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IMPLICATIONS FOR THE FUTURE

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Well this is delightful job and a scary job I'd like to start by sharing with you my personal solution for a certain problem that I suspect a lot of you have. And this is a problem that's plagued me since the beginning of - I've been in this business for more than 30 years-and always have this dilemma that almost makes me feel schizophrenic.

Because when I think about the future, there are two kinds of pull on me. One of them is about what will happen one day. Whereas, I can think twenty years ahead or thirty years, I don't know, I know sometime, in the not very distant future, things are going to be so different. We're not gonna worry about how to teach the fourth grade curriculum of mathematics. I am quite sure there won't be such a thing as the fourth grade. I am quite sure we won't have separate mathematics and - resembling anything like our present curriculum. That's someday. But meantime, as teachers like to say, "what about Monday?" Monday I am gonna be there, in my school or wherever it is, with my business, I've got things to do right now, and I have to fit into the present structure of the world as it is. So, how do you deal with these two things? I think you've got to be schizophrenic. You've got to be spend some of your time, on one day, and some of your time on Monday. And I think you've got to do that, because although you can't predict what will happen; if you don't make yourself a theory of what's gonna happen, you are like a boat without a rudder and you're not going anywhere. It's better to go somewhere and be wrong about your goal than to drift around randomly. I think so, I'd like to say some remarks about how to think about the someday and some of the issues that we should think about. And I think most of all, I'd like to talk about a responsibility of the community of people to participate in forming in the evolution of public opinion, in the kind of image that the rest of the world has. On the school thing for example, I believe that, unless... you know, I know, that next year or in two or three years' time school is not gonna change very, very much. It's gonna be incremental change. But, I also feel the responsibility to prepare the public as much as I can for the fact that one day it's gonna change very radically. That this whole idea of having children in grades segregated by ages is because of a kind of production line of putting out knowledge that we were forced to adopt in the past. It's not about whether it's good or bad. It was the inevitable consequence of the knowledge technology that we had until now, and its inevitable consequence of the new knowledge technology that thing doesn't make any sense. And what

doesn't make any sense survives for five or ten or twenty years, but eventually goes away. So, we've got to be working on the public. And I'd like to touch on a few issues. One that I'd like to touch on very slightly is about our visions of the technology itself. Somebody said a little while ago he likes paper better than (point to computer) he'll never give up paper. Careful, how do you mean you will never give up paper? Really? In our lab, at the Media Lab at MIT, we've got a research group that's making digital paper. Now, that's to say, as stuff; it will feel like paper, it will bend like paper; if you like, it will smell like paper. But it will be a digital medium. And on it will appear writing in the typography that you want. But also in color, in movie, you will be able to surf the world. So, why would anybody then prefer to have static paper when you could have dynamic paper? So, this is a kind of question we've got to keep in mind that it's only, you just think how fast the whole idea of the computer has changed. What you thought a computer was thirty years ago, twenty years ago, ten years ago, today; the change is so dramatic that, well, if you predict into the future, we must not assume the computer is like the ones we've known. In, on my way back, I'm often off to Russia; on the way to Russia I'm gonna stop off and say hello to my friends at the Lego company, who are announcing the production of a little object. That's a sort of a computer; but it's a computer you can hold in your hand; that a kid can put inside a Lego model. That's a computer that doesn't look the slightest bit like this hybrid between a television set and a typewriter that we keep on our desks. And all the questions people ask about how much do you want your children to sit in front of a computer. Children won't sit in front of that computer, it goes in the pocket. And it does all together different things: the child can make a robot, the child can make a model with intelligence in it, and do something radically different? And that's just, you know, this is going to be there in a few months' time. So, in a few years' time it's gonna be even more radically different. The aspect that I'd like to emphasize, though, is that we; there's another way in which we must not be passive. The education community on the whole has accepted the right of the computer industry has decided for example, a certain price point. That people will pay, sort of like a thousand or two dollars at the low end, and four or five or six at the high end, and they've translated technological advance into maybe more power, but at the same price level. They have not found it valuable, profitable, to put research and effort into making a two hundred dollar computer. But why? And that brings me to a question that came up about the rest of the world.

There are one billion children in the world, at what we would consider to be elementary school age; one billion. Maybe ten percent of those children live in countries like Japan or the United States where, although right now they might not have access to computers and the internet, you see a process at work which is going to bring them that in the future. The other ninety percent, most of them,

live in countries where there is no such process at work. I think this is an extremely dangerous situation for the world. And this isn't just a question of humanitarian. Although that's there; it's unfair that those children should be deprived. But worse than that, it's a threat to the existence of all of us, of the planet. It's a threat to creating a global economy, because as long as there are the rich countries and the poor countries, there's tension and danger on the planet. And moreover, if one percent of what has been said in the last two days about how these new media can improve learning, if just one percent of that is a little bit true, it follows that the countries that already have the lead are going to increase that lead.

So, we've got to look, we're in a part of a process which is leading towards the rich becoming richer, and the poor becoming poorer. The "digital haves" are becoming more so, and the "digital have nots" becoming "have nots" in everything else, as well. We've got to; that really is hard fact. And it is our responsibility to make sure that our politicians, and our public and our friends and our aunts and everybody we can talk to has to face that fact. Cause they don't want to. They want to be ostriches. They want to put their heads in the sand. So they say, well, what can you do about it? It's too expensive, I think even somebody here sort of said, well, we can't give every child in the world a laptop. Why not? Why not? It's too expensive Really? Let's do some arithmetic.

Not quite if you've got to buy the computers that you can get in the stores, although even with that you can get pretty close. But if you invested a few of the first five or six billion of this in research and development making a computer that is suitable at price, you could make a computer, that for probably much less than a hundred billion dollars, we could give every child in the world access to the computer.

Now, I don't say that I know exactly how to do that. But I'm saying that it is ridiculous to say that the world cannot afford it; the world has to afford it and can afford it, and the world does afford to deal with other kinds of crises that don't cost any more than this.

As a personel step, I've been involved with Nicholas Negroponte and a few others, in creating an organization that we call the 2-B-1 Foundation Numeral two, letter B, numeral one. And I'm sorry that it has an English pun, but it seems to go across with young people of many languages 'to be one'. The world can be one, but only if the key to the future, the children, are given the opportunity to be one, if we can get rid of those gaps.

And the 2-B-1 Foundation which was launched, which had a conference last July in which we pulled together people, activists from the field, who are bringing computers to children in eighty developing countries. And we have a really seriously thought-out plan to create, within the next year, thousand of what we

call digital outposts in remote and poor parts of the world. And we think in terms of ten, twenty thousand in the next five years. Well we don't, that's not getting to a billion yet, but we hope that we can at least show that we're doing and our bit, and set an example to precipitate other action by other people. But what I'm saying is not necessarily... not only to say the existing organization...it has...it has unfortunately not a very good, yet, web page '2B1.org', but I promise you in the next month it's gonna look a lot better and more lively.

But this is a direction. I'm just pointing to, that I think, the challenge for the future is to recognize that we've got to think big, that we have a huge responsibility, that is not just a matter of improving our schools or getting better grades or doing a better demonstration here and there; we are talking about the fate of humanity and the fate of this planet and we're talking about world peace. Or world strife. And we have to rise to the level of facing the problems that come from that perspective. And these problems are, we must not be passive about the way the research goes.

We must not be passive about, in the face of people who say, "it's too expensive to do anything about it" or "it's not our business, it's somebody else's business". It is our business. And I think particularly we must not allow people to get away with tokenism. Like the United Nations Organization is sponsoring computer labs in a few hundred schools in African countries. Well, great, we ought to applaud that. It's good for those schools. But this is not an action on a scale that is relevant to the planetary problem and the billion children.

Thing big. Thing big and be active and don't let other people push you around. We should be saying what kind of computers we want to see developed, we should be saying what kind we want, we should get out of the mode of debating is all the educators do about whether this model of Windows computer is better than that one, or Apple is better than IBM. This is, we're putting ourselves in the position of playing their game. We should be playing our game. Now, think that everything that's happened in the last two days, all these wonderful demonstrations, there's incredible technology, it's inspiring, and it's wonderful and gives us a sense that we've got a real power in our hands. And so let's not be intimidated. And I think that's not all I wanted to say but all... enough. And thank you very much for letting me take this platform, for letting me meet you, hear you, have many, many great conversations. And I hope we'll all stay in contact in cyberspace, if not in real space, and maybe we will even get to the point where we don't make that distinction any more and just let the boundary disappear.

So, what else can I say? Thank you Mr. Fukutake, and the Benesse Corporation and everybody who's contributed to organizing this wonderful conference.

And, thank you.