Jeremy Rifkin: In the last ten years there’s been some very interesting developments in evolutonal biology, neuro? Science, child development, research and many other fields which is beginning to challenge some of these long held shibboleth that we’ve had about human nature and the meaning of the human journey. But there is another frame of reference emerging in the sciences which is quite interesting, it really challenges these assumptions and with that the institutions that we have created based on those assumptions: our educational institutions, our business practices, our governing institutions etc.

Let me take you back to the early 1990s sleepy little laboratory in Parma, Italy and scientists had an MRI brain scanning machine on a Macaw monkey as the Macaw monkey was trying to open a nut - they wanted to see how the neurones would light up. So the monkey's trying to open up the nut the neurones light up, and just by serendipity, and this is how science sometimes happens, a human being walked in the laboratory, I don't know if it was by mistake, and he was hungry he saw the nuts and opened up one of the nuts and tried to crack it open. The Macaw monkey was totally shocked because who was this invader in his laboratory, and he didn't move he just gazed at this human trying to open up the nut, just like he had done a few seconds earlier, and then the scientists looked on the MRI brain scan and the same exact neurones were lighting up when he observed the human being opening the nut as when the monkey opened the nut, and the scientists had not a clue as to what this was, they thought the MRI machine had broken.

They then began to put MRI brain scanning machines on other primates, especially chimpanzees with our big neocortex. Then they went to humans, and what they found over and over again is something called mirror neurons, and that is we are apparently soft wired some of the primates, all humans, we suspect elephants, we're not sure about dolphins and dogs we've just begun, but all humans are soft wired with mirror neurons; so that if I'm observing you - your anger, your frustration, your sense of rejection, your joy whatever it is, and I can feel what you're doing the same neurones will light up in me as if I'm having that experience myself. Now this isn't all that unusual. We know if a spider goes up someone's arm and I'm observing it going up your arm I'm going to get a creepy feeling. We take this for granted but we're actually soft wired to actually experience another's plight as if we're experiencing it ourself. But mirror neurones are just the beginning of a whole range of research going on in neuro psychology and brain research and in child development that suggest that we are actually soft wired not for aggression and violence and self-interest and utilitarianism that we are actually soft wired for sociability, attachment, as John Bowlby might have said, affection, companionship and that the first drive is the drive to actually belong - it's an empathic drive.

What is empathy - very complicated. When little babies in a nursery and one baby cries the other babies will cry in response they just don't know why, that's empathic distress it's built into their biology. Around two and a half years of age a child actually can begin to recognise himself in a mirror, that's when you began to mature empathy as a cultural phenomena. And that is once a child who can identify themselves then they know that if they're observing someone else have a feeling they know that if they feel something it's because they're feeling it because someone else has it, they're two separate things. Selfhood goes together with empathic development, increasing selfhood, increasing empathic development.

Around eight years of age a child learns about birth and death, they learn where they came from, that they have a one and only life, their life is fragile and vulnerable and one day they're going to die. That's the beginning of an existential trip. Because when a child learns about birth and death and they have a one and only life they realise how fragile and vulnerable life is. It's very tough being alive on this planet whether you're a human being or a fox navigating the forest.
So when a child learns that life is vulnerable and fragile, and every moment is precious, and that they have their own unique history it allows a child then to experience another's plight in the same way - that that other person or other being, it could be another creature, has a one and only life, it's tough to be alive, and the odds are not always good. So if you think about the times that we've empathised with each other our fellow creatures it's always because we felt their struggle, we had the depth and empathy and the celebration of live. And we show solidarity with our compassion.

Empathy is the opposite of utopia. There is no empathy in heaven, I guarantee you, I'll tell you before you get there. There isn't any empathy in heaven because there's no mortality. There's no empathy in Utopia because there is no suffering. Empathy is grounded in the acknowledgement of death and the celebration of life and routing for each other to flourish and be. It's based on our frailties and our imperfections. So when we talk about building an empathic civilisation we're not talking about Utopia, we're talking about the ability of human beings to show solidarity not only with each other but our fellow creatures who have a one and only life on this little planet. We are homo-empathicus?

And what I say to you tonight is it's impossible even to imagine that I don't see how we're going to make it.

Empathy is the invisible hand. Empathy is what allows us to stretch our sensibility with another so that we can cohere in larger social units. To empathise is to civilise; to civilise is to empathise. With forager/hunter societies communication only extended to the local tribe in shouting distance. Everyone over in the next mountain was the alien other. So empathy only extended to blood ties.

When we went to the great hydraulic agricultural civilisation script allowed us to extend the central nervous system and to annihilate more time and space and bring more people together, and the differentiation of skills and the increasing selfhood not only led to theological consciousness but empathy now extended to a new fiction. And that is instead of just associating with one's blood ties we detribalise and began associations based on religious ties. So a new fiction Jews start to see all other Jews as extended family and empathise with Jews. Christians start to see all other Christians as extended family and empathise with Christians. Muslims the same.

When we get to the 19th Century the Industrial Revolution and we extend markets now to larger areas and create a fiction called the Nation State, and all of a sudden the Brits start to see others in Britain as extended family; the Germans start to see Germans as extended family; the Americans as Americans. There was no such thing as Germany; there was no such thing as France these are fictions, but they allow us to extend our families so that we could loyalties and identities based on the new complex energy communication revolutions we have that annihilate time and space. But if we have gone from empathy in blood ties to empathy in religious associational ties to empathy based on national identification is it really a big stretch to imagine the new technologies allowing us to connect our empathy to the human race write large in a single biosphere.

So here's the question: we know that consciousness changes in history the way our brain is wired today is not the way that a medieval serf's brain would be wired, and their brain wouldn't be the same as the wiring of a forager/hunter 30,000 years ago. So the question I asked at the beginning of this study six years ago is - how does consciousness change in history? Because I want you to imagine the following proposition - is it possible that we human beings who are soft wired for empathic distress is it possible we could actually extend our empathy to the entire human race, as an extended family? And to our fellow creatures as part of our evolutionary family and to the biosphere as our common community! If it's possible to imagine that then we may be able to save our species and save our planet.
And what reason would we stop here at the nation's state identity and only have ideological empathy or theological based empathy or tribal based blood tie empathy?

We have the technology that allows us to extend the central nervous system and to think viscerally as a family not just intellectually. When that earthquake hit Haiti and then Chilli, but especially Haiti, within an hour the Twitters came out and within two hours some cell phone videos, YouTube; and within three hours the entire human race was in an empathic embrace coming to the aid of Haiti. We were as the enlightening philosophers suggested, materialistic, self-interested, utilitarian, pleasure seeking it couldn't account for the response to Haiti.

Apparently 175,000 years ago in the Rift Valley of Africa there were about 10,000 anatomically modern human beings walking the grasslands, our ancestors. The geneticists located one database women, as a database line apparently her genes passed to everyone in this room tonight, the other ladies didn't make it. It gets even more strange. They located a single male, this is a database line for genetics, they call it the Y chromosome Adam, apparently a fairly potent guy, his genes passed to everyone in this room.

So here's the news - 6.8 billion people at various stages of consciousness, theological, ideological, psychological, dramaturgical we're all fighting with each other with different ideas about the world, and guess what - we all came from two people - the Bible got this one right, we could have come from many - but the point is we have to begin thinking as an extended family, we have to broaden our sense of identity. We don't lose the old identities that nationhood and our religious identities, and even our blood ties. But we extend our identities so we can think of the human race as our fellow sojourners and our other creatures here as part of our evolutionary family and the biosphere as our community.

We have to rethink the human narrative. If we are truly homo-empathicus then we need to bring out that core nature because if it doesn't come out and it's repressed by our parenting, our educational system, our business practice and government the secondary drives come, the narcissism, the materialism, the violence, the aggression. If we can have a global debate let us start here from the British Royal Society for the Arts, which apparently you're doing. To begin rethinking human nature to bring out our empathic sociability so that we can rethink the institutions of society and prepare the groundwork for an empathic civilisation.