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Talking back to my laptop: Technology design, usefulness, and the humanities

So, maybe the humanities aren't so useful. Sure, they may lead to deeper philosophical understanding, help me better understand the human condition, enrich my soul – but who's got time for those things these days anyway? Rushing from meeting to meeting, squeezing in an occasional bare hour for some work that requires a modicum of thought, desperately attempting to dig out from under an ever-expanding pile of incoming email, arriving home at night so exhausted there's no option but to sack out on the sofa – I don't need more enrichment, I need to get some things done, and done fast.

Now, let's take engineering. *That's* useful. Give me the latest gadgets, optimize them for utility, efficiency, and productivity, and send me on my way to cut that nightmarish to-do list down to size. As a robotic vacuum cleaner winds its way around my feet, I can settle back, pull out my laptop, and batch-process tasks until the cows come home. My cell-phone-enabled PDA, my constant companion, keeps me permanently jacked in to the stream of email and makes sure I remember all my deadlines and obligations. At the same time, my smart fridge takes care of my physical needs by tracking my food supply and automatically ordering more when I'm running out.

I'm lucky. Some of the best minds in our society have worked hard to make sure that I have the tools I need at my disposal to maximize my personal productivity. And, honestly, they have done an amazing job.

So it may seem a bit odd that some of those technology designers are starting to talk about moving beyond productivity. Let's face it: engineering is great for developing optimized solutions to problems, for figuring out how to get things done quickly and efficiently. But what it's not so good for is figuring out how technical solutions will fit into people's lives. What will be personally meaningful to me? How will a device resonate with my values? How will it alter the texture of my everyday life? Will this change be for the better? These are questions that technology designers are turning to the humanities to answer.

Take, for instance, my beloved robotic vacuum cleaner. Don't get me wrong – a robot taking over a dreaded household chore is a good thing. There's nothing like lying on the sofa and watching a robot take care of my personal business. And there's no doubt that this robot does what it is designed to do – it does a heck of a job getting the floor clean. But what does this mean for me, for my life, for my family?

Historians of technology have an answer. This answer is rooted in a depressing trend: despite social changes and a proliferation of time-saving gadgets, women are spending about the same amount of time on housework today as they did a century ago. Why is this? First, when gadgets make it easier to do a task around the home, standards for that task go up: now clothes should be cleaner, the bathroom should always sparkle, there

should be home-made bread with dinner; tasks may be shorter but are done more often. Second, when tasks are automated, work tends to shift to other kinds of tasks. Housewives today don't need to pluck chickens any more, but they do have to spend time driving to the grocery store to get a conveniently plucked chicken. Third, there tends to be a trade-off in automation between saving time and saving labor – generally speaking, either you save time, or you save work, but not both. Finally, time-saving gadgets have tended to streamline the work that men and children do, while often leaving women's work untouched – in the 19th century, men benefited from coal and central heat that eliminated the chore of wood-chopping, children benefited from central plumbing that eliminated the chore of water-carrying, while women's work was fairly untouched.

What does this have to do with robots doing our domestic chores today? Sadly, everything, at least at my house. Robotic vacuum cleaners change my standards: it's so easy to get the floor clean that I do it whenever it looks a bit dirty. They shift work from one task to another: instead of vacuuming, I'm now picking up things that the vacuum would choke on and rearranging the furniture so the robot doesn't get stuck. They do save me labor, but they don't save me time – it takes 5 times as long for the robot to do the job as a person. Finally, in my household at least, it does streamline men's labor, at the expense of women – it's my husband's job to do the vacuuming, but with the robot it's so easy that half the time I end up doing it instead. Despite its efficiency, in my life, what a robotic vacuum means is that I clean more, I have new tasks, it takes longer to get done, and my husband is once again off the hook.

To put it another way, a household full of appliances that do things does not save time. It just does more. And more isn't necessarily better.

History of technology suggests that, in technology design, even if we're focused on usefulness, we should be asking some hard questions about what exactly usefulness means. What kinds of new labor is a 'labor-saving' device creating? How should a particular device balance between saving time and saving labor? Who gets to save time, and who is overlooked? And, finally, shouldn't we be considering devices that don't save time at all, but just make our lives better? What do we mean when we say we want a better life – besides checking more and more items off that to-do list?

Those answers don't come from engineering – they come from the humanities. And some technology designers are now drawing on these ideas to create new forms of everyday technology. They are shifting focus, designing technologies not for efficiency and for usefulness, but for fun, for pleasure, for curiosity, for daydreaming - for quality of life.

Consider the Drift Table, recently developed by interaction designer Bill Gaver's team at Goldsmith's College in London. This low-slung electronic coffee table comes equipped with a porthole displaying aerial views of the English countryside. As things are placed on the table, the landscape begins to slowly drift past the porthole in the direction of the heaviest objects. A trip across England could be made through the judicious placement of household objects, and would run over the course of several days. Most of the time,

though, the Drift Table is simply drifting on some random course, landscape lazily flowing by.

What is the Drift Table designed for? It is not designed as a tool to help you find your way across the UK; it is deliberately too slow and too hard to control to make using it to map the route to your friend's house in Brighton a pleasant prospect. Instead, it provides an invitation: as landscape lazily flows by the porthole, you are invited to let go of your desire to achieve just one more task, and instead to drift, to dream, to enjoy.

We're thinking about these things at Cornell, too. Propped against the wall above my desk stands a large picture frame containing, apparently, a small drawing. Move closer to the picture, and you'll see that the 'drawing' is actually video, displayed in a black-and-white, sketchy style. This video shows the neighboring office, populated by my good friend Simeon. When I glance at this living sketch, I can't see exactly what Simeon is doing or who is visiting him, but I can tell whether he's there, whether he's socializing, and, based on how he moves, I can get a sense, too, of how he's feeling. Does Simeon want to take a break for a cup of coffee? A glance at the moving picture above my desk tells me if he might be in the mood.

This system, called Affector, is designed for work environments, but it's not designed for work. Instead, it supports the friendships that invisibly overlay the work space, highlights that we aren't just productivity machines, and suggests that having a background awareness of a friendly companion at work can be good for people and make them happy. Does Affector increase productivity? Are happier workers also more productive workers? Well, maybe, but the question isn't relevant. Improving quality of everyday life is worth striving for on its own, we believe, whether or not it helps us get more done.

So what does it take to build technologies that support these new kinds of values - open-ended curiosity, camaraderie, time for reflection, maybe even slowing down? It takes the humanities. They highlight for us the values that drive technology design and uncover the complex ways in which people make technologies personally meaningful in their everyday lives.

Ironically, then, one thing the humanities may be useful for is helping technology design out of the trap of usefulness. Engineering is great for optimizing utility, but, as it turns out, usefulness is not all it's cracked up to be. For learning not only how to do more, faster, but also how to do less, better, the humanities are an essential tool. Maybe one day we will speak of great technologies as being like the humanities - useless, and, therefore, good.