Why We Need Digital Wisdom

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Published online by Qualcomm Spark, November 2012

For today's young people, using technology is as fundamental as reading was for their parents and grandparents. It underlies and supports everything they do.

Today we all face the need to adapt quickly to a very different world, one that is growing increasingly complex and changing at an ever-accelerating pace.

Human minds, unaided, cannot deal satisfactorily with the demands of this new world—mind enhancement is required. Fortunately, modern technology provides this. "Extended cognition is a core cognitive process, not an add-on extra," explain professors Andy Clark and David Chalmers in a 1998 paper "The Extended Mind." Today, human minds are in a rapid transition to a new symbiosis in which technology is *required* for the best thinking and wisdom in almost all areas. Technology now enhances more parts of our mind—from memory to computation, logic, and creativity—and, used wisely, our new, technological enhancements provide humans with immense "brain gain."

Intelligence Enhanced by Technology

Yet enhancing the mind through technology still frightens. "Do we really need it?" many ask. "Doesn't it make us less intelligent, or worse, dependent?" Aren't our unaided brains enough, if only we use them better?"

Wonderful as our brains may be, unenhanced they are no longer enough for the context in which we live. Just as we have learned to depend on our clothing, housing and automobiles to support our physical bodies, we now must learn to depend on new technological enhancements to do our best thinking. This is not negative. When used wisely, all technological enhancements make us better human beings.

The unaided human mind (i.e., the mind without our rapidly growing technological enhancements) is increasingly limited. It cannot deal with trillions of data points or extreme complexity. It is subject to unconscious biases. It works relatively slowly. It forgets a great deal. In the past, these limitations were not necessarily constraints. We didn't have all those data points to deal with or the need to do complex calculations at lightning speeds. But today our unenhanced minds come up against more barriers in dealing with many of today's challenges, from space travel, to proteomics to surviving in an interconnected world. So we are busy extending, enhancing, and amplifying our minds by combining them, symbiotically, with 21st century technology.

Most intellectual aspects of our lives are now technology-enhanced, including all of the sciences and much of the humanities and arts. Who would want to see a doctor who doesn't use the latest technology? Who would go to a rock concert that wasn't state-of-the-art and didn't include a high-tech light show? Who would not expect to see their favorite novel soon appear on film?

Fewer and fewer jobs can be done without technology. Our increasingly sophisticated technologies enable our enhanced minds to do many previously impossible things, such as mass individualization, and quickly connecting and combining ideas from humans around the world.

People who reject new technological mind enhancements are no longer as effective as they need to be, because they cannot perform many of the tasks that most current and future jobs require. Non-technologically-enhanced ways of thinking are quickly becoming memories, like old sailing ships in pictures on our walls. Our new digital context is so ubiquitous that is affects people no matter what technology they actually hold in their hands.

Redefining Traditional Wisdom

Our "traditional" thinking is undergoing profound change—so much so that finding the best combination of mind and technology requires new wisdom—"digital wisdom." Old kinds of wisdom, like memorizing a great deal of information when young that will work for the rest of your life, or seeking a job or employer you can remain with for an entire career, no longer make sense in our contemporary world. Today information goes out of date far too rapidly. Today needed skills must come from multiple disciplines and sources.

We need to determine what is wise for today and the future—taking all our technology into account. Not that our "old" wisdom never counts or applies—much still does. But we need to figure out where and when the traditional wisdom does and does not work, and when it doesn't, we need to put something new in its place. New wisdom, for example, includes "learning to learn" in order to acquire knowledge and skills rapidly, rather than relying on received knowledge from the past. Medicine is now becoming evidence-based, with treatments continually updated based on new data, rather than forever based on the practices doctors learn in medical school. New wisdom includes enhancing our capabilities with technology wherever and whenever possible. We also need new wisdom about what from the past truly counts, so we can delete what we no longer need.

Making Technology a Pillar of Education

Many of us already delegate enormous amounts of our minds to technology—our memory to Web-connected devices, a sense of direction to GPS, social interactions to Facebook and Twitter, and all but the simplest of math problems to calculators. For our students to get the maximum advantage from technology, we must view such enhancements not only as positive, but as essential. We need to reevaluate what "the

basics" are for students' technology-enhanced minds, and we need to revisit all our former notions of "age-appropriate."

Some things—human passion, empathy, or yearning—may never be outsourced to technology. But we need to learn to combine these human traits with technology in order to make the wisest decisions in our 21st century context. For skills we choose to retain in our heads—such as logical and critical thinking—we need to turn to technology-enhanced ways of learning them, such as programming and online communities.

To do this, we need digital wisdom. The unenhanced human is no longer the smartest thing on the planet.

This article is commissioned by Qualcomm Incorporated. The views expressed are the author's own.

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