

Transcript

A fascinating interview with Prof. Susan Greenfield on the effects of screen culture on child and human development.

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KERRY O'BRIEN, PRESENTER: Baroness Professor Susan Greenfield is an eminent brain expert who commands enormous respect in her field. As a pioneering scientist she heads a multidisciplinary Oxford team investigating neuro-degenerative disorders and also the Oxford Centre for the science of the mind, exploring the physical basis of consciousness. She is, again, the first female to direct the illustrious 200-year-old Royal Institution of Great Britain and has a life peerage in the House of Lords. In Australia to raise funds for the first international adjunct to the Royal institution in Adelaide, Professor Greenfield has sounded a cautionary note about the screen culture of the computer age that she says may be changing our brains in ways that could have a serious impact on personality and behaviour.

I spoke with Professor Greenfield by satellite from Adelaide late today.

Susan Greenfield, you've warned that screen culture may be changing our brains. You obviously believe that it's not a change for the better. First of all, what do you mean by screen culture?

SUSAN GREENFIELD: By screen culture, I mean literally that; a world of two dimensions where for six hours a day or more, people in the western developed world, more particularly kids, are spending time either playing games or on social networking sites and thereby putting themselves in an environment that is very much in the here and now, that has very strong audio and visual sensations, where at the press of a button you get instant feedback from whatever you're doing.

But at the same time, you're perhaps removed from some of the aspects that we take for granted. Those of us who are older or those of us who are born in the 20th century, that we taken for granted. Things like metaphor, abstract concepts, logical narrative, conceptual frame works, long attention spans, imagination. The kind of areas we can explore in more detail, if you like.

But it's primarily a world of a small child, a world of the here and now, a world of a sound byte, a world of an instant frozen moment where nothing has consequences, and where everything is literal. Where nothing has a meaning, you're not saying one thing in terms of something else, you're saying literally, what you see is what you get.

KERRY O'BRIEN: And to carry on from there, as part of that scenario, you've said that whenever you play a computer game, you can always just play it again. Everything you do is reversible; the emphasis is on the thrill of the moment, the buzz of rescuing the

princess in the game without being particularly concerned about who or what the princess is.

SUSAN GREENFIELD: Yeah, I think this actually sums up one of my views, which is that when you play a game, the reason you are playing the game is for the experience of playing the game, not for the long-term consequences. So when you rescue the princess, you don't really care about the princess, you don't care what she feels or what she thinks.

When you read a book, you read the book because you care very much about what the princess is feeling and thinking; how she relates to other people, and what happens to her. And I think this highlights two aspects of human mind, if you like, which is, on the one hand, process; the kind of skills that you rehearse when you're doing an IQ test, agile connections of abstract letters or symbols; compared to content; where you're putting a meaning to something.

And I think we can extend that idea from living in a sensory world where you're having this hear and now experience, the thrill of winning something, the thrill of the moment. Something that does not have necessarily consequence or a long-term irreversibility - because you can always play the game again - as opposed to when you do something that you can't undo. And that's of course what real life is.

KERRY O'BRIEN: You told the House of Lords in a speech last month that, "... the near total submersion of our of our culture in screen technologies over the past decade might in some way be linked to the threefold increase in prescription for methylphenidate, the drug prescribed for ADHD." Is there a scientific explanation for that link that makes sense to you?

SUSAN GREENFIELD: Well, I should first stress all I'm suggesting is people should explore whether that link exists. I'm just pointing to two clear facts" one is that over the last 10 years, the screen culture has become more pervasive in our society than ever before; and over the last 10 years in the UK, and I'm sure it's a similar situation in Australia, there's been an alarming increase in prescriptions for Ritalin or methylphenidate, a drug used to give so-called treatment for Attention Deficit Disorder.

Now, whether it's linked or not, it's not for me to say, no one has yet actually explored that properly. But, nonetheless, let me just take you through the circumstantial reasoning that prompted me to say that.

What we know in neuro science and this is getting really exciting, is that the brain is what we call plastic. That's to say it's very sensitive to the environment and that's why human beings are so brilliant at occupying ecological niches than any other species on the planet. We don't run fast, we don't see particularly well, we're not particularly strong - but what we do fantastically, more than any other species, is that we learn, we

adapt.

And because of this so-called plasticity, this means that your brain is different from anyone else's for the last hundreds of thousands of years we've stalked the planet and it will be never the same again. And every moment you're alive it's modified and changed and revised by every little experience, literally leaving its mark on your brain.

So if that is the case, it follows that the environment in which that brain is developing will be very much influenced by the kind of features of that environment. And if, for the first time - and this is my reasoning - that environment has changed in an unprecedented way, if it's bombarding you with boom bang and bang images, what I call the "yuck and wow" scenario where every moment you're having something flash up in your face and bombard your ears. All I'm suggesting is that that might drive brain connections and drive the configuration of your brain cell circuitry into the kind of mindset that mandates a short attention span.

KERRY O'BRIEN: And how do you think screen culture could be impacting on the development of creativity and imagination in the child's brain?

SUSAN GREENFIELD: What you have to do is put together either images or words, or shapes or ideas that mean something, or give you an insight that you never had before. And in order to have an insight that you never had before, you have to have a contextual framework. You have to have a world where you can say, "Now I understand what that means. Now that explains this or that."

You have to know about the this or that in the first place. So I think the screen culture, if it's harnessed, if neuroscientists and educationalists and parents and people all sat together to decide what do we want, what do we want young people to learn, what do we want them to be? Do we want them to be creative? What's the bottleneck to this, how can we help people develop a longer attention span, how can we help people develop a notion of metaphor?

So, for example, how would you put on a screen, "... we are the hollow men, we are the dead men leaning together, headpiece filled with straw." How would you put that together? How would you put, "tomorrow and tomorrow creeps in this petty pace, from day to day," on a screen? And I think we need to think through those kinds of challenges which we've taken for granted in 20th century education.

KERRY O'BRIEN: You reflected, in your House of Lords speech, on the way individuals use the Internet, with a vehicle like Facebook, to identify themselves. Is that a problem?

SUSAN GREENFIELD: I think I can be a problem, like everything, if it's done to excess. I personally don't have a social networking site but I certainly communicate, like most people now with access to computers, through email.

Of course, that's not a problem. It becomes a problem if it's your main form of communication. I met a young person who boasted they had 900 friends. And that made me rather sad as to what he thought a friend really was and what kind of quality of relationship that you might have with one, if there's any one of 900. And how often, if you have 900 friends, how much time of the day do you spend in sustaining a friendship with 900 people when there's only 24 hours of the day. And however advanced or slick the culture, the inescapable fact: you only have 24 hours a day and if you spend six hours doing one thing, that excludes you, by definition, of doing other things.

What I fear is that in a way you're sanitising relationships. When you have a relationship through that medium, you're not using body language, you're not using prosody - that's the kind of tone of voice - you're certainly not picking up on pheromones and all the other clues, that when you have a face-to-face conversation with someone, makes it quite challenging but also very exciting when you speak to someone.

As opposed to a somewhat sanitised, dampened down, distanced and remote form of communication where, yes, you might have more chance to say or to be less inhibited to say what you like and be what you like, but on the other hand you're missing out on being a real person and living in a three-dimensional relationship.

I find it very interesting that autism, for example, is on the rise, and that I gather people with, within the spectrum of autistic disorders, many feel very comfortable in screen culture. And it might be that they're, you're not putting a premium on those kinds of issues of body language and prosody and pheromones, and literally what you see you is what you get. Someone acts, and they act, and that's it. Whereas when you read a novel, the whole point is you're getting an insight into how someone else feels and how someone else thinks differently from yourself, differently from the other characters.

KERRY O'BRIEN: Why do you think that people are prepared to be more public on something like Facebook, or Twitter or MySpace, about their private lives? Things that normally they would keep private than they would be face-to-face.

SUSAN GREENFIELD: It's very interesting why one needs to publicise the most banal aspects. If you had something very exciting to say about your private life, and that's what gossip is, I suppose, than that's as old as the hills.

But what saddens me is the banality of this "it's all about me culture" where, you know, you just have to publicise you're cleaning your teeth or you're putting your socks on or whatever. What that suggests to me is someone with a rather shaky sense of identity. It's almost like a small child who keeps saying, "Look at me do this, look at me do that." It's almost you need the reassurance, the feedback from a third party, from someone outside that you exist. Because a continuous sense of identity does requires quite a lot of sophisticated cognitive machinery, something that's not there in a very small child,

for example.

This notion of you as an enduring entity, not just as a passive recipient of your sense, but as an entity that endures and is consistent, or be it modified and evolving, through the whole of your life story.

That's quite a heavy and serious thought to have, and one that's not necessarily there if you're living a life that's atomised into "yuck, wow, press a button, start again, play the game again, here we are again." You're kind of frozen in time as opposed to having a narrative. The disadvantage of the narrative is there's a certain irreversibility to it. But on the other hand that's what being a human being is all about; it's living a life where you are what you are, and you evolve and you change and you're not stuck in the moment like a small child will be. You're actually living a life with a past, a present and a future.

KERRY O'BRIEN: Do you have a view on the observation that kids seem to have a capacity to be quite vicious to each other on the chat rooms, than again perhaps they might have been face-to-face?

SUSAN GREENFIELD: Well, I think that actually carries on that thought and would actually validate some of my suggestions, and they're just suggestions.

If you hadn't had the experience of someone saying something to you directly, to you as a person, and it upsetting you, or you haven't had of experience of actually saying something to someone's face and seeing them burst into tears, or go red and be upset, clearly, palpably upset, and that changing your relationship - if you haven't had those experiences, you'll live in a world, a rather sanitised world where no-one is hurt, where everything is just a game, where everything is irreversible, a bit like cartoon characters. I remember when I was a kid watching Popeye, he used to be steamrolled over into two dimensions and he'd jump up again in the next frame.

I also - and this is even more severe and more sinister and still more speculative - wonder why this monstrous and I would say inhuman habit or phenomenon of people who bash each other up or stab each other and then show that on YouTube - whether they truly know what they're showing, whether that again is literally physically vicious as opposed to being just socially vicious, where red stuff coming out really is someone bleeding and someone hurting rather than just a colour and an image, a "yuck" or a "wow" image that you just show someone else. I just wonder to what extent someone exposed to a cyber world for the best part of the most days actually has a grasp of reality in the sense that we understand it.

KERRY O'BRIEN: You've appealed to business to look behind information technology to gratify the wants and desires of consumers and focus instead on consumer software to breed curiosity or that might breed curiosity and abstract thinking. Surely business is

always going to seek markets that make the most commercial sense?

SUSAN GREENFIELD: Of course.

KERRY O'BRIEN: Doesn't the answer to your concern lie much more with better research and switching parents on to the potential negatives?

SUSAN GREENFIELD: What we, I think, could do is try and work out together, if indeed we want our children to be fulfilled and creative, how can we deliver that, how can we deliver them an environment, with their very adaptable, sensitive, vulnerable brains, how can we deliver this environment for them? And one way, of course, would be using modern technology. And I would love people to sit down and discuss this, the business community and neuroscientists and software designers and computer experts. And instead of defensively saying I'm a being a kind of a Luddite, which I hope I'm not, and instead of me saying they're all evil, which I hope I'm not. So much better if we could all sit down together, work out where we want to go and how we're going to deliver it.

KERRY O'BRIEN: You've covered some fascinating ground. Susan Greenfield, thanks very much for talking to us.

SUSAN GREENFIELD: Thank you. My pleasure.