An Overview of "Turns" in Conversation Analysis

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Abstract—**Conversation Analysis (CA) derives from the 1970s, which was put forward by Sacks, Schegloff, and Jefferson for the sack of analyzing institutional talk, e.g., business negotiation discourse, and doctor-patient communication discourse and telephone conversations. Currently, it has become the most favorable and effective method to analyze interactive discourse. As the essential part of CA, the "turn" is the foundation of all the research, carrying talk information and social rules in interaction that plays an essential role in guiding the outcome of conversations in social communication. The thesis made classification, summaries and reviews on studies of "turns" in conversation to explores the orientation of "turn" in conversation by specifying the aspects of turn-taking, allocating, and repairing to make an overview of turn in conversation analysis and provide a spark for further study in the field. The overview helped to recognize current status and make a new attempt. It was revealed that studies of "turns" in conversation analysis are widely applied in healthcare, patient-to-doctor interaction in particular; during analysis of conversation, time-span and manners of participants were mainly focused. The thesis discovered a fact that studies of "turns" on on-line interaction is insufficient, which is significant under the current situation.**

Index Terms—**Conversation analysis, repair, turn allocating, turn-taking**

I. INTRODUCTION

Conversation analysis (CA) can be broadly described as the analysis of any kind of conversation socially, while in a narrow range, CA, developed by Harvey Sacks, Emanuel Schegloff, and Gail Jefferson, deriving from a branch of sociology that is named ethnomethodology. As a genre of discourse analysis, researchers of CA engage themselves in studying the mass presence of phenomena in social interaction [1]. As one of the main aspects studied in CA, the "turn" study can be expanded to "turn-taking", "turns allocating" and "repairing" in conversation, which is generally studied on based on Turn Conversation Unit (TCU). The term "turns" appeared in a social interaction in which one person speaks following another one, i.e., it refers to the words of participants in conversation before the next participant starts. The conversation is compounded by turns. Therefore, "turn" in conversation plays an essential role in the study of CA.

The studies of turn per se concentrated on turn-taking, turn allocating or selecting and the repairing achieved in turns. The majority of studies in the turn are empirical that based on closed audio-record analysis. They explore how the system is built or how that takes influences the outcome of the conversation. The sociological factors and relations hidden in the conversation or participants guide the course of social interaction, and these factors and relations can be summarized and analyzed. Regarding turn-taking, it attracts particular interest in whether, how, how much effects on turn-taking system can make to drive or hinder the matter [2]. Furthermore, the research on turn allocating or selecting distribution reveals the determined elements covered under the social interaction that makes turn change proactively or passively. Due to the social interaction occurring immediately and the change of turn acts simultaneously, a new turn to repair what the participant talked about is used. The ultimate of analyzing turn is optimizing the method and finally developing a mechanism as a reference to foster the efficiency of social interaction.

The analysis of turns in conversation carried out per the record of authentic social interactions, it is widely applied in the study of the face-to-face scenes where the sources of studies on the application of turn are oral dialogues, e.g., doctor-patient communication, education in the classroom, and commercial meetings. Currently, with the high desire for communication under the background of COVID-19 as well as the repaid development of the technical methods, online interaction including telephone communication, live webcast, online virtual meeting, etc., as the more convenient and safer method, is gradually increasing its weight in social communication, on which the study will be more significant and it will be beneficial to deplore new mechanism for social interaction.

In this thesis, the author made literature analysis and collected the studies in turn-taking, turn allocating, repair in turns of conversation and the application of turns study in conversation analysis. The author analyzed and reviewed the results of existing studies, predicting the future of conversation analysis in light of the current situation. The study found that in the turn-taking of social interaction, the focus is on the exploration of the "rules" of social communication (see the first part of the thesis), with "language pairs" as the point for analysis; for turn allocation and selection, the study is mainly based on the subject of selection. In the fourth part, the current applications of conversation analysis were analyzed, and based on this the possibilities for further development were explored.

II. TURN-TAKING IN CONVERSATION

Turn-taking is a prominent type of social action for the organizing and running of social actions. It used in many kinds of speech exchange systems in social interaction such as talking interviews, meetings, debates, ceremonies, conversations, etc. [2]. As the fundamental part, "turn" plays an essential role in such exchange systems that it contributed to decision making and activity carrying-out. In the study of conversation analysis, turn-taking is the basis of that the discourses in different turns are analyzed to understand the characteristics of the discourse and the psychology of the

participants. The function and interaction between adjacent turns empower the dialogue and promote the conversation goes on. This kind of relation, as a result, makes sense for research in conversation analysis. Social interaction drives forward in continuous turns-taking, which as a social activity, guided by some elements beyond linguistics, the taking of turns is influenced as well.

Turns are composed of "Turn Construction Units" (TCUs), which are recognizable and interactional. The TCUs are sentential, clausal, phrasal, and lexical construction, empowering the participants to make predictions and reflections during social interaction [3]. It can be described as the unit of turn-taking because of the information and interaction are achieved via the exchange of "pairs" and "turns" consisting of TCUs. The basic function laid in conversation is to transfer information or message for the achievement of some social purpose, which could be realized only through the exchange of turns. As each next turn conveys information about a prior action, it also provides inspection to participants for reflections in the next round of turns, including offering a new turn, selecting a participant for a new turn, and repairing. Ford emphasized the focus on turn-taking in applied linguistic studies, which is considered on a moment-to-moment basis, and a formidable challenge for quantification in research was posed in the article, which can be the concentration in follow-up studies.

Typical pairs of turns in conversation are question and answer, beyond that, pairs such as greetings/greetings, invitation/acceptance or rejection, complaining/apology or denial, appreciation/acceptance and rejection, request/acceptance and rejection, guidance/acceptance and rejection frequently appear in a conversation. The turns exist in certain social contexts [4], that is, in a conversation, words from parties serve certain social purposes and there is no such thing as an expression out of context.

Researchers engaging in turn-taking focus on how the mechanism of turn-taking is, how it is established, and what kind of influence it will take on the interactive activities. It is believed that turn-taking is the part of the universal infrastructure for language, which "turns out to shed real insight into language processing, and goes some way to explain why language has the character that it does, organized into a short phrase or clause-like units with an overall prosodic envelope" [5]. One conclusion was drawn with substantial empirical backing that turn-taking was before language in phylogeny, which can be described that in social interaction, language is acquired and squeezed into the framework of turns, so that the function of turn-taking makes sense. Puzzles and challenges for gaps between turns were specified in the article and turn-taking, as the important part of social interaction, whose rules applied were analyzed, showing that the high temporal coordination between members in conversation is essential for positive outcomes.

Studies of conversation analysis are well performed under the common sense that it is an empirical field, namely, the corpus of social interaction shall be applied. So, it can be recognized that it has a tightening connection to social actions. Turn, as a result, and as the primary focus in CA, is also connected to social action. Some studies carried out their research beyond the general aspects – turn holding, turn exchange, turn transition, turn allocation, and so on and so forth – and is devoted to discussing social actions, introducing a new direction of CA that how social actions are conducted through language. It's argued social actions and speech acts, and introduced three formats of analysis which were instructive: offers, requests, and proposals [6]. In the three formats which were summarized following the lexic-syntactic perspective, detailed forms were concluded based on numerous empirical data. Such formats were put forward based on linguistics and social action, analyzing beyond the stereotype of existing methods and then innovatively coming up with a perspective for future direction. The author of the paper put forward that "turn-taking" is no longer the primary focus of conversation analysis, instead social action has risen to the top of the CA agenda. The article draws patterns from a large body of empirical evidence and summarizes social activities as offers, requests, and proposals, but there is more to social communication than these three types of activities, and exploration for other types of social activities in depth is required.

The studies of "turn" are essentially explorations of the rules of social interaction, i.e., the grasp and optimization of "Order" in social communication, which is not the sociological laws or regulations that force the participants to obey, but the nature or mechanism that are beneficial to dialogue. In the classroom, for example, the order of turn-taking between teacher and students should be established for an efficient education, and a benign mechanism of interaction between doctors and patients shall be clarified and optimized for improvements in the level and efficiency of medical treatment.

Much of the studies on conversation analysis have focused on the turn. As an essential element of conversation analysis, the turn itself transforms the conversation and thus enables the dialogue between the various participants in social communication to take place. The turn itself is composed of various structures, including the sentential, clausal, phrasal, and lexical. It is the abundance of the turns that makes the taking of them possible and facilitates the development of dialogue and the collision of ideas and thoughts in social interaction.

III. TURN ALLOCATING OR SELECTING IN CONVERSATION

Conversations take place in a constant exchange of turns, and turn allocation or turn selection helps the parties involved to organize their turns rationally, so that an effective conversation can achieve. Existing studies on allocation and selection of turns are based on the "relevance" of the participants to the content of the conversation, combined with characteristics beyond the conversation itself. It is divided into two main types of turn allocation and selection, which can be referred to as active and passive selection from the perspective of the attendee. Depending on their relevance, the attendee can either start a quick and active turn at the end of the previous turn to get the right to speak, or be assigned by the speaker to the next turn through verbal or non-verbal actions or behavior at the end of the previous turn.

The dialogue in social interaction is put forward through turn-taking and meanwhile, the exchange of turns is also achieved by continuously allocating of selecting turns. The selecting or allocating of turns is normally divided into two

methods, i.e., it is proactively selected by participants, or allocated by a speaker. The method taken in conversation depends on the actual contexts and the backgrounds (economic power, social class, cognitive level, knowledge gap, etc.) of participants. Among the allocation of turns, the term "timing" is frequently discussed to analyze the condition of allocation in turn-taking, which is prevalently used as a basis for specific quantitative analyses of conversations, which can concretely reveal the phenomenon of pauses in the distribution of turns in speech and conversation.

As argued by Sacks *et al.* [2], conversation is an elemental piece of social organization that regulated by social norms and prescribes one speaker at a time but allows open participation. The conversation moves forward under the involvement of participants and deepened following the turn-taking. But in actuality, the exchange of turns is not achieved one by one, nor are they exchanged with the same time gap. In authentic conversation, they follow a sequence as a whole, together with interruption, pause, body language, etc. leading to overlaps and latencies in the exchange of turns. The overlaps or pauses are not interfacing the comprehension but participants need to recognize when to speak or when to be quiet [7]. Therefore, timing in turn selecting or allocating is necessary [5]. revealed that the gaps between turns in dialogues are short (of the order of 200 ms) but the latencies in production are over 600ms, which indicates the participants" motivations in conversation.

Lee [8] studied turn allocating in peer group discussions where non-talking recipients and non-vocal displays were focused. Regardless of the method of turn allocating applied, it is influenced by verbal elements or non-verbal elements in the actual social interaction. Verbal elements tell the nodes in conversation with interactional resources such as phonetics, prosody, grammar, and lexis to indicate the time for allocating and selecting turns, and as for non-verbal elements in turn allocating, eye gaze, gesture, bodily conduct, facial expression, touch and so on are applied to achieve the allocating of turn and promote the resumption of conversation. The article explored turn allocating based on recorded data and analyzed multimodal practices, reaching the conclusion that both speakers and listeners are involved in moment-to-moment interactions. Attention to participants in conversation was paid while the effect of environment or elements outside of the conversation was neglected.

Positive selection of turns is driven by the conversational framework built by participants and socially common senses. The framework of the conversation is determined by the social status of each participant, their cognitive level, and the specific roles they play in social interactions.

The dialogue shall be fluent and effective in social interaction for the sake of the maximum outcomes in conversation. As a result, an instinct method is applied in authentic social interactions which were named prediction-by-simulation analyzed by Garrod and Pickering [7] shows that participants will make simulations and predictions based on the content of the current speech concerning the established framework and context of the conversation, which can effectively improve the efficiency of the dialogue. Participants predict the speaker's intentions and respond accordingly in the next turn, or predict what the speaker will say next. The principle embedded in that the comprehenders

make predictions in a similar way to the speakers in this process, this model is feasible and optimizes the turn allocation system. When all parties think and organize themselves similarly, the timing between rounds can be reduced, making the dialogue more efficient.

Relevance is a key factor in turn selection in a conversation. Turn allocation involves a set of rules for when speaker change occurs and how the next speakers are selected. each speaker is initially allotted one TCU per turn. The term "relevance" underscores the fact of dialogues. The complexities of turn-taking, including placement and composition of turns, constitute essential parts of meaning-making in interaction [3]. Relevance can socially determine the specified participants responding to the last turn and attendees will monitor and seize the information in the ongoing turns, predicting by simulation and deciding whether to take over the new round of turns to continue the conversation after taking into account the own perceptions and social context, or attendee wait for the speaker to assign a speaker for the next round of turn.

The allocation of turns can be influenced by several factors both within and outside the conversation, including the social status of the participants, cognitive gaps, and the hidden framework of the dialogue. Compounded by the relevance and other verbal and non-verbal elements, the timing between the turns exists, revealing the differences between culture and thought, eventually culminating in a mechanism to attempt to search for commonalities between cultures, narrowing the timing gap between the culture for the maximum of conversation outcomes. It can be seen that the key to conversation analysis is the "rules" of the dialogue, i.e., the question of who has the "right to speak". The so-called "rules" are not the exact prescriptive items, but rather a favorable "mechanism" of the conversation, in which the various participants in the conversation strike a balance in the allocation of turns to achieve the best possible outcome of the conversation. Achieving this balance requires a combination of participants, relevant knowledge, context, and the actual understanding of the listener/speaker.

IV. REPAIR IN CONVERSATION

"Repair" is the activity initiated during the operation of social interaction, which is realized through the frequent exchanges of turns. Repair shares a considerable proportion in conversations with the fact that the social interaction per se is built under the determined framework for dialogues as well as influenced by verbal and non-verbal elements. Studies on repair are mainly focused on how it comes, what makes it be motivated and the strategies of repairing that participant applied in social interaction. Such conversations are shown to be purposeful in general, but are characterized by multiple conversations in detail. Schegloff, Jefferson, and Sacks [2] were the first to regard the various phenomena as a simple organization. Fox, Benjamin and Mazeland [9] clarified repair initiation and repair proper, put forward to that repair refers to two parties – speaker and other participants, and based on the analysis, it was revealed that self-initiated repair as well as repair proper, outnumbered by that performed by others that means the repair is more general than correction.

Self-repair refers to the speaker's repair of the trouble

source without any assistance from other participants in turns. Self-repair includes self-initiated self-repair and other-initiated self-repair [10]. The term "trouble resource" is the mistakes or inappropriate expressions in the conversation, so the repair to trouble source includes not only the repair to an error in dialogue (error repair), but also the repair to appropriate expression (appropriateness repair). In Ma's article it was discussed the interaction between conversation participants and the sequence of performing repair was concluded. The interaction in dialogue is carried out with the presence of participants" understanding and the adjustment of their acts. The participants make predictions and take actions with their epistemic domain and epistemic information, the inequality of which is the cause of the repair in social interaction.

The procedure for repair is divided into three parts: trouble source, repair initiation, and repair outcome [11]. The repair activity per se is the replacement of an incorrect or inappropriate part of the previous turn in a new turn. The replacement in error repair is the correct expression after modification, for example, the replacement of phonetical error and lexical error, while inappropriate repair the to-be-replaced part can be differentiated according to function, i.e., synonymy replacement (the trouble source shares the meaning with the corrected part), same-reference replacement (the trouble source refers to the same component or entity as the correction part), degree replacement (there is a difference between trouble source and repaired part in terms of the degree of expression) and hyponymy replacement (trouble resource has a contextual relationship with the repaired part).

The act of repair in social interaction is constant, and as long as it is needed, the participants will take it immediately afterward. Repair is achieved through turn-taking, and there are two main types of repairs, either by the speaker to himself or by the other participants in the interaction. A basic framework for the organization of oral communication is provided by the turn-taking mechanism that constrains people to switch roles and exchange turns methodically during the conversation, where the sequence organization allows people to engage in relevant and meaningful interactions during the conversation, and the mechanism of repair comes into effect when interactions go awry. The purpose of repair is to maintain the reciprocity of perspectives and to act as a communicative remedy, removing barriers to the conversation and allowing the communication to continue effectively [12]. Social interaction is a kind of communicative language activity that performing under a framework of conversation, and as a result, the phenomenon of repair appears frequently. In addition to the fact that repair is conducted for a purpose subjective to its nature, therefore psychological factors are an important pointcut for studying the performance and role of repair in turns. Psychological resistance in the healthcare field, for instance, was continually studied to analyze the patient's self-defense preventing the doctor from obtaining accurate and sufficient information for diagnosis.

In all cases it is unavoidable that the repair delays the progress of turn exchanging for the reason that once the repair is initiated, it means the speaker failed to achieve his/her intention in the dialogue - the dialogue did not go as he/she

predicted ad re-prediction and re-organization are required - and as a result, performing of repair by speakers or other participants started. However, if the framework built for social interaction can be refined and optimized, it is possible to reduce the frequency with which repair occurs in a conversation, or to reduce the time gap and cognitive occupation of performing the act of repair, thus the social interaction will be enhanced for a favorable outcome and excellent efficiency in conversation.

V. APPLICATION OF TURNS IN CONVERSATION ANALYSIS

Currently, domestic and international studies on conversation analysis are so extensive, covering a great number of areas. Conversation analysis per se is a kind of study of speech acts in authentic social contexts, which as a result, is theoretically possible to study any social interaction situation. Existing studies prefer to focus on communication in the medical field, i.e., doctor-patient communication. For example, Tseliou [13] studied conversations in the home healthcare environment, where the argument was that in the past, CA for home healthcare was multi-methodological and focus less on conclusions. The method applied in the study were mostly consisted of analyzing audio/video records, specifically engaging in the analysis of turn-taking under the environment of actual conversation (family therapy) to fulfill a conversation system to facilitate the outcome of diagnosis and treatment.

The origins of CA lie in ethnographic methods in discourse analysis; therefore, the ethnographic method is also a frequently used method in CA. The method is primarily observational—research involved themselves in a group of people, conducting researched over years before drawing their conclusion. Being there will be able to give access to real first-hand information and sources. A conclusion is drawn that CA focuses on the "rules" hidden in the conversation, which include class position, cognitive differences, psychological factors, etc. Chatwin, Ludwin and Latham [14] introduced ethnographic methods to study interactions in dementia care, they indicated that ethnography and CA can be usefully combined in micro-level care work practice for continuing professionalism of care work.

Yang and Wang *et al.* [15] focused on third-party escorted medical consultations, and proposed that it was necessary to increase the turn-proportion of patients in conversation to assist doctors to get more precise diagnoses. The proposal was reached after the analysis of plenty of actual diagnostic results of departments in the hospital. However, one of the common features of the conversation corpus of third-party escorted medical consultation in the thesis is that the contexts of medical consultations were conducted with the escorts were someone who speaks the same language both as the patients and doctors, such escorts were family members, friends, relatives or colleagues of patients, who attended the medical consultation due to some social reasons (e.g., introducing patients to the hospital, allaying their psychological fears or just accompanying). They were not doctors, nurses, or some other medical care personnel. Under that circumstance, the escorts—the third party-were in the same cognitive position as the patients, i.e., they cannot provide professional information to the doctor for precise

diagnoses. Therefore, the conclusion of "increasing the turn-proportion of patients is needed for precise diagnoses" is acceptable. However, if the situation changes and the third-party escorts were no longer in the same cognitive position as the patient, such a conclusion is open to question. Consideration also needs to be given to whether such a conclusion can still be applied to third-party escorted medical consultations where the third party has some medical knowledge accumulation and where the third party is a language service provider in multilingual settings.

Conversation analysis for descriptions was conducted by Wang and Zhang [16] empirically, where speech sequences and the roles of participants in description activities were studied to enhance the effects of communication between doctors and patients. Studies in the analysis of conversation in the field of medical care are aimed at optimizing doctor-patient communication, optimizing medical procedures, improving diagnostic efficiency, and promoting the efficient use of medical resources. CA is communicative because of the characteristic of conversation per se, which as a result, processes the destination that achieves better conversational outcomes by revealing social habits in conversation.

In addition to the application of conversation analysis in the healthcare field, recent research on conversation analysis have also been used to explore online interaction models as well as the application of analysis in education is also going thoroughly. The rapid development of technology has been flourishing the platforms and methods of communication online for human beings. Meanwhile, the COVID-19 outbroke in 2019 has been pushing people to transfer their communication onto a virtual and online platform, which sparked and expedite the exploration of online communication.

Paulus and Warren *et al.* [17] have studied the CA for online interaction. They conducted a study and analysis of text communication in online interactions to understand the information in "ordinary" dialogues. The main types of CA for online communication are turn-taking, sequence organization, repair, openings, and embodied conduct [18]. The use of terminology is taken into account in the analysis of online conversations. There are significant differences between online text communication and conversational communication in terms of turns: text communication does not allow for turn-taking analysis (turn-taking), and due to input time span, network lagging, etc., turns are not in order (sequence organization). The receiver can only see the message after the initiator finishes the input and click "send"; as a result, there is no space for interrupting during the conversation online. In addition, caused of the nature of text input, there is no chance for correction in single pairs, but can be corrected in the next turn (repair). In group chat, newcomers can start the dialogue by greeting with a public prompt message by the server (opening). In an online conversation, some stickers or emoticons can be applied instead of body language in face-to-face conversation, which can carry out information vividly (embodied conduct). This kind of model of online conversation analysis exists imperfections, i.e., it is nonsensical to analyze repair in turns on account of the peculiarity of online interaction; more research into CA on other platforms is needed; the use of technology and analysis cannot be parallel (inconvenient data collection in online interaction).

Studies in online conversation analysis focus more on language and communication as well as the comparison between online and offline. Moreover, its focus is on how to maintain coherence, how participants deal with problems, and how to achieve communicative behavior non-simultaneously. The subsequent research trend is to deepen research in various fields, especially counseling, education, work scenarios, and language acquisition.

Koole [19] empirically studied CA in education and put forward the IRF sequence: initiation, reply, and feedback. The turn-taking in class is for the "order" in lessons, which refers to not only the disciplines or regulations in classroom, but also a mechanism that is beneficial to the outcome of communication between teacher and students, which requires a teacher can properly in charge of the turn-taking in the classroom.

Briefly, current studies in conversation analysis are good at combining analysis with various factuality in fields while there is a lack of in-depth research on context and a lack of research on discourse understanding. Most of the studies have explored the internal patterns of conversational turn-taking, but not enough research has been done on the extensions of the corresponding purposes of participants in the conversation. Studies in the western world on CA take the participants" or their position and focuses on the speaker's or author's communicative purpose, intentions, cognitive patterns, manipulation of discourse, and context or ideology hidden in the conversation, neglecting the actual understanding of the dialogues by the listener or reader [20]. Tseliou [13] argues that current studies on conversation analysis lack a systematic approach and other forms of research besides empirical studies. At the same time, a summary of current professional applications of conversation analysis in specific fields shows that the key to the analysis of conversations is the "rules" of communication, i.e., the question of who holds the "power of speech" of the participants. The "rules" are not laws or regulation, but rather a favorable "mechanism" of the conversation hidden in the social status, in which the participants reach a balance in the distribution of turns to get the best out of the dialogue. Achieving this balance requires a combination of participants, relevant knowledge, context, and the actual understanding of the listener/speaker.

VI. CONCLUSION

The analysis and study of conversation are beneficial to revealing the mystery of language evolution for human beings. In conversation analysis, the study of "turns" is of great significant to comprehend the mechanism and system hidden in the authentic social interaction, and then engaging in the enrichment and refinement of the system, which will be beneficial to the further evolution of language culture in the long history of humanity. The turns will make sense only by making them in the process of "taking", otherwise, they are just clips of sentences or words carrying out the limited messages. It is only in the taking of turns in conversation that the information for two sides can be well expressed and transferred, the relationships of turns hidden in the conversation can be explored as well. Also, it is only in the

study and analysis of the dynamic exchanges in language that the principles and the theories of the mechanism and system can be discovered as well as the in-depth and indeed understanding of social interaction in human society can be approached. The conversation in social interaction is put forward smoothly in continuous exchange, allocation and repair, moving the direction of expectations that participants involved.

A review of existing studies reveals that research on "turn" tends to be empirical, focusing on the discourse conceptions, timing and relationships between the various participants in authentic social interactions. However, nowadays there are more and more accessibilities for human beings to communicate, as well as online communication through the Internet is becoming increasingly important, studies on the "turn" in online communication is becoming more and more significant.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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