Appendix Two

Talking Homes: Do It Ourselves (DIO) Technologies for Families

One logical place to start envisioning dialogical technologies is with the increasing use of "smart" technologies in houses – in heating and cooling systems, media devices, and so on. We can take very pragmatic approaches to this. In our heating/cooling systems, for example, you can imagine wanting to engage with the systems very differently than typical modern consumer families who want professionals to set up, program and manage their heaters, air conditioners and various thermostats distributed throughout the house. Folks pursuing a more dialogical approach would want devices that could be individualized in their functions, adapted to changing preferences and situations over time, and be easily over-ridden when unusual circumstances arise. If the devices talk or text in some way, then we are going to want them to do so in ways that seem engaging, open-minded, thoughtful, creative, wise, and humble.

To develop such engaging systems, we do not have to assume that our houses are or ever will be actually conscious of our interests and concerns in order to get them to start behaving in ways that act as though they were. For example, we can get them to ask us questions, keep track of the answers, and use the information generated to adapt the behavior of the system to our preferences. They could even go one step further and ask us to help them reprogram themselves so they become more inclusive of diverse concerns, aware of creative options, sensitive to the more diplomatic ways of presenting them, and judicious in the use of independent criteria. They could help all the members of our family "Get to Yes" in negotiating all our different perspectives.

For example, when we raise a thermostat in a room we are going to be working in for a while, we could have the thermostat look to see who is changing it and ask us simple things like whether we just want the temperature to stay up while we are using the room or if we want it up for longer for some other reason like, for instance, to keep sprouting plants warm through the night. The system can track answers, look for patterns amongst different folks and activities in our family, and learn to second guess us. As it learns more, it may only need to check in from time to time rather than asking constant questions that might get annoying.

On the other hand, it might invite us to suggest questions we think would be good for it to ask. For example, if my daughter is concerned about climate change, she might invite the thermostat to ask her parents the following question when we try to turn it up: "If you are feeling cold, have you thought about putting on an extra sweater or some socks? We don't want to freeze here, but we don't want Greenland to melt, either ;-)." I might, in response, invite the system to note that we can't put sweaters on the plants and so when someone else, like my daughter, cruises through the room and tries to turn the heat down, she should be asked to consider the garden sprouts in the room. And my daughter might then wonder about what the appropriate temperatures are to nurture sprouts and ask the thermostat to go online and look for information about independent criteria that might help her resolve this overheating issue.

Of course, it might seem like all this is ridiculous. Why not just have my daughter and I have a conversation and figure all this out instead of using a machine to mediate our relationship and provide a mock-up kind of third person in the form of a "Turing Child"? This is the kind of point that an Amish family might especially emphasize. Recall the story we looked at earlier from Kevin Kelley who described the way Amish communities approached telephone technology.

Outsiders often suppose the Amish are Luddites who simply refuse to adopt modern technology, but the truth is much more nuanced. The Amish often experiment with the most advanced of new forms of tech – it is simply that they insist that it be adapted to uses that harmonize it with the family centered, religious values of their communities. As Kelley notes, they experimented with telephones in their homes. They found the ringing interrupted family meals and extended phone conversations disrupted family life. Yet they also found phones were useful for making business arrangements and dealing with emergencies. Their solution was to not allow phones in the house but put them in useful and accessible telephone boxes out on the street.

In analogous ways, one would imagine that Amish families would not want to let some new thermostat technology displace family interactions. However, if the technology is used to enhance conversations about climate change, it might be a useful improvement. The various adjustments we might make to thermostats for different reasons on different occasions might be hard to keep track of and sort through. A thermostat system that helped us record and reconsider them all – perhaps with some helpful visual charts – might be very useful. It might actually make it easier to have interesting and productive conversations about how we are addressing climate change in the larger world as well as all the specific concerns of people, plants, pets, and other things in our house. And it might even invite us to talk constructively and creatively about how we might start tracking and transforming other things in our homes, schools, or places of work. It might help us look systematically at when the lights are turned on or the water runs or how food comes in and waste goes out. In experimenting with such technologies, we can draw not only on the Amish but on the suggestions from Alvin Toffler who proposed, in *Future Shock*, that we need to find ways to experiment with entering into future technologies in different ways and at different rates. We need to allow some to be pioneers who try out the cutting edge and others to be conservators who maintain legacy technologies and forms of life.[i]

In considering these proposals, it is important to stress that **the path toward a dialogical system of technology does not require massive new breakthroughs in hardware**. It does not require some radical new form of quantum computing to generate futuristic kinds of machine consciousness. Instead, **what it needs is a shift in the style of basic reasoning that frames the processes we engage in with it.** The shift is away from an autonomous and linear device that gets programmed with inputs and then uses algorithmic rules to generate the outputs that manage the system. The shift is toward interactive devices that are programmed to ask questions, invite new questions, and invite us to reprogram them in ways that let us engage in dialogue with each other and the world around us in increasingly thoughtful and wise ways.

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[i] Toffler 1984