

Chapter 1 : The Neuro Revolution | Byron Laursen, writer

*No brain is an island*—so argues neurologist and writer Restak (*The New Brain*) in his latest book, which aims to synthesize emerging research on what he calls "social neuroscience," which.

The Neuro Revolution Futurist Zack Lynch grew up as the son of Dan Lynch, one of the small handful of brilliant people our government turned to years ago when they wanted computers in different locations enabled to talk to one another. As nearly all kids would do in decades to come, Zack Lynch grew up playing with interconnected computers, doing wide-ranging research. He developed an enormous fascination with technology, and a huge sense of wonder about what would be the next thing with the power to re-invent our world. He found it in fMRI technology, an offshoot of magnetic resonance imaging that lets us see, in real time, exactly how our brains work. This hyper-fascinating project connected me with several other brilliant minds as well, in the halls of Stanford, the University of California, Baylor, London University, Claremont Graduate University and more. We designed the book to be easily understood by non-scientists, and succeeded quite well. Still anticipating an amazing future, Zack went on to found the Neurotechnology Industry Association. Today we sit on the cusp of another overwhelming societal transformation, beginning to feel the lift-off of a wave potentially more dramatic than any of the three that came before. It is the emerging neurosociety. Early evidence of this wave will meet your eyes in the pages ahead. You will gradually realize that this coming wave will give us undreamed-of control of two vast spheres of life: Its arrival is both inevitable and already in progress. Even those who are now positioned closest to the unfolding wave cannot fully imagine the range and scope of impact on its way. It will be nothing less than the birth a new civilization. Here is what I mean by inevitable: Global population has soared more than twenty-fold over the past years, reaching over 6 billion. During the same two centuries, our life spans more than doubled, vaulting to more than 70 years. Current population projections say that the United States in will have 54 million people aged 85, up from 4 million. A population that is significantly older and massively larger, coupled with the recently-created extensive global connectedness, has already created opportunities along with brand-new problems for modern humans. At the same time, it has intensified many of the old ones. We navigate our ever-changing lives with brains that have evolved very little since the Paleolithic Age. The problem-solving machinery in our heads is astonishingly complex, yet overwhelmed and over-stimulated on a daily basis. It can turn quickly and insidiously, without our realizing it, into problem-causing machinery. We are constantly blasted with images of unattainable lifestyles, creating daily identity crises as we search for meaning in a world of continuously shifting truths. Others are well-supplied with both wealth and power, yet are disillusioned, not able to feel the happiness that such assets were supposed to provide. On every continent, in every culture, we see uncertainty, depression, anger, and resentment surfacing on a vast scale. However, after spending thousands of years improving our control over the physical environment, we are about to receive new tools that will improve our control over the mental environment. These tools are a logical next step for helping conquer the stresses this arise from living in our highly connected, urbanized information society. Building on advances in brain science, neurotechnology the set of tools for understanding and influencing the human brain will allow us to experience life in ways that was never attainable before. Neurotechnology will enable people to consciously improve their emotional stability, enhance their cognitive clarity, and extend their most satisfying sensory experiences. The Neuro Revolution will bring much more than fantastic new tools to enable individuals to experience a life less constrained by their evolutionarily-influenced brain chemistry. It will deliver the capacity to reshape the very fabric, the innermost essential workings, of every industry, organization, and political system. Let me share with you a vision of what is to come. Another artistic giant who came from Russia, the novelist Vladimir Nabokov, was also a synesthete. He described these unusual sensations in his memoir, *Invitation of a Memory*. His wife, Vera, had the same type of synesthesia, but saw different colors. Their son, Dmitri, experienced numbers in a way that blended the colors that his parents perceived, a fact that underlines the genetically transferred nature of synesthesia. In mid summer of 1961 I had the pleasure of walking the streets of Boston with Marcia Smilack, an artistic photographer with a doctorate in English Literature from

Brown University. She experiences a multi-layered synesthesia, and the photos with which she records her unique perceptions have been widely exhibited. Smilack seems to have almost every possible form of synesthesia, except for the relatively common one in which colors are associated with numbers. When she looks at topographical maps she sees time. She visualizes concepts as shapes. A year, for example, is an oval. Before telling me this, she posed an interesting question: What shape did I think a year might possess? I reflected for a moment, then said an oval. Does this mean that I have a very mild form of synesthesia? A neuroscientist would say that the importance is not actually the shape I picked, but the strength with which the connection between the concept and shape appeared in my mind, and whether the connection is reproducible. We happened to pass, as is typical on the streets of Boston — home of the Berkeley College of Music — musicians performing for tips on the sidewalk. The first encounter is with a jazz duo featuring a young woman who played the violin. Smilack, on the other hand, saw lines of color in the air, emanating from the woman and her instrument. A few blocks later, we passed by a young woman playing her saxophone to the open air. I liked how she sounded. So did my companion, but she also saw curving lines looping around and around the saxophonist, visual expressions of the beautifully-realized design heard in the performance. Our Emerging Neurosociety If you think about it for a minute, and look from a certain angle, everything that humanity has ever done or invented has been aimed at gaining control of minds. Hunting strategies and technologies ease the fear of starvation. Distilled spirits lift our spirits, though short-term and with some gnarly risks. In the Paleolithic we were hunter-gatherers. Population density then probably averaged about one person per square mile. It was no picnic for our ancestors to scratch for roots and berries, and to hunt and be hunted by their gigantic and deadly co-inhabitants of the Paleolithic, and to seek shelter in cold, damp caves. But 21st century living involves an almost ceaseless barrage of excessive strain, fear, and over-stimulation. It drives our minds excessively, makes them hurt like a perpetually clenched muscle that, metaphorically speaking, becomes stronger but also more prone to cramps and spasms. Our minds frequently become our own opponents, operating from within our defenses, generating new problems faster than they can find solutions to the old ones. In our emerging neurosociety, which I expect to arrive in full over the next thirty years, you will eventually be able to continuously shape your emotional stability, sharpen your mental clarity, and extend your most desirable sensory states until they become your dominant experience of reality. Cognitive liberty, brain privacy, the freedom to think and feel what you want without government or corporate intrusion — these will be the civil rights battles in our emerging neurosociety. People are already considering these questions, and framing the topics for public debate. They are called neuroethicists. Leaders in this field work at Harvard University, the University of Pennsylvania, and Stanford University to understand and clarify the emerging ethical issues. Will governments have the right to subject criminal suspects to brain scans before they are proven guilty? Will neurotechnology be used to control thoughts and actions which are generally deemed undesirable? Here is what I believe to be the overarching question: Depending on how we answer questions like these, the emerging technologies may be used to control us and keep us in forms of cultural or economic bondage. Or, instead, they may be used to enrich our lives through enhancements that tap into and expand some now-dormant positive potential that we all have. It will be a dystopia, a utopia, or some blend of the two, kept in flux by the sense that something even better is still possible. Like previous waves of societal change, the Neuro Revolution is being driven by the development of new low-cost technologies, specifically biochips which uncover the inner workings of cells and brain imaging. The convergence of these two innovations is now making clear to us how the brain works — from both the inside, molecular level and on the system-wide, whole brain scale. We are already seeing a transformation in disease diagnosis and therapeutic development. In recent years, the decreasing cost of biochips has made it possible to discover a large number of neurotransmitters, receptors, ion channels and other proteins critical for normal brain function. At the same time, higher-resolution brain imaging technologies have made it easier to understand the what, when and where of the electrical and chemical events that occur in our brains and form our thoughts and behaviors. As the convergence of these technologies accelerates, the diverse and specific manifestations of neurotechnology will bloom, just as personal computing and the Internet gradually blossomed from the microchip. Avoid reading this book at your peril. The Neuro Revolution insightfully forecasts the enormous

consequences of these breakthroughs. Although I tend to shy away from technology and especially neurotechnology, I found this book extraordinary. Lynch introduces the frontier of neuroscience and neurotechnology in an easily digestible and exciting way, offering an inside glimpse into the future.

## Chapter 2 : Pace Gallery - "The Institute Presents: NEUROSOCIETY" - David Byrne & Mala Gaonkar

*The Naked Brain: How the Emerging Neurosociety Is Changing How We Live, Work, and Love by Richard Restak in CHM, DJVU, FB3 download e-book. Welcome to our site, dear reader! All content included on our site, such as text, images, digital downloads and other, is the property of it's content suppliers and protected by US and international.*

## Chapter 3 : Summary/Reviews: The naked brain :

*The last paragraph warns: "We can employ this emerging new knowledge about social neuroscience to advance human freedom within the neurosociety, or we can allow irresponsible people to use this knowledge in ways that are not always to our advantage."*

## Chapter 4 : Emerging Neurosociety and Immortality | Ben Casnocha

*The revolution in neuroimaging techniques in the past two decades has produced such a new understanding of the effects of early experiences on the brain and the disorders from attachment deficiencies that are their result that psychologists-including psychotherapists and psychohistorians-simply.*

## Chapter 5 : Mind and Body | All work and no play

*Get this from a library! The naked brain: how the emerging neurosociety is changing how we live, work, and love. [Richard M Restak].*

## Chapter 6 : biochip | Definition of biochip in English by Oxford Dictionaries

*Get this from a library! The naked brain: how the emerging neurosociety is changing how we live, work, and love. [Richard M Restak] -- In a study of the science of the human brain, the author examines how the latest research and developments in the field of social neuroscience are being used to influence and transform nearly every.*