams that we talked about, and the circuitry that is engaged in something—for example, right now, if I'm looking at you and you at me, we are engaging a huge amount of, for example, visual cortex that is necessary for us

to create neural maps of each other. Not only that, we're creating neural maps of auditory—

MARINA ABRAMOVIĆ: Can you just explain to me and to public what is neural maps, exactly?

ANTONIO DAMASIO: A neural map is a map, the cartographic aspect of whatever it is that you're representing, but in the form of a network of neurons, so you have a network. The network can be, for example, two-dimensional. Imagine it like a simple piece of paper in which you would do vertical lines and horizontal lines, and now you will want to generate some kind of representation of the vase with the flowers, and you will do some thoughts that will make that representation as an artist, well, that's exactly what the brain will do by having our retinas pick up on the representation of the flowers, both the shapes and the color, the green and the color of the roses, and all of that is going to be placed in different maps. For example, one map will handle the color, another map will handle the shape, a combination of maps will handle the depth so that we have a sense of where it is, and so all of those representations, that multiplicity of maps, is going to generate that picture.

Now what happens is that our brains are not picking up on one channel of sensory information alone, so it's not just vision. So right now you're making a map of me first in your retinas, and that map is being signaled to the visual cortex. In the visual cortex it is manipulated. It goes into yet other regions of the visual system where it is rerepresented.

And then the signals from that are being combined with another kind of mapping that is being made with the sound of my voice. So I am producing sound. There is vibration. That sound is being mapped at two levels. One, something has to do with the timbre of my voice and the volume of the voice. Another that has to do with the fact that I am producing speech sounds, I'm not singing, I'm not just creating tones. I'm actually clipping all this and producing speech sounds, which are really phonemes in the English language, and all of this is going to be mapped in the auditory cortex.

And then you're going to be able to make a joining of the signals from these two maps in yet another part of the brain. So this is a very, very simple process, the process of looking at another person and hearing the other person, and just by itself it would take a huge amount of real-estate space in terms of the brain. So we're talking about millions of neurons that will be involved in creating that constantly. Not only that, in creating that and erasing that when it's convenient. Because, for example, now that I'm looking at the audience, the map that I was creating of you has vanished. I'm no longer looking at you, so I have a completely different map that is being created. And so you can actually imagine in terms of an analogy you can imagine somebody who is actually drafting all these pictures—pictures of sound, pictures of vision. If I touch this chair, I will make a map of the shape of the arm of the chair but also of the texture of the wood.

MARINA ABRAMOVIĆ: But you can say that also this deals with consciousness. You're conscious about this chair, you're conscious about me being there, and then again, you know, what is consciousness?

ANTONIO DAMASIO: That's still another layer. So you could perfectly well create all these maps and what it would do is generate a flowing of images because each neural map, once it is apprehended in consciousness, becomes an image. By the way, the term image does not correspond exclusively to visual information. It corresponds to, for example, auditory information, you can talk about auditory images, or tactile images, or olfactory images and so on, so in a mind, in a plain mind process, you just have a flowing of images in time. You know, think of, for example, of the so-called stream of thought, sometimes called stream of consciousness of William James, it was thinking about this flowing of images—

MARINA ABRAMOVIC: Or David Lynch.

ANTONIO DAMASIO: Or David Lynch. The other came first, you know all these flowing—

MARINA ABRAMOVIC: Still David Lynch.

ANTONIO DAMASIO: All this flowing of images. Now, all that by itself does not guarantee consciousness, because since you asked what it is, to be conscious is to go one step up, is to have the possibility of pulling together all that information in some kind of aggregate but in addition being able to feel that you're having that information, because consciousness is not merely about having maps and images, it's about having *felt* maps

and images. It's not just that you're seeing something—you *feel* that you see something, and that feeling is an obligate accompaniment of perception that is in consciousness, and, by that way, that feeling is absolutely critical to build up consciousness.

And then in the end you're going to add a few more tricks, and let me just outline two or three for you. One is perspective. For example, I am conscious of you being here, I am conscious of the audience there, but that consciousness has to do with the fact that I am perceiving the audience and you in a certain perspective, which happens to be the perspective of my eyes in my head. Imagine that you had a camera, and the camera is now panned toward you, and I am perceiving in my perspective. You are perceiving me in a completely different perspective. And that's one of the reasons why you know that you have a mind that is conscious and I know that I have a mind. Your mind is yours, my mind is mine.

Not only that, you also have an inevitable sense of ownership, that is part of consciousness. You know that it is your own mind, not the mind of the person that is sitting in the first row, and it is when you put together all that information that you really become aware, in the true sense, of the surrounding world and of your own organism. So the most lapidary and simple definition of consciousness would be the ability to be aware of one's own organism and of the surround of that organism in a felt way and in a way that allows you to reflect and know that you're really there, you're present, and you know that you have a mind that is achieving all this very complicated—

MARINA ABRAMOVIĆ: Okay, but stop talking. This is like personal consciousness, in a certain way, but is this something that we can actually relate to like universal consciousness or planetary consciousness or mineral consciousness, or, you know, forest consciousness or, you know, to go even into different directions, animal consciousness, what about this kind of consciousness?

ANTONIO DAMASIO: Let's leave aside the animal consciousness, because the animal consciousness, as far as I can see, is very much like our consciousness in general. In other words, I believe quite strongly that animals have minds, at least animals that have complex brains that are comparable to us in the type of organization, they don't need to weigh twelve hundred grams, and they don't need to be our size, but they do have minds, and in all likelihood they have a conscious state. Now, you might say, "How on earth do you know that? Have they told you?" And the answer is, "No they haven't told me," but you can triangulate the situation, and you can say that the animal behaves in the same situation in which you are in the same way that you would and if that animal has a brain with the components that are necessary to create consciousness in ourselves, then we have to presume that that animal has consciousness.

Now, that consciousness is not going to be like yours or mine, because we can talk about that later, it lacks certain aspects that are very importantly, mostly the aspects of autobiography. In other words, we have built in our lifetimes a very complex autobiography which gives us a sort of narrative arc of our lives, which can be more or less detailed depending on the situation and on what we want to do with it, and we also

have in that arc not only a biography that corresponds to the lived past but to the anticipated future. This is something that in all likelihood—not—animals may have a little bit of it but it's very unlikely that they have made plans, for example, for Christmas, (laughter) or are, you know, are worried about what treats you will bring home in three months. And we are worried about those things because we have been able to plan, we have been able to put those plans into memory, and therefore we even have this thing which is seemingly paradoxical, which is a memory of the future.

MARINA ABRAMOVIC: This also we can relate to collective memory, because there is a collective memory of Christmas.

ANTONIO DAMASIO: Okay, let's go there now, so I want you to get resolved on the issue of animals, because I think that our consciousness is a biological process, a very complex one, but the consciousness of animals and the minds of animals is also a biological process, and it's part of the same family, it's just a question of where in the history this is located. We are, at the current point, sort of the best representatives with the most evolved kind of biology that permits minds and consciousness and many other animals are, of course, at points that are intermediate, but you can go all the way down and continue to find signals that there's something that could be "minded," and even "selfed," to put it in the right terms.

Now, let me deal with the other part of your question which has to do with the other forms of consciousness that you referred. For example, suppose I say that the Western

culture is finally got into its consciousness that we have a climate problem and that there is global warming, that is something that is very commonly used, and what you simply mean is that people are now in large numbers aware of the fact that there is climate change, and I think that's the sense in which you mean it, and there's also something that you could talk about, which is a collective consciousness that, say, Americans may have of a certain political situation that we are in right now. Or people in the European Community, or what have you.

And there what you're dealing with is really just a—you know, it's a bad use of the term from the point of view of science, because we have to have some terminological hygiene, and it would be good to reserve certain terms for certain meanings, and if we use consciousness to mean mind or to mean just awareness in general, we are just making it more difficult to have a dialogue, although it is perfectly legitimate to do so. So.

(laughter)

MARINA ABRAMOVIĆ: I understand. So my question is where does art—what does—how you see art in all this?

ANTONIO DAMASIO: That's a wonderful question. And she asks such simple questions. Where is art in the middle of all this? So that's a very tall question, but I think one can deal with it. So let's put it in the following perspective. Something that the animals that I was talking about with all of their wonderful minds and consciousness

don't seem to have is the ability to reflect on their lives and to create art. This is something, of course you—

MARINA ABRAMOVIĆ: Not true, I have example, but continue, I'll let you know.

ANTONIO DAMASIO: I'm dying to know about animal art.

MARINA ABRAMOVIĆ: Yeah, it's really interesting that sometimes animals can make things that is absolutely irrational, not to be explained. There is this incredible example of the little bird, the very spiny little bird I don't know exactly name in Australia, who make this called object d'art, art objects—there are birds in bird world who make the most beautiful nests that take lots and lots of time, to take special leaves and special flowers and the color of the flowers they will rub on the branches so that it creates certain patterns and colors and then when they finish these very elaborate nests, it's not enough for them, they will start—they will lay the eggs and then they are coming the offsprings, but then they create small objects, with very delicate small objects who are decorated with feathers and shells from the sea and so on and they leave them in grass, they leave them in different places on the rocks or, you know, near the water ponds, and there is not any function, nobody found there is any function for them except they are very beautiful objects, and this is really interesting that somehow that this need of the animal to create something beautiful and not useful, because everything in nature is useful, I mean, there is always certain purpose, and this really is almost, you know, close to the art concept.

ANTONIO DAMASIO: Very good, I'll come to that, which I think is very interesting.

But let's deal with your first question, which is how come we have developed art as humans, and I will still say that even with the exceptions which you may find, which we have to discuss, I would say that in general you would agree that animals do not create art. In general. (**laughter**) And I will take the exceptions and I think that the exceptions will be very interesting to discuss.

So let's assume for a minute with your license that animals don't create art but we do, for sure, and in spades, and we started a very long time ago, I mean, you go seventeen thousand years ago in Lascaux, and you find incredible painting, signs of sculpture, there obviously was you can have hints through other evidence that there was music being played at least at the level of drumming and the use of flutes. So clearly there were arts in the making at that time. We don't have other records because, of course, there was no written record—that you have to wait twelve thousand years to get written records—but there's this evidence that is very, very powerful.

So why would that emerge, what would be the purpose of it? And some people will say, sometimes in a very self-serving way, that art is useless now and it was useless then, it was just a *fait divers* and it didn't have any role. I don't think so. I think art was very useful then and it continues to be very useful now in many ways and the reason why I think it was generated has to do with the fact that humans that were by that time, even if we don't know how much language they had developed at that point, if they had a

sense of the life of others and of their lives individually in relation to others, they would have experienced things such as attachment, attachment to an other. Attachment, for example, to a partner, attachment to progeny, attachment even to objects like, you know, a place of shelter.

They would also have experienced in case the attachment would be broken, as, for example, in the case of death of an other, they would have experienced a grief of loss, and it's quite likely, because the machinery of emotions that we have now is in all likelihood very similar to the machinery of emotions that those individuals would have, if you go back even ten thousand years ago. In addition, they would have experienced, because of those emotions, all sorts of interesting states, as, for example, wanting to seduce somebody else, wanting to attract somebody else, and they would have experienced the desire—because they were in a group—to organize the group for whatever purpose—hunting, war, some kind of worship session.

Once you have those needs, you have the possibility of exploiting those needs in an emotional form and in a way that allows, for example—let's take the case of grief caused by loss of another and breaking of attachment. You would have the possibility of using, for example, music as consolation, music to soothe someone else, that would be in loss, or to soothe oneself. You would have the possibility of using, for example, something like drumming and patterns of drumming to call people to order, to organize people around that drumming performance, and you would have the possibility of using pictorial art to call attention to certain needs. It's probably not by coincidence that a lot of that

pictorial art deals with things that are very, very close to the individual, such as hunting, food, war, sex. These were topics that were very important then, and they are very important still.

And so the perspective in which I place the beginnings of art, it's not where art ended, but where art starts, is the perspective of homeostasis. Now, homeostasis is a big ugly word, but it simply means life regulation. The reason for minds and consciousness and many other things in our lives is the need of homeostasis, the need to regulate our life in such a way that we can survive, and, if possible, survive with well-being, and once you discover—because many of these things were discovered by chance, the same way that you as an artist are constantly discovering things that will happen, things that you might not even have wanted to happen, but they happen and use them as a happy accident. Once they were discovered, they were selected by a group of people, they became important to that group of people, and, because the results of the use of that artistic endeavor were that those people probably survived better and in better conditions, you have the possibility of inserting that arrangement of brain into future generations and having genes create brains that are like that.

So I think that the beginnings of art could well be around the problem of homeostasis in a very, very general sense and, of course, that was then highly capitalized as life continued and, of course, once you have written records, which begin about five thousand years ago and you have a possibility of having a give-and-take, not only on the moment but a give-

and-take that can go across generations because of the written record, then, of course, all of this can expand and arrive at where we are today.

Now, I need to deal with your animals that make art. I have not forgotten about that.

Now, we know for certain that there are some examples of—this is especially so in birds, birds that use in courtship use the gathering of, for example, little stones and placing those stones in certain patterns, and it's not just any stone, it will be stones in particular that can shine and that have a different spark to it, and there are patterns that will be made and arrangements that can be made that will make the gatherer of that artistic product all the more attractive to the bird being courted.

So in that case you have examples of something that might be called artistic, and because there is some variation from occasion to occasion, you might push it to the limit and say that's art. Although you still have to deal with the fact that this is not something that you decided to do the same way you decided, for example, in *The Artist Is Present* to do in a certain way at the museum, this is something that is being commanded by the genome of that bird that is setting all these movements, all these actions, in motion. It is not being decided with the freedom or the liberation that you had when you decided that you were going to sit at the lobby of the Museum of Modern Art and you were going to be in red velvet as opposed to blue or whatever else, so the issue of deliberation is a very important one. I had never heard of the other example that you mentioned that seemed not to have a reason, this one does have a reason, and that is courtship, and it produces good effects.

MARINA ABRAMOVIĆ: Okay, now, let's talk about things that you can't explain.

(laughter/applause) I have so many examples.

ANTONIO DAMASIO: Try me.

MARINA ABRAMOVIĆ: So there are a few things like the comment about art, you know, there is lots of artists who just reflect kind of chronologically what is happening in society, reflect society as it is but the really great art is made out of great suffering. That is a fact, that's what I just want to say as a fact. I don't want to argue about it. This is how it is.

(laughter)

ANTONIO DAMASIO: So you agree with me that—

MARINA ABRAMOVIĆ: Great suffering, great art.

ANTONIO DAMASIO: So seizing on the idea that there's loss and, of course, loss causes suffering.

MARINA ABRAMOVIĆ: But let's say drummings of hunting, drummings of hunting, not great suffering. But the really great suffering—

ANTONIO DAMASIO: Okay, yeah, I agree.

MARINA ABRAMOVIĆ: So there is so many things, that, which, you know, that I am really interested in which doesn't have really a rational explanation, and I'll just give you examples and then you see what you do with them. And I'm going to talk for a while, so you drink your water and relax. **(laughter)**

Okay, let's say, let's start from my own background, Russia. There is this mysterious big meteorite, or there was talk there was antimatter or was meteorite, nobody ever really explained scientifically, who fall down and make huge crater in Siberia, and there was lots of—there was few villages around that area with this antimatter or this meteorite explode, and the people, the peasants, just simple peasants, especially women, who didn't even go to school to know to write or to read, they started having very strange phenomenas, and one of the phenomena was telekinesis, that actually can make—they can move the objects just by looking it. So if you have this glass of water, this person without touching glass of water could move from this table to maybe another table.

In Russia they made a parapsychology institute, and one of my uncles was actually a scientist there and stayed for a long time in this institute. And he just told me, I was really young, I was like eighteen, and it was so interesting to listen to this all incredible stories, he was telling me about this experiment, they took this old woman from Siberia into the institute to experiment. And she sit on the table, sit on the chair, and there was two tables, and they had all 360-degree cameras around, and the camera was with really high speed,

to actually, if you can't perceive with your eyes, you can see what's happening in the camera, so what's happening is what you, being in the space, can see is the glass of half—you know, glass of water on the table, and she is just sitting without any motion and then in no time you see the same glass of water on the other table, and without seeing actually this—there was not any kind of transport of the glass to the other table, it was just materializing from there to the other place.

So they developed the film, and they looked in very slow motion, extremely slow motion, what really happened, and on their complete surprise, what they see was the same thing, they see the glass of water here and they see there, so the idea was, you know, one of the scientific idea was, that actually did she have ability to dematerialize this glass of water and materialize it again on the other side of the table.

Okay, one example. Second example. In Africa you have Dogon tribes who worship Trans-Pluto, which is you know a small satellite around Pluto, which had been developed only maybe forty years ago when telescopes and technology developed so strong that they can actually see there is a Trans-Pluto. These people for hundreds of years worshiped, in their ceremonies worshiped this Trans-Pluto, because they knew it all the way it existed, which is not possible to perceive with naked eye.

Then another example. I was participating in this symposium on the—between where it was? In Frankfurt. It was the symposium between His Holiness Dalai Lama, the chief of Hopi Indians, and the representatives of NASA program, space program, and it was a

very interesting symposium, because it was really to deal with something that in the Hopi predictions and in the, you know, the Tibetan predictions there is this story that taking uranium out of the ground would change the molecules of the stratosphere of the planet, and it will create more radiation directly from the sun to the earth, they had in both of these, you know, cultures predictions for thousands of years already existing, and NASA actually very recently found that this is true, that actually taking uranium, you change the stratosphere of the planet.

So what is interesting for me it's the entire idea that there is a, you know—I'm not talking about religions, I don't like religions so much, because they are connected to institutions, and I don't like institutions, but I like the kind of spirituality, I like the kind of knowledge who you can't scientifically prove because we don't have tools to prove it, but doesn't mean it doesn't exist. And then when the scientists prove it finally, then everybody will say, we knew it all the way, but actually it's not like that.

And there is so many other examples that, you know, especially as an artist I am kind of confronting every day. And I wanted to know, do you really believe there is something like universal consciousness—there is some kind of knowledge existing, universal knowledge, that only in a certain state of mind or a certain state of development, a very high state of consciousness, that you actually tap into this universal knowledge and that's how the great events, and how the, you know, Einstein finds relativity theory, or whatever, Nikola Tesla find remote-control connection, they really could, you know, put it in a function. That actually we can't invent—Our brain can't even invent anything which

already don't exist, and everything exists, we are only kind of reinventing the things that are around. Because how the brain can invent something that doesn't exist? I have more examples, but let's say just these ones.

ANTONIO DAMASIO: So let's deal with something that you just touched on towards the end, which is can we tap into some kind of very profound knowledge that normally in the day to day we do not, and I think that's a very important question, and the answer is yes.

MARINA ABRAMOVIĆ: That's good news.

ANTONIO DAMASIO: Good.

MARINA ABRAMOVIĆ: How?

ANTONIO DAMASIO: Now the question is what kind of knowledge are we talking about and how do we get to it. For example, I think you are a mediator, are you not? Yeah. Do you do Tibetan meditation, Tibetan Buddhist meditation? Well, I'm pretty certain that when you do that, you are actually touching on some knowledge that you would not be able to have right now. I mean, once you acquire it you will have a memory of what you found. But right now you would not have access to that, maybe. You wouldn't. You agree. I certainly wouldn't.

MARINA ABRAMOVIĆ: Because we are talking too much. To get that state of mind, you have to have stillness, you have to have no-thinking state, and you have to be in the present all the way, 100 percent.

ANTONIO DAMASIO: Excellent. So I entirely agree with that. So what we are dealing with is the following—we, because we have these very large complex brains with this incredible capacity for learning with huge banks of memory that have to do with our, you know, entire lifetime and with the entire lifetime of many other people because, you know, our biographies incorporate not just our life but of necessity the lives of others that have interacted with us. We are an accumulation of our individual lives and of the lives of the social interactions that we have had, and, of course, we also have quite a lot of knowledge about the world at large, even world that we have never seen directly and we have only touched through books or images in movies or television.

Okay, all of this is in effect a sort of screen around the reality of our biology, so we have constructed with our cultures a very complex, very robust screen that is constantly blocking the view to things that are very, very simple within us, and mostly to the fact that we are present, that we are living, and that we have this problem of life to deal with. One other thing that has made all of this even more complicated is the development of language. Of course, language is beautiful and marvelous, because it has given us literature at the highest point, and it gives us the possibility of being here talking. If we did not have language it would be pretty difficult to gesture all of the ideas that we have been talking about, and it would be impossible for you to understand what we were

talking about, and we can do it through language, but language is yet another screen.

Language is constantly interposed between us and the reality.

Now what I would like to suggest is that that great reality and that world of possibility is in fact within ourselves rather than outside of ourselves, and I suggest that when you meditate and when you go deep into a very different state, you are actually achieving a state that from my point of view as neurobiologist I describe in the new book as a state of primordial feeling. So it's a state in which there is a representation of life, the life in the organism, there is an immediate signal that that life is present, there is existence there being signified without any word, it's just there. You sense its presence, and you are being able to do that without having to refer to objects that are in the outside world, you don't need to refer to buildings and other architecture and different structures. You are doing that entirely on the basis of what you find once you go into that deep travel.

Now you know that many people will—I'm sure you have experienced that—once you get to be able to do that you will have a very special kind of happiness that comes with it, and you could call it enlightenment if you want, but I think the enlightenment is the possibility of sensing something that is very beautiful, which is the presence of life itself, but it is within you, it's been built from our biology, from the cells and tissues and systems that make up our body and that then get to be represented in our brain. And I take a lot of time in my new book to discuss the fact that there is even a point in the brain—not a point, a structure—in the brain where you have this sort of near fusion of the

body and the brain and it happens to be something that has existed in evolution for a very long time, and it's largely structures of the brain stem.

So I'm taking the position that once you go deep inside, you'll find extremely important realities and, by the way, there is all room for those realities to literally enlighten you in addition to having therapeutic effects. Because I presume you would agree that once you do that, actually you are less stressed.

MARINA ABRAMOVIC: Yeah, but what about example, you are running in Central Park, and you are jogging and jogging, and you are completely on the end of your energy and you're not having one gram of energy, we're talking about you have to stop because you're going to have heart attack, that's how exhausted you are, and you just want to go home and take a shower and, you know, rest, and in this very moment come a man with a gun and say, "if you don't run I'm going to kill you." What you do, you're running like crazy. From which energy you're running?

ANTONIO DAMASIO: Well, you will find the energy to run a bit more.

(laughter)

MARINA ABRAMOVIC: No, you will get exhausted, you don't have any more energy. I really believe there is universal energy that you tap in, that when you exhaust your own

personal energy, there is completely something else that is not any more related to your body.

ANTONIO DAMASIO: That's your hypothesis, but I don't think we need to—

MARINA ABRAMOVIĆ: We disagree totally. So refreshing.

ANTONIO DAMASIO: Yeah, it's so refreshing, because we agree on many other things. No, look, for example, we even have some very interesting examples that come out of neurology. You know that there is a disease called Parkinson's disease, and patients with Parkinson's disease have severe limitations of their movement, and they have very great difficulty initiating movement and in the days prior to all the new treatments, for example, levodopa and treatments that are now even surgical, patients would be totally confined, you know, arched in their position, confined to a chair and really unable to go very far without a lot of help.

And there are many cases described in the scientific literature of these patients, in situations of extreme emergency, appearing earlier than anybody else at a point of safety. For example, a patient that lives in a fourth floor without elevator and there is a fire, and by the time everybody goes and looks for that patient to try to save that patient, it turns out that patient is already on the ground floor. How can that happen? This very paradoxical energy that allowed the person not only to move but to move very fast, and

there is one very famous case of a patient that was inside a house that was in a flood area, and the patient moved up and up and up to stay away from the flood and saved himself.

So that energy actually can be explained, though you don't need to accept that explanation, but can be explained by the sudden release of certain neuromodulators into the brain and into the bloodstream that allows that extra energy. And that release is a very typical phenomenon that is actually achieved by fear. It's the emotion of extreme fear that controls certain responses in the brain and that allows for certain actions, for certain movements, and for the release of these molecules that really function like hormones that are being distributed.

MARINA ABRAMOVIC: Okay, I understand this, but listen to this. So what about tsunami? Now, we had this huge tsunami that was such a disaster some years ago and there is a fact that all of the animals and all the gypsies in Thailand who stay on the beach a week before tsunami left and nobody been killed from that. So what about intuition, what about prediction of future, what about this kind of stuff, where the consciousness goes there?

ANTONIO DAMASIO: Well, that is a very interesting issue that has to do with intuition but intuition that is based on certain aspects of perception that are extremely rich in other species. For example—

MARINA ABRAMOVIĆ: Let's put animals away, let's just talk about humans this time.

ANTONIO DAMASIO: No, no, no, but the animals are very important there.

MARINA ABRAMOVIĆ: Animals is easy to explain, I want humans. Explain the humans.

ANTONIO DAMASIO: But wait a minute. Why do you think animals are easy to explain?

MARINA ABRAMOVIĆ: Because I mean, instinct for survival, whatever.

ANTONIO DAMASIO: We have instinct for survival, too.

MARINA ABRAMOVIĆ: They can feel the coming earthquake, all the snakes are following the line of the earth, reptiles are the same, so that's kind of the ecological explanation, but how do humans see this, how we know, how certain people can predict the future, how do certain people know this event is going to happen? And then we come to the point of time in general.

ANTONIO DAMASIO: The way to handle that is as follows. Why not subject all that to a scientific experiment? In other words, it's perfectly fine to have the hypothesis that

people, that some people have extra-perceptual powers. I would simply like to do the experiment that would show that that's the case or to show, for example, that they can bend spoons and forks in some telekinetic experiment, and in some situations in which very highly controlled scientific experiments have been made, many of those claims have been found not to hold, although there are some that are so difficult to control that the results have been equivocal.

So I will grant you easily the following, that we are very ignorant, that we don't know enough, and it's quite possible that there are untapped powers of the human brain and of many other brains that are not easily explained and accounted for by biology as we know it. That's—for me that's a given, and we will agree perfectly well on that. The last thing I want to is to have anybody, for example, who reads my books to think that I'm making definitive explanations about consciousness. I take pains to say that I'm not. I am talking about new facts, I'm talking about frameworks to explain the facts and about hypotheses that need to be tested. And they can be wrong, that's the history of science. You know, sometimes it's wrong, sometimes it's not.

MARINA ABRAMOVIĆ: And many times it's not conclusive.

ANTONIO DAMASIO: Exactly, and many times it's not conclusive. There are plenty, I mean, look, people have dealing with quantum physics for a century now, and if, you know, as Richard Feynman used to say if anybody tells you that they understand the weirdness of quantum physics, they don't know what they're talking about. (**laughter**)

But of course our worlds, the world of biological organisms such as you and me, exists in a super-quantic world. We have of course we obey quantum laws, but objects of our size, of human size, are objects that can be explained in their movements by Newtonian laws. They don't need at all to be explained by quantum laws.

MARINA ABRAMOVIĆ: Now, you have to tell me in your own personal life something that you could not rationally explain.

(laughter)

ANTONIO DAMASIO: Oh my God, there's so many.

MARINA ABRAMOVIĆ: Oh, if you could just tell me one, I need at least three. Three's a good number.

(laughter)

ANTONIO DAMASIO: There are plenty of—

MARINA ABRAMOVIĆ: Such a good thing to ask scientists something they can't explain—I really enjoy this movement, so tell me.

ANTONIO DAMASIO: For example there's certain coincidences that happen to you.

Certain things that you say, "My God, this is absolutely astonishing that this could happen," but it is one thing to not be able to explain it, it is another to fall into an explanation, that, for example, invokes the supernatural, I don't feel obliged to do that, but there are plenty of things in my life that I can't explain, yes.

MARINA ABRAMOVIĆ: But give us example, share with us. One.

ANTONIO DAMASIO: The person that I am thinking about, and I have not thought about that person for a long time, and the phone rings and it's that person.

MARINA ABRAMOVIĆ: That's all?

(laughter)

ANTONIO DAMASIO: That's all.

MARINA ABRAMOVIĆ: But this happen all the time to everybody. Come on, something more spooky, more strange, more, you know—

(laughter)

ANTONIO DAMASIO: I don't know about spooky. I just can't think of it. I will think, maybe after you say some more I may come up with something. You really want spooky, huh?

MARINA ABRAMOVIĆ: No, something that you really, I mean, this thing that we think about somebody, is like almost telepathy, or you think about some person and this person just phone you or this kind of stuff. I mean it happen to—I mean I'm sure everybody, we have these abilities, but we use too much computers, so we forgot it, but the more you know more strange stuff, more that you really can't—

ANTONIO DAMASIO: That's about the strangest that I deal with.

MARINA ABRAMOVIĆ: Really?

(laughter)

ANTONIO DAMASIO: Yeah, there are plenty of weird things, but they are not strange in that unexplainable way. There are things that go wrong, there are things that are not the way you wanted or intended, but that's different. It's not—I can find explanations for them.

MARINA ABRAMOVIĆ: Okay. I can share with you some mine.

ANTONIO DAMASIO: Go ahead, maybe it will make me think of something.

MARINA ABRAMOVIĆ: No, it's, you know, what is very interesting about strange stuff that happened, there is always some kind of normality about it, it doesn't look really special, except when you start thinking, and then you just, you know, then you really get completely, you know, weird and strange feeling, but when it's happening that moment it looks like everything is normal but then everything is not normal, so there is very—

I don't know I was like fifteen years old, I had a room, it was in Belgrade, and I had a little room, and I had this door and the door it was like really old, it was old house and old door, and every time I would open this door there would always go this *eeeeh*, you know, it needs oil in the hinges, but nobody ever put the oil and it was getting worse and worse, and make horrible sound and always would bump on the wall, and every time, you know, my mother and father would say, "We'll fix the door," and they never did and then there was this strange thing that I dreamt this door opened a little bit and without sound, which is physically impossible, and then I wake up from this strange dream, and I put the light next to my bed, and I looked at door, and just at that moment the door started opening, just a little bit and then halfway, exactly as in the dream. It was like four in the morning, I looked at the watch, everybody was sleeping, and I could not believe, and I was looking and looking for a while, and it was staying in that position the door, and then I stand up and I touched the door and it immediately went to its old way with its creaking sound and everything as always. I spent hours to try to fix the door in this position and it never worked, I never could explain.

And then another strange thing happened in Australia, you know, I spent one year living in Australian desert with aborigines, it was very important for me. It was very strange. You know, first, the people are nomads, you know, they are nomadic, and the ceremony is a way of life and they believe in the present time, everything is about here and now, and they don't have possessions. It was very similar to being a performance artist, so I really wanted to learn from them many different things, and they have extrasensory perception, they have telepathy and so on.

Most of the time it was so hot, that I could not even move, I was just sitting under the tree all day long, in the evening we could eat something. It was incredible heat. I don't know in Fahrenheit, it was over a hundred, everything was burning, the earth was burning, you know, we could just drinking hot water, that was all possible, and really middle of nowhere, and in this kind of situation, the aborigines are the only people who never use any drugs, they don't have any hallucinative drugs, they don't have any peyote or whatever like you know Mexicans or anything, they don't use anything at all.

So that you don't think that you use the drugs of aborigines and then you get in this kind of state, it was totally a plain state of mind, and it was not a dreaming state of mind, and in the middle of that I was just sitting under the tree waiting to cool down I get this like a three-dimensional image in front of me, and the image was of the place in Amsterdam where I used to live, and I lived together with some friends, and we shared the middle space and we had each of us a room and then I saw in like three dimension the room of

these friends of mine who had this room, and her bed was always in a dark corner of the room, and in this image which I saw like hologram almost, the bed was next to the window and this was all—nothing special. And I was writing diaries every time I see this image, so I wrote this diary and one year later I come back to Amsterdam and I go to her room and I instantly remembered that image, and I look where is the bed and the bed was in the same dark corner like always.

And I said to her, “It’s so strange, in January, I had this image that came out of nowhere in the front of my mind that this actually bed was next to the window,” and she said, “let us see the date,” and I showed the date and she said at that time she was visiting her mother and she rent the place to some Swedish friends, and the first thing they’d done is they’d put this bed next to the window, and when she came back she put it back in the same corner, and this kind of stuff, that you kind of perceive something happen so far away, so distant, which doesn’t have very much significance, but it was complete reality.

ANTONIO DAMASIO: So let me tell you my reaction to your stories.

MARINA ABRAMOVIĆ: And I didn’t tell you strange ones, just simple ones.

(laughter)

ANTONIO DAMASIO: They’re strange enough. What I would say is this. I think that it’s perfectly human and a very good thing that we have at this point in our cultural

evolution. To have two kinds of attitudes that are perfectly compatible with each other except you cannot have them at the same time. One is the yearning to find scientific explanations to everything, and it's perfectly obvious that we can't explain scientifically everything in our universe, far from it. But there's also no doubt that we have been making huge progress, and when you think of where we have gone from the time of Galileo and Newton to our time in not just physics but biology, it's obvious that amazing progress has been made.

At the same time, there's a perfectly legitimate and I think that we all engage in it in some way, a perfectly legitimate yearning for mystery and for the preservation of mystery and for respect for things that we cannot easily understand, and I think that sometimes, for example, I would imagine that in some circumstances because we have that legitimate yearning for the mysterious and this sort of modesty about explaining everything and explaining everything away, we want to keep something that we regard as more dignified, more pure, more intangible. I think because of that we can be also persuaded to attribute explanations that may not be right.

MARINA ABRAMOVIĆ: Exactly, because we don't even know how life comes to this planet, to start with.

ANTONIO DAMASIO: So what we have is two things that are perfectly compatible, one attitude which tends toward the mysterious and where the explanations are very ancient and conform to old wisdom and another which is the attempt to explain

everything in scientific terms, in very rational terms, which very often gets us into very hot water, because it's just not right, but I think that human beings are made of these two tendencies, and many of us have both tendencies inside the same organism, and some of us have more of one than of the other. It ends up being attitudes toward the world and approaches to the world.

MARINA ABRAMOVIĆ: This is why you are here in front of two tribes, science and art tribe. I think we should open—you know, we was thinking how to engage audience, and I really think that three questions would be the right measure, because it's late and we should eat. Three questions, what do you think?

ANTONIO DAMASIO: So the only thing that stands between you and a stiff drink and dinner, maybe, supper.

MARINA ABRAMOVIĆ: So let's see. I don't see anything. Can we put some light to the audience please?

ANTONIO DAMASIO: There's a question right here.

Q: I'm curious as to what was going on your brain when you were performing *The Artist is Present*, I'm also curious about what the professor has to say as well.

MARINA ABRAMOVIĆ: I didn't have a scientist to put any kind of, you know, the electric mechanism to measure my waves but what happened in *Artist Is Present* is it was very long performance we are talking about, you know, three months, and this is like life itself, and every day was seven hours and on Fridays it was ten hours, which is a long, long period time to be motionless. So my idea is to concentrate in really sitting position, trying not to even to blink, trying to have hardly any movement, to the person who is opposite of me, and really to be in the present situation, here and now, that I'm not in the past, I'm not in the future, I'm just in the moment and have to really concentrate on very slow breathing and to kind of make my mind almost still.

So the most difficult part is to really not think, thinking is the most important—not to think is the most important, you know, actually condition to be here and now, just to kind of let it be, and thinking is, you know, automatic. We think all the time. There is only two scientific proofs, that we don't think if we sneeze and when we have orgasm. There are only two times that we don't think, automatically you can think in these two moments, but in every other moment, the thinking process goes on and on.

So by sitting for so long I kind of slowed down, and I really come into this state of not thinking. And also what was very important for me was that actually I really literally had out-of-body experience. Body was very painful, because after a while, muscles gets very strained and, you know, your legs get swelled. It was the moments that at the end of the day I couldn't even lift my hand to take my clothes off, take my dress off, it was so painful but during the process when I was there with the audience, there was no pain,

there was not any of this kind of discomfort—it was just that kind of pure presence, and it was one of the most kind of opening consciousness experiences that I had ever had in my life. So I understood that the long-duration work in performance is very important. It is important because with long durational work the performer, in this case me, can really change his state of consciousness and elevate himself into a different state as well as the public if you take enough time to experience this.

ANTONIO DAMASIO: So what I think that Marina was going through, if you see it in my perspective was placing herself in a slightly modified state of consciousness, which she was managing mostly at the level of what I call the “nuclear self,” the core self, and trying to divest herself of the autobiographical aspects, and that, of course, requires a change in the level of consciousness that you had at that moment. You had a question.

Q: Thanks. I’m sorry I’ll try and probably fail to ask this clearly. Thanks for bringing up the whole process of mapping, which I just read a book about and which is so fascinating and fundamental and feels like something that everybody should know, really understand a lot more about. One thing that I was wondering about. I was trying to understand a little about quantum physics recently. I was reading about time and trying to understand what time is, which is always a mistake, and I was reading, you know, various theories about it, and one of them was talking about, you know, the idea of there being a past, present, and future is very misleading. And I was thinking well, you know, in sort of terms of mapping, in the—under the modality of mapping our memory sort of serves as a function of, you know, depth perception over time, i.e., you know, our eyes tell us this is further

apart than that is, then our memory does the same function in time, and that therefore, you know, it's only our memory that serves to tell us that time is something fluid and moving and otherwise we would not think it was and that the past—we look at the past as concrete and the future as changeable, which is sort of absurd, really, when you think about it, I mean, as though by us seeing it it turns from steam to ice.

Anyway, I am getting to the question, which is that under this it almost seems like, you know, we have a memory to see the past—we have a sense, we have eyes that see the past but we don't have eyes that see the future, which and theoretically they should both be there, and it seems like, well, why don't we have that faculty—do you think that faculty could exist, and is that what Marina's having glimpses of?

ANTONIO DAMASIO: Okay, so first of all, I think the idea that time is very much related to our memory I think is absolutely correct but I think that we live in a constant present that advances very fast, so, for example, now that I've finished this sentence, we are already in a time future relative to when you asked the question. So we have this relentless advancement in time that is occurring and is really the result of all the events that are happening in one's biologies and that are just sheer duration. Now, the appreciation that we have of the time is very much related to a certain level of function, so if you are conscious the way most people are in this room, probably all, the level must be very similar unless somebody's dozing off after all of these considerations, so if you have that you will have an appreciation of time that is very similar.

But if you would take a certain number of drugs that I could mention, your perception of time would change incredibly. Why? Because those molecules that you would be ingesting would be changing the way the neural networks that allow you to experience time would work under the action of those drugs, so all of this is very relative to the biological moment, to the state in which your brain is operating.

Now, in terms of the future, what you asked, well, would it be possible, for example to have a perception of the future, I don't even know what that would mean in strict biological, scientific terms, because how can you perceive something that has not happened? All the different events that are—that will potentially happen have not happened yet, so I think it's difficult to perceive the future in that sense. However, it's perfectly possible to perceive something that you plan ahead for the future. So, this is what I was touching on with the notion of memories of the future. We, unlike most other species, have an inordinate capacity to make plans. We are able to have a very clear idea of what we want to do tomorrow, even tonight or six months from now. People engage in this planning in a very robust fashion. Some people actually daydream about their plans all the time, and they don't do anything. Now. That is really future in the true sense of the term, but is a future that has not happened yet, and that we can glimpse by going into those plans, but what is so fascinating is the way we are caught in this ever present between the past and this future that has not yet taken place.

MARINA ABRAMOVIĆ: But then if you don't move and you do nothing at all and being in present there is no time.

ANTONIO DAMASIO: Time is very much—I mean, your present enlarges enormously and the motion of time is at least in terms of your perception is changed, yeah, it's a way of getting to immortality.

MARINA ABRAMOVIĆ: Of course. And now the last question.

Q: I wondered how—you talked a lot about how things biologically affect how we think, but what about digital technology and new technologies? How does that impact and change perhaps the structure of how we approach things, how we consider ourselves in the world?

ANTONIO DAMASIO: What a wonderful question. I think it would be very, very strange if the developments of the digital revolution would not be having already an enormous impact on how our brains work and how our consciousness is organized, so I think that's a very excellent question. I can give you another example of something that is already changed without the digital revolution, but has probably changed over the past century, and that is the tremendous influence of movies. We have now had more than a century of movie viewing and we have—you know, until movies came about people knew about the events in the world, they knew about what other people did through theater, through novels, through, you know, direct storytelling, but now and for a long time we have been knowing also, and more and more, through visual images, and I would be very surprised if that has not had an enormous impact in how we construct our world

and how we construct images of ourselves, and I think with the digital revolution something very similar is happening.

We are entirely surrounded by screens in our life, in our day to day, and something else that is happening at the level of the digital that can be both a problem and an advantage, and it has to do with the fact that digital technology has allowed us to do multitasking in I very, very, I think, dangerous ways. You're probably aware of the fact that now clearly there are certain accidents that take place on roads or accidents that take place with trains because conductors are not paying attention to the red signal that would have made them stop. This is a side effect of that technology, but that's not the worst part.

The worst part may be that when you multitask, although you are obviously expanding the operations of your brain, and you're making your brain attend to multiple objects which is in itself potentially and maybe really an advantage, you're also obliging that brain to divide the acquisition of information through all of those different objects that you're now attending to, and whether or not that will have an impact on how much you learn, it's not something that we know yet. So that I think on balance who would dispute the fact that we have enormous advantages coming from the fact that we have e-mail and we can communicate much more amply and we have access to information at much higher levels than we've ever had before. The question is how you filter all that and how you're going to cope with the potential downside of that excess of information.

MARINA ABRAMOVIĆ: I would like to finish tonight with some dose of pessimism. I think that our brain is developing much slower than technology does, and I think on the end technology is going to kill us, so the only chance we still have is to go back to simplicity. Thank you.

(applause)