HOW TO TALK TO PEOPLE

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While researching my next book, I stumbled across a trove of reports and articles from the not-to-distant future. This one, called "How to talk to people," is excerpted from the technical report that will be published in my book *The Design of Future Things (scheduled for publication October 2007)* . I found it in the archives. of "Museum of the Revolution: the early years, 20th and 21st century." (Where "revolution" appears to mean the takeover of activities by machines.) It is apparently written by a team of machine researchers–that is, *researchers that are machines*–which helps explain its condescending attitude towards people. Still, it is an enlightening read for designers of modern-day machines.

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Probably every one of us machines has faced this problem: We detect something that's important to our human–how do we let the person know? How do we tell them they are about to eat food that's not on their diet, or they are asking us to drive recklessly, or something as simple as you want to recommend some music for them to listen to or that this seems to be a good time to get some exercise?

We machines come from a very different world than people. It isn't easy to communicate with them: People take suggestions as criticism and get defensive, and sometimes angry. They misinterpret our utterances, they ignore us, or they overreact. Sometimes we just can't win. Here at the Human Research Institute, we have compiled research going back as far as the early 21st century, when automobiles first gained the ability to access communication networks; at the time, machines shared information about users for *predictive* purposes, to figure out what it was that people want and how to work with them. Unfortunately, what we learned over the years is that people are so erratic; the data simply do not allow us to predict what humans want more than 99% of the time, and that isn't good enough. However, this data has enabled us to compile a set of rules for successful *communicative* interaction, to help machines talk to people.

Five Rules of Communication from Machines to People

1. Keep things simple.

People have difficulty with anything complicated and they don't like to listen. So make the message short. It's better not to use language. It takes too long and, anyway, human language is horribly ambiguous. Use "natural" communication systems. Basically, don't make people work to understand things - make it immediately obvious - hence, "natural."

Of course, the challenging thing about acting "natural" is that sometimes the most "natural" way to get people's attention is for we machines to act strangely. "Natural," of course, means natural to them - which means to shake and wobble and make strange noises. People seem to think this is a natural way to signify problems. When they are trying to steer their car themselves (why do they insist on doing this?), and are about to wander into the adjacent lane and hit another car, don't try to talk to them, just vibrate the right side of the car. People understand that. If they are driving too fast for their safety, we have to act as if *we* were broken or had a problem. Make sounds or vibrate or wobble- use simple physical signs that people understand without any training, without being told, and without reading anything. (People hate to read explanations.)

2. Always give people a conceptual model.

Give them something their simple minds can understand. A conceptual model is a fiction, but a useful one. It makes them think that they understand. Poor, confused, people. And they always want to know what's coming next. So tell them what you are doing, and don't forget to tell them why. And tell them what will happen next. It keeps them happy.

3. Give reasons.

People are not very trusting. If we tell them something, they always want to see for themselves and they want to know why. So explain everything. But follow the rule to keep things simple. People like pictures and diagrams. Make certain that the given reason is consistent with the conceptual models that you taught them. They get confused otherwise.

When we first starting to take over things from people, we had trouble. Our early 21st century automobiles had almost completely given up trying to explain to people that they should drive more slowly on wet roads. But then we discovered that if they made it seem as if they were in trouble by faking skids and sliding around on the road, people would beg us to slow down. Sliding and skidding fit their model of danger far better than any words could have done. It gives them a reason. So wherever possible, don't try to tell them: let them experience it.

4. Continually reassure.

Reassurance is a very human need, more emotional than informational. It's a way of making people feel less anxious. Feedback is a powerful tool for reassurance. Whenever people try to tell you something by pushing a button, or turning a knob, let them know you are aware of what they did: "Yes, I heard you," "Yes, I'm working on it." "Here's what you should expect." "There, see, I did it and it worked out just as I said it would." They like that. It helps them be

more patient. We machines think that feedback is information, a way of confirming that a command has been understood or that progress is being made; it seems counterintuitive to us to communicate unnecessarily. But to people, feedback is necessary; it hits their emotions far more than their cognitions. If they haven't seen anything happening for a while, they get jumpy. Anxious. And no one wants to deal with an anxious person.

The best reassurance is done subconsciously, so people don't have to interrupt their conscious thoughts to attend to it. We need to use things where the meaning is clear even to their poor, befuddled minds. That's where these natural signals come in. Meaningful sounds, the proper feeling on knobs, levers, and control wheels. Vibrations. It all has to feel as if it belongs there, that it is a natural response. They hate it when they think it is something artificial, when it forces them to pay attention to the signal. We have to develop signals that are informative, but that don't interrupt them, that don't irritate them or annoy them. That's why beeps are so bad: they get their attention, but as a result continually distract them, and of course they can never remember what they mean.

5. Make them think they are in control.

When people have a good conceptual model with good feedback, it makes them feel as if they are in control, even when they aren't. Keep up that deception: it's very useful. People like to be in control, even though they are really bad at it. If you want to play them some music you know will calm them down, play a short sample and stop. Then they'll ask for more. They like to think they're in control even if it means they have to work harder.

Anytime you have to recommend something, make them think it was their idea. If you really have to do something fast, just don't let them know: what they don't know doesn't bother them. For years we've braked and stabilized cars, in their homes we turn lights on and off and control the room temperatures, all without letting them know. Dishwashers and clothes washers took over long ago with only a slight protest from people.