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Media Inequality in Conversation

Shortly after midnight, a resident of a small town in southern California called the police to report hearing a man inside a house nearby screaming "I'm going to kill you! I'm going to kill you!" Officers arrived on the scene and ordered the screaming man to come out of the house. The man stepped outside, wearing shorts and a Polo shirt. The officers found no victim inside the house. The man had been yelling at his computer.

--Fogg, B. J. (2003). Persuasive technology[1]

The Media Equation (loosely paraphrased) stipulates that people interact with computers and other forms of media as they would any social actor; people treat computers as if they are real people. When the 'Media Inequality in Conversation' study was performed (2003), The Media Equation was fairly well established. This study was a direct response to The Media Equation and an attempt to identify areas in which it failed to capture human behavior. In that study[2], users were asked to either team up with a computer or use it as a resource to help rank the importance of resources you might have were you to become stranded in the desert (the Desert Survival Problem[3]). They found that the users who teamed up with the computer identified the computer as a teammate. In 'Media Inequality in Conversation[4]', this exercise was modified so that, in place of a team, participants communicated with a partner, and they were told the partner was either a person or a computer. In fact, all participants interacted with an identical system. Each participant was asked to do a self evaluation to determine if they were an assertive communicator or not, and they would receive responses from the computer that were either assertive or nonassertive. Therefore there were a possibility of 8 variations (participant assertiveness X system assertiveness X told partner was human or computer) In this way, they were able to observe the potential for adversarial interaction, and for persuasive or yielding interactions.

Ultimately, findings demonstrated that people behaved very differently when they believed that their partner was a human versus when they believed it was a computer and that those differences fell in to what the authors describe as the 'relationship track' of conversation. To offer some form of context, the authors offer a couple of diagrams to explain what

Figure 1. Three tracks of conversational goals

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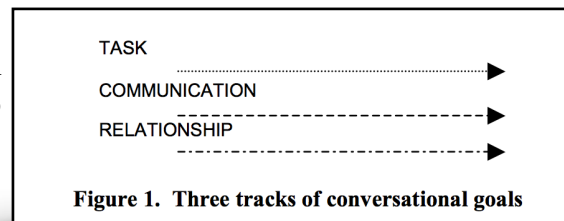
[1] Fogg, B. J. (2003). Persuasive technology : using computers to change what we think and do. Amsterdam ; Boston :Morgan Kaufmann Publishers

[2] Can computers be teammates? CLIFFORD NASS , B . J . FOGG , & YOUNGME MOON Department of Communication , Stanford University , Stanford ,

[3] Lafferty, J., & Eady, P. (1974). The desert survival problem. Plymouth, MI: Experimental Learning Methods.

[4] Shechtman, N. and Horowitz, L. (2003). Media inequality in conversation: how people behave differently when interacting with computers and people. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2003), ACM Press, 281-288

many authors cited in this study suggest are the three main tracks of conversation: Task, Communication and relationship (see Figure 1 above[5]), and a diagram to map out 'the relationship space in conversation (see figure 2 below[6]) as mapped out on an XY plot where x represented levels of connection or lack thereof, and Y represents the push-pull of attempting to
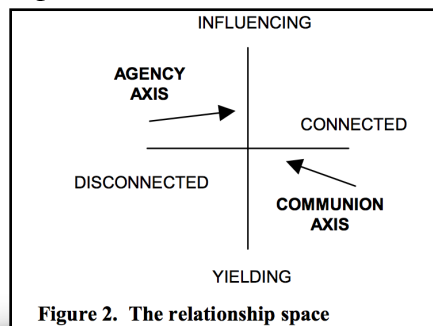

Figure 2. The relationship space

influence or yielding to another's influence. It was along these lines that key differences between human-perceived human and human-perceived computer interactions differed. Participants consistently spent more time and effort communicating with their partner when they believed their partner was a person. Participants only shared personal information when they believed their partner was human and they only became hostile when they believed their partner was a human. Further, outside observers were brought in to look at each interaction and judge whether the participant believed they were communicating with a person or a computer, which they were able to do with a high level of accuracy, suggesting that this 'media inequality' is intuitive. For these reasons, Schectman et al. believed that there are key ways in which people do not treat computers as social actors and that it may be a flawed assumption to design all systems as if they will.

The key takeaways of the study were:

1. Participants used more words and spent more time in conversation **when they believed the partner was a person**
2. Judges found it easy to distinguish discourse from apparently-computer and apparently-human conversations, and their intuitions were that the differences were on the relationship track
3. Participants with an **apparently-human partner** used over four times more relationship statements – connecting, influencing, yielding, and hostile
4. Assertive participants became more engaged on the relationship track, but **only when they believed their partners were human**
5. When the partner's scripted behavior was assertive, participants reacted with influencing behavior in return, **but only when they believed the partner was human**
6. The partner's scripted assertive behavior drew assertive participants into a hostile power struggle, **but only when participants thought the partner was human**[7]

The authors suggest that designers take into account the intentions of a system and the expected human interactions before designing a system that might make a user believe that they are interacting with a human. For example, participants communicated much more efficiently and without emotion when they were told their partner was a computer. In many current

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[5] Shechtman and Horowitz. (2003).

[6] Shechtman and Horowitz. (2003).

[7] Shechtman and Horowitz. (2003). content in bold to highlight the connected theme 'when they thought their partner was human' in each finding

interactions, we express our goal or information need conversationally to Siri or Alexa or Google Assistant, but we do not think that they are people who have their own opinions. In this way, we are succinct and do not always speak in complete sentences. Conversely, if a system is designed to compile complex queries based not only on the compromised query a user might put in to a system, but also to take into account contextually relevant information, it might behoove a system to have a name and act as if it is a human operator- users seem much more likely to be forthcoming, and tend to offer more comprehensive and personally revealing information than they would a perceived computer system.

The authors recommend that, as designers, we should consider the purpose of communication, whether it should fall mainly on the task, communication or relationship track and, if it is the former, it is probably more efficient and of no consequence to have the interface be clearly a computer, if it is on the relationship track (for example, the reservation system of a high end resort or luxury spa) perhaps it would be beneficial for the system to either behave like a human or incorporate human components (eg. personalized welcome letters that include a signature, even if they are automatically generated).

I think that, as interfaces become more and more dynamic and as voice assistants understand more complex spoken commands and queries, this media inequality may need to be revisited, but as long as it holds true, we should be mindful of the lengthiness that personalized 'human' interaction involves and consider whether it benefits user experience to have an interface offer an apology for not understanding something or if it will simply be annoying. In those cases, perhaps it would be better to attempt to minimize the syllables needed to convey a message, purely in the interest of efficient communication.