

How deeply rooted is turn-taking?

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Abstract

This poster presents preliminary work investigating turn-taking in text-based chat with a view to learn something about how deeply rooted turn-taking is in the human cognition. A connexion is shown between preferred turn-taking patterns and length and type of experience with such chats, which supports the idea that the orderly type of turn-taking found in most spoken conversations is indeed deeply rooted, but not more so than that it can be overcome with training in a situation where such turn-taking is not beneficial to the communication.

Wilson & Wilson (2005) propose that turn-taking is grounded in fundamental human cognitive processes, based in part on the observation that orderly turn-taking is present even in forms of dialogue where it need not be for communicative purposes:

“To our knowledge, no culture or group has been found in which the fundamental features of turn-taking are absent. This is true even when the physical substrate of conversation is radically different from that of ordinary speech, as in the cases of sign language used by the deaf and tactile sign language used by the deaf-blind.”

However, personal experience and discussions with colleagues and friends suggest that people’s habits during text based chats may provide a counter-example: it is common for people in text based chats to type without waiting for their turn or waiting for a response. From introspection and memory, it seems that people who are quite used to maintaining text based conversations, and in particular those who are used to extended multi-party conversations such as in-game chats and IRC (Internet Relay Chat).

A possible reason for this could be that turn-taking makes little sense in a text-based chat. Typing is slow, and while one participant is typing, all others must sit inactive. When participant hits return and the message is revealed, all others must first read it, then whoever should respond will start typing, and the waiting game starts over. Furthermore, in case there are more than two participants, the issue of selecting the next speaker becomes severely complicated by the lack of gaze and gesture. If on the other hand turn-taking is abandoned, it is quite possible to maintain a conversation with two or more parallel threads, where one speaker narrates a story at the same time as another, so that they can both type simultaneously.

If these speculations are correct, they are compatible with Wilson & Wilson’s statement. The turn-taking system we use in spoken interaction is indeed deeply rooted, and is not easily over-ridden even when the interaction is moved to a system in which turn-taking is not strictly necessary, and might even be detrimental. Following sustained use of such systems, however, users may learn more efficient patterns. This would be exemplified by two-party text-based chats.

It is also likely the process will be sped up by extended use of a system where traditional turn-taking is not only difficult but impossible, but that nevertheless functions well, by demonstrating forcefully that other patterns are possible. Multi-party text-based chats would exemplify this.

To explore this line of thinking, a pre-study in the form of a Google Documents questionnaire was sent to 80 people picked from the author’s address list. The questionnaire contained questions on text-based chat experience and on turn-taking preferences. 38 people answered the questionnaire, 17 females and 21 males. There were no significant or even noticeable gender differences. All

those who answered had extensive experience with general computer use.

Three open questions were included: “For what purposes do you use text based chat? Please put down an example or two.”, “Do you see any similarities or differences in the way you take turns when speaking and when you use text based chats? Please provide a few examples!”, and “Do you see any similarities or differences in the way you use text based chats and email? Please provide a few examples!”. At the time the answers to the open questions were compiled, 35 people had answered. The two most common purposes mentioned were *to stay in contact* (22/35) and *to ask brief questions* (15/35). The two most common similarities or differences to speech were *turn-taking* (26/35; mention as similarity as well as difference) and *timing* (14/35). The two most commonly mentioned similarities or differences to e-mail were the *level of formality* (22/35; e-mail more formal) and *presence* (12/35; presence required for chat).

The questions of real interest were embedded in a range of different questions about text based chats in order to make them inconspicuous. They were multiple choice questions phrased as follows:

- (1) How frequently do you use text based chats? (Daily, Weekly, Monthly, More rarely)
- (2) Do you use the multiple user/group chat functions? (No never, Yes occasionally, Yes, regularly)
- (3) Do you prefer typing one message, then waiting for your chat partner to type a message, and so on in an orderly manner, or do you just type as you think of things and read whenever there is a response? (I prefer to just type as soon as I think of something, I prefer to take turns, I’m fine with both)

The hypothesis is that the answer to (3) should more commonly be “I prefer to just type as soon as I think of something” with participants who use text-based chats more, who have done it longer, and who are used to multi-party chats (such as in-game chats). “I’m fine with both” answers to (3) are omitted for space reasons, but they occur in all

groups to a similar extent.

The answers to (1) and (3) support the hypothesis, in that a much larger proportion of those who use text-based chats often flaunts turn-taking:

	Chats weekly or more	Chats monthly or less
Prefers turntaking	6	8
Flaunts turn-taking	7	1

The same goes for the answers to (2) and (3), in that a larger proportion of those who regularly use multi-party chats flaunts turn-taking:

	No multi-party	Occasional multiparty	Regular multiparty
Prefers turntaking	9	5	0
Flaunts turn-taking	4	2	2

As these initial results seem promising, a larger survey in which a number of flaws revealed in the pre-study are remedied is in preparation, and will be made available to a much larger population. We are also seeking methods to test the results through analysis of chat data or possibly to verify them experimentally. The latter will be difficult, as removing the urge to take turns is seemingly a long process.

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References

- Wilson, M., & Wilson, T. P. (2005). An oscillator model of the timing of turn-taking. *Psychonomic Bulletin and Review*, 12(6), 957-968.