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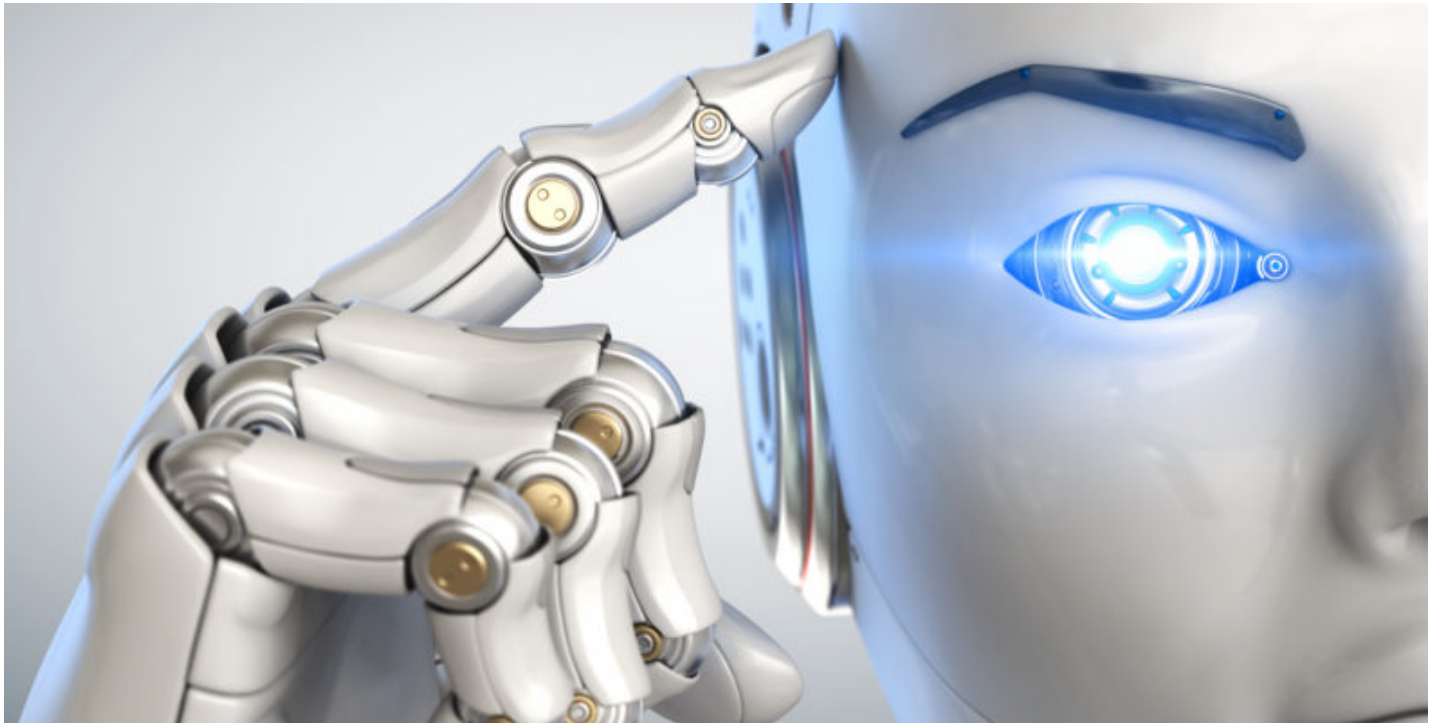
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Leadership in a Smart Machine Age

Lessons on Becoming More Human from the Mind-Brain Revolution

BY TERRI D. EGAN, PhD AND JULIE A. CHESLEY, PhD

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The world of work is changing at an unprecedented pace largely driven by mega-shifts (e.g., datafication, personalization, virtualization, augmentation, cognification, mobilization, etc.) and their combinatorial and interdependent relationships. Artificial intelligence is already present in many aspects of our lives

(planning our daily commute, ridesharing, voice and face recognition) and the predictions for future applications abound. And while there is considerable debate on the promises and risks of machine intelligence, there is no doubt that it is advancing rapidly.

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While machine intelligence promises breakthroughs that improve the quality of human life as well as the condition of our planet, we need to be cautious. Critics point to significant limitations including the magnification of our cognitive biases in the algorithms that run our smart machines.[1] [2] As bias researcher Sigal Barsade recently remarked in an interview “You can be the most consciously unbiased, progressive thinker and still have unconscious biases that come from our culture and things you experienced as a child, and they don’t necessarily align with your beliefs.”[3] Additionally, the accelerating pace of work combined with a dearth of time for reflection may conspire to limit our ability to learn from each other and our experiences.[4]

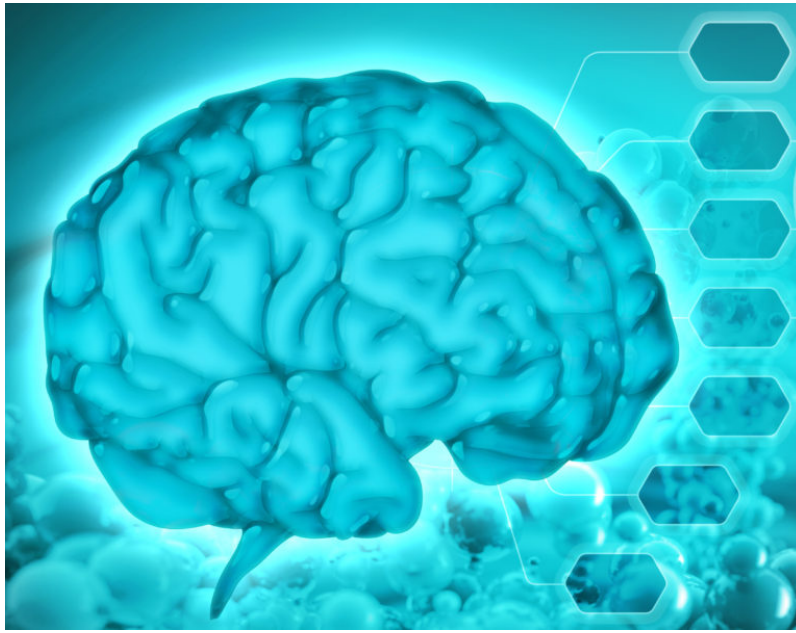
Knowing that what can be automated will be automated gives significant importance to what makes us uniquely human: curiosity, humor, empathy, creativity, wisdom, and passion. These are the things that will add value in the future of work. Additionally, the capacity to learn, unlearn and relearn at a rapid pace will be critical. What better time to consider how advances in scientific discoveries made possible by smart machines, such as functional brain imaging, can be applied to human development? We believe that advances in Mind-Brain discoveries can support our evolution and increase the probability that a collaboration between humans and smart machines will bring out the best in both.

Yet, focusing on developing our brain alone is an incomplete strategy. Mitigating these conditions demands that we consider more than the physical structure of the brain, our neurons. In the quest for developing human potential, we also need to include the mind, and our primary context, human relationships. Siegel calls this the triangle (brain, mind, relationships) of wellbeing... “to put it simply, human connections shape neural connections, and each contributes to the mind.”[5] At a minimum this leads us to consider the impact of the following for all organization and human system activities:

1. How do our work systems, structures, and culture support or thwart our optimal brain functioning?
2. How do our work systems, structures, and culture consider the mind and the role of subjective experience, meaning making, and the unconscious in all that we do?
3. How do our work systems, structures, and culture support human connection and healthy relationships?

To address these important questions, we propose three mind-brain principles that apply to everyone responsible for navigating the unprecedented change that marks this moment in history. Following each principle is a set of questions that prompt you to consider and perhaps adjust practices that support being

more fully human in a smart machine age.



1. Brain: The Prefrontal Cortex is Fragile and Sometimes Goes Offline.

Our work and life practices are largely inconsistent with what we know about optimal brain functioning. The use of smart machines and technology has increased exponentially in the last few years with increasing reports of addiction to devices,[6] and almost non-stop connection.[7] [8]

Amy Arnsten likens the prefrontal cortex of our brain to Goldilocks.[9] Our best executive functioning takes a lot of energy as the prefrontal cortex has limited capacity and needs a “just right” level of arousal. Too much stress, too many distractions, and multi-tasking all temporarily deplete executive functioning and impact health and performance. Yet the perceived need to multitask and dual process is rampant in our organizations.

We are frankly chained to our devices. This constant attention to technology may leave our brain exhausted and distracted, with little energy for conscious processing and complex decision making. Without stopping to pause we respond automatically—the antithesis of wisdom and insight. To move beyond this involuntary fast-thinking,[10] and to improve healthy brain functioning we need breaks, time for wandering, healthy food, sound practices of sleep, and exercise.[11] However, being mind-brain wise may be inconsistent with the work design and culture of our organizations. Are we willing to confront our own practices that fly in the face of what we know about the mind and the brain? We need to consider:

1. How do our cultural norms allow time to disconnect and be away from work? How often do we unplug and put the brakes on constant activity?
2. How much emphasis is placed on practices that support exercise, sleep and nutrition?
3. How do our systems, structures and culture support time for reflection, integration and the development of wisdom?

2. Mind: Neuroplasticity is our Friend

Our mindsets are powerful and malleable. The pace and complexity of change driven by technological mega-shifts and smart machines demands a conscious approach to learning and support for neuroplasticity in the context of learning. Neuroplasticity, our ability to alter neural structures and the very physiology of the brain, is a fact. We can use our mind to change our brain, develop our mindset and create new options for thinking, performing, and relating.[12] Every time we learn and stretch our minds to include new perspectives we create new neural connections. Conversely, left unexamined our implicit habits and patterns of mind are likely to be reinforced making change more difficult. Yet few contemporary approaches to developing leaders focus on growing mindsets.

The power of mindset and the potential of neuroplasticity is illustrated in the work on reframing stressful situations.[13] While our ability to reframe stressful challenging situations is a valuable skill, it has a short-term cost in the energy required to restore executive functioning. However, as a long-term coping mechanism the ability to change our beliefs about a stressful situation builds a new muscle, strengthening neural pathways for a more resilient approach in the future.[14]

Additionally, our mindset about growth and learning also matters. Beliefs about whether learning is fixed or continues to grow throughout our lifetime impacts our performance and willingness to take healthy risks.[15] Those same beliefs also shape how we assess the growth and development of others.[16] Organization practices that emphasize performance over practice thwart the conditions for cultivating a growth mindset. Psychological safety, the ability to take interpersonal risks at work, to be one's full self without fear of reprisal, supports innovation, creativity and healthy risk taking.[17]

Neuroplasticity and explicit mindset growth interventions have implications for coaching, teaching, and leadership development[18] including what we can and should expect from our organizational change efforts and our strategies for fostering development and growth.[19] Given this, we need to consider:

1. How do we cultivate an appreciation for risk-taking and the notion of successive approximations versus "already baked to perfection"?
2. Are performance and coaching conversations grounded in a connection to positive potential as a way to open receptivity and prime an interest in problem solving?
3. Do we model the value of ongoing personal learning and development which calls for vulnerability and successive iterations of experimentation?

3. Relationships: The Brain is a Social Organ

With the proliferation of smart machines, being connected is not about our closeness to each other, but rather the availability of communications technology. Turkle talks of us reaching the "robotic moment"—where we delegate important human relationships to robots.[20] Bringing our smart devices with us, we find ways of spending time with others in which we hardly give them attention.[21] However, our brains are social[22] and organizations are our primary social context. We develop into our best selves in the company of caring others. Most of our time as adults is spent in organizations. Much like the power of our early relationships to shape our development as children, our ongoing adult relationships, including those at work,

influence who we are, how we perform and how we grow, including our ability to mitigate bias. Learning from failure and converting that learning into new knowledge is enhanced when open and generative work relationships are present in our organizations.[23]

Discoveries in the field of social cognitive neuroscience[24] suggest that while we are wired for connection, the brain circuitry that regulates our ability to focus on tasks is quite separate from that which guides our emotional connectivity, intuition, and creative reasoning. While effective leaders learn to toggle between these two independent circuits[25] the pressure for task performance under conditions of urgency sets the stage for an overemphasis on task-analytic circuitry, particularly in tech companies.

Cozolino (2010) has found that neuroplasticity is enhanced in the presence of empathetic and caring others. [26] In fact, Siegel goes so far as to say that, "Our present state of scientific knowledge suggests that we can solidly affirm that kindness and compassion are to the brain what the breath is to life".[27] Zak asserts that oxytocin, the "I want to help" hormone and neurotransmitter turns on when we are shown trust and turns off under stressful conditions.[28] Contrast this with Kegan, Lahey, Fleming and Miller's recent claim that in most organizations people have two jobs, the one they are paid for and the one where they expend enormous energy trying to look good.[29] Managing impressions stands in the way of social connection and learning.

If we are using precious executive attention to manage the anxiety of what happens beneath our conscious processing, then our reserves are diminished for the important work of creating stronger relationships and working with complex challenges and opportunities. Therefore, we should consider:

1. Given the emphasis of analytic prowess over social/emotional connection, what are our strategies for creating connection in organizations?
2. Do we model the values of humility, acknowledging people make mistakes, and inviting the spirit of healthy dissent?
3. Do we have a caring and compassionate learning community that supports everyone during times of challenge?

Summary

As we are well aware, we are immersed in the smart machine revolution. If we are to thrive as a society, we must bring our full human capacity to the table and we can only do this by attending to and developing our mind, brain, and relationships. Being fully human and being active authors of our own life stories—with curiosity, humor, empathy, creativity, wisdom, and passion is the pathway where "people improve AI and, in turn, smart machines give humans superpowers." [30] With thought and care, leaders can bring humanity and mind-brain wisdom to organizations today and in the future.

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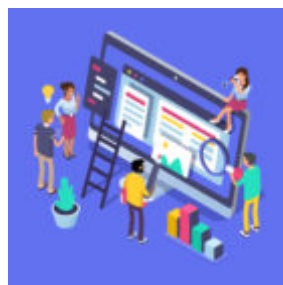
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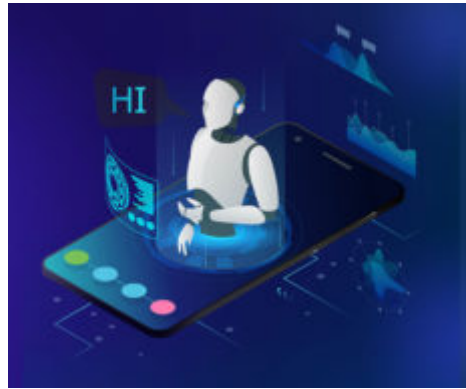
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