

A study of discursive interaction in Chinese police interrogation: Perspectives from Game Theory

Jing Lei Guo* and Cuicui Chen

Southwest University of Political Science and Law, Chongqing, China.

Accepted 20 January, 2014

ABSTRACT

Police interrogation, as a means of criminal investigation, is based on discursive interactions by nature and intends to find out the truth of facts according to legal procedures. Although both forensic linguistics experts and domestic judicial scholars have done numerous researches on discursive interaction in court trial and police interrogation over the years, few researches are empirical, let alone based on Game Theory analysis. Based on the transcripts of the taped recordings of Chinese police interrogation, this paper does a data-based and theory-driven qualitative research. After analyzing the models of Chinese police interrogation which is a typical institutional language interaction from the perspective of Game Theory, this study shows that “Chicken Game” model is suitable to analyze discourse contest between police and suspect. That is to say, discursive interaction in the Chinese police interrogation is a process of “language game” The present study is expected to provide a new pragmatic approach ushering constructs of Game Theory.

Keywords: Police interrogation, discursive Interaction, Game Theory, application.

*Corresponding author. E-mail: 412884574@qq.com. Tel: 13618206804.

INTRODUCTION

Forensic linguistics is the study of legal issues by means of linguistic theories and methods. It is interdisciplinary in nature, involving the fields of law, linguistics, sociology, culture, psychology, and so on.

The present research is a forensic linguistic study, which looks into the discursive interaction in Chinese police interrogation from the perspective of Game Theory, by employing a brand-new method of a game-theoretic analysis of the interactive relations between the speaker and hearer in Chinese police interrogation.

Since this research is interdisciplinary in nature, involving statistics, communication and linguistics, the author has multiple foci in carrying out this study. In order to define, delimit the scope of the present research, and find the gap between theory and practice, and to lay a foundation of building up an analytical framework for this research., the author begins with an overview of the existing studies on police interrogation at home and abroad, providing a background for the present study.

OVERVIEW OF THE RESEARCHES ON POLICE INTERROGATION

Overseas researches

Wrightsmann and Kasson (1993) ironically argue that the term “interviewing” plays a much more active role than “interrogation” for police detectives. Heydon (2002) explicitly indicates her preference for the term “police interview” over “police interrogation”. Westling (1998) favoured videotape of the whole process of police interrogation. Shuy (1998) provides us with not only a distinction between police interrogation and interview, but also recommends that interrogations and interviews be conducted in an informal register, and a series of questioning strategies such as clear and explicit questions, avoiding inferential meaning, and encouraging conscientious fact-gathering be put in place.

The numerous forensic linguistic researches made by

overseas experts in common law system attach more importance to discursive interaction in court trial. They generally focus on injustices coming from coercive questions, which are designed to elicit self-incrimination. Further, they also conduct researches concerning police interrogation in the following aspects: deceptive interrogation, intentional use of false evidences and wrongful conviction of innocent suspects. However, among the aforementioned researches, few are empirical. Therefore, the literature on the discursive interaction in police interrogation is still few and far between to facilitate Game Theory as a viable means to analyze the “question-response” discursive interactions.

Domestic researches

Among the Chinese forensic linguists, Sun and Zhou (1997) first initiates the study of the police language, maintaining that police questioning should be organized and centered on the seven key elements of a crime: time, place, means, purpose, motive, happenings and effects. Wang (1999) explains in detail four functions of interrogative language: explaining, reclaiming, persuading and stimulating, and indicates that interrogation has to have a chain of questions and answers, where the interrogators ask questions and suspects go to answer them.

In summary, the Chinese studies on the language issues of police interrogations have mostly been carried out from rather legal and rhetorical perspectives, and seldom rarely from linguistic perspective. In other words, in the Chinese studies, the linguistic features at the levels of lexis, grammar, and discourse stand generally neglected and left intact. From the foregoing review, the author finds that there existed a general lack or say, scarcity of linguistically-oriented theoretical studies in the field.

Limitations of the existing researches

Although forensic linguists at home and abroad have had carried out valuable researches on police interrogation from varied angles, they suffer quite a few limitations. Firstly, instead of focusing systematic theoretical perspectives, most of these works end up describing linguistic phenomena. Secondly, most of the researches merely provide practice manuals for police interrogation. Thirdly, though a large number of studies dig into police interrogation from the aspect of emotional influence, the researches on police interrogation are yet too few to throw light on how Game Theory could be applied to the discursive interaction in Chinese police interrogation.

Objective of the study

Taking the discursive interaction as the object and with

the Game Theory as the basis of the theoretical framework, the present research aims to fulfill the following two separate but interrelated research goals:

1. The theoretical objective is to expand the scope of Game Theory as a pragmatic approach which is otherwise just a linguistic phenomenon in the institutional setting.
2. The practical objective is to find out typical Game Theory models suitable to analyze the Chinese police interrogation and to describe the main language and mental strategies that the discursive interaction in Chinese police interrogation.

Research questions

In the aforementioned general objectives, this study is aimed at exploring the following research questions:

1. What kinds of Game Theory models can be employed to analyze the discursive interaction in Chinese police interrogation? And what are the limitations, if any?
2. How to analyze the specific examples using the suitable Game Theory models in the legal context?

METHODOLOGY

Data collection

The present research is based on the records of police interrogation and the transcription thereof. Records concerning criminal cases were collected from various police bureaus in different cities of China through legitimate channels. In all, 30 cases of various types of criminal nature are collected, among which 8 cases, concerned with the current linguistic research are selected. These 8 cases cover a total number of 24 interrogations.

The raw data are all in Chinese. For the convenience of reading, and for the sake of authenticity, the author, when rendering the data into English, sticks to the principle of literal translation, meanwhile making the English versions faithful to their Chinese counterparts. In analyzing, our primary focus is on the English data, with the Chinese equivalents supplied in Appendix for reference.

Research methods

The present research is a data-based and theory-driven qualitative research. It is data-based in that the author first observes the data and finds the linguistic phenomena, that is, speech differences when the police interrogate different types of suspects.

This paper applies such methods as induction, documental review, illustration and comparison methods to the analysis of the discursive interaction in Chinese police interrogation from the perspective of Game Theory.

Documental review is applied in collecting examples of the Chinese police interrogation. At the same time, comparison method is used in comparing and analyzing the different models used by the game players, so as to conclude some strategies or payoffs of the game players. Outlined by the Game Theory, inductive method is vital in summing up specific examples for each Game Theory model which need exact definitions given under the illustration

method.

Summary

The author has reviewed research on police interrogation both at home and abroad. Research on police interrogation has been carried out from social, legal and psychological perspectives, but few are from the linguistic perspective. The author finds that linguistic literature concerning these topics is rather scant, though there has been some research done by communications and forensic linguists, who mainly focus on the discourse of courtroom interaction. Another drawback of previous studies is their general lack of theoretical foundations or support. Most of the studies are simply based on the researchers' personal experience or observation; therefore, they are weak in explanatory force. In spite of the drawbacks of previous studies, they do offer useful references and valuable insights for the present research.

For the sake of searching a solid framework to analyze the discursive interaction, the author also lays emphases on Game Theory and its applications in the study of linguistic strategies in the legal setting, especially the setting of Chinese police interrogation. The author finds that there has been little application of Game Theory to the setting of police interrogations. The present research is an endeavor to incorporate Game Theory into a holistic theoretical framework for the analysis of the language use in Chinese police interrogation.

THEORETICAL FRAMEWORK

The concept of Game Theory has existed since ancient time in China. Sun Bin¹ using Game Theory methods to help Tian Ji² win a horse racing is the typical germination of Game Theory. Modern Game Theory was founded in the 1920s by Hungarian mathematician Von Neumann. In 1944, he co-published with Oskar Morgenstern, an economist, a masterpiece titled "Game Theory and Economic Behavior", marking the initial formation of Game Theory. In 2007, two American economists (Eric Maskin and Roger Myerson) together with a Polish-American economist Leonid Hurwicz won the Nobel Prize in Economics for having laid the foundations of mechanism design theory, which is concerned with Game Theory concepts.

Because math is an important analytical tool of Game Theory, a lot of people regard it as a branch of

mathematics discipline (Alonso-Cortes, 2006). Game theory is also used to analyze economic phenomena, so it is often taken as a sub-discipline of economics.

However, it does not mean Game Theory is an exclusive tool or specialized knowledge for mathematicians and economists. Social science problems basically meet with these elements, which determine the broad applications of Game Theory. In the early 1950s, John F. Nash initiated the game-theoretic study of bargaining. Soon after Nash's work, game theoretic models began to be used in political science, and psychologists began studying how human subjects behave in experimental games. In the 1970s, Game Theory was first used as a tool in evolutionary biology. Subsequently, game-theoretic methods have come to dominate microeconomic theory and are used also in many other fields of economics and a wide range of other social and behavioral science.

In other words, Game Theory can be used as an analytical method in various fields of studies, such as law, political science, military science, diplomacy, international relations, etc. In what follows, the author will explain the theoretical framework of this research, including the definition and elements of Game Theory. In addition, it also mentions the motivations for Game Theory applied to discursive interaction in police interrogation.

Definition of Game Theory

Game Theory is an "interactive decision theory", also known as decision making theory, which aims to study the way rational people go to make choices in order to maximize their own interests.

Game Theory can be applied to varied settings, ranging from companies competing for business, political candidates seeking for votes, jury members judging on a verdict, animals fighting for their prey, bidders competing for an object in an auction, the evolution of siblings' behavior towards each other, competing experts' motivations to correctly diagnose a problem, legislators' voting behavior when they are under the pressure from interest groups, to the role of punishment and threats plays in long-term relationships etc.

Meanwhile, many scholars compare language to game behavior, which shows that game is the essential characteristic of language communication. What's more, the direct use of Game Theory to explain various language activities can be traced back to Wittgenstein's "language game theory".

In other words, language game concept stems from Wittgenstein. Wittgenstein was the first philosopher who realized the philosophy of language shift. He first introduced Game Theory concept to language research and advocated that the essence of philosophy is language. So the essence of philosophy should be resolved in daily life. Furthermore, language ought to be understood in the game.

¹ Sun Bin lived during the Warring States Period of Chinese history. He was a famous military strategist. In the Battle of Gui Ling and Battle of Ma Ling, Sun served as a military commander and strategist, leading Qi state to score victory against the Wei state. The well-known military treatise *Sun Bin's Art of War* was authored by Sun Bin.

² Tian Ji was a military general of the Qi state during the early Warring States Period of Chinese history. Tian Ji met Sun Bin and recommended him to King Wei of Qi as a military strategist.

Elements of Game Theory

Game Theory aims to help us understand situations in which decision-makers interact. A game in the everyday sense is a competitive activity in which players contend with each other according to a set of rules.

Xu Ningyun pointed out that a general game is composed of three elements. They are player, strategy space and payoff structure.

The players are the participants involved in a strategic interaction game who desire to maximize and realize their own interests. Several strategies or actions that can be chosen by game players constitute the strategy space. The payoff structure, also known as the proceeds, describes each participant's corresponding interests in various decision-making occasions.

Motivations for applying Game Theory to discursive interaction in police interrogation

Investigation and crime are paradoxical aspects of a contradiction, and these two aspects are often in direct confrontation. Therefore, the process of police interrogation is fit for the framework of Game Theory and satisfies the conditions required by Game Theory analysis. Discursive interactions in police interrogation are series of confirmed or anti-proven combinations that a number of parties involved to solve the real situations of the cases. In a word, discursive interaction in police interrogation actually means a game or a combination of several games.

Firstly, there are two sides that have conflict of interest in the discursive interactions in police interrogation. The "question-response" style's interactive parties highlight their competitive relationship.

Secondly, asymmetry information determines the selective language strategies of verbal interactive parties. Every party will timely adjust and change their language strategies according to other party's verbal styles.

The last but not least, the parties to discursive interaction are considered rational, and when engaged in verbal communication game, they have to make choices between the duality of "value" and "value in use" in their discursive interactions, so as to maximize their own share or respective interests in the contradiction.

Discourse interactions provide places for language game. Game players select language and calculate the costs or benefits to achieve the maximization of their self-interests. Society is a language exchange market for human beings. Every communication among them is a transaction. Discourse interaction players in police interrogation will follow their own favorite paradigms to take actions. Therefore, it is vital to apply Game Theory in the analysis of discursive interactions in police interrogation, that is, to treat suspects and police as players who have approximate equal status; and what's more, to take seriously the interactions between the

suspects and police, instead of investigation only.

Summary

Discursive interaction in police interrogation is a process of language game. In the language game which has mutual influence of interests, reasonable person who participate in this discursive interaction will choose the appropriate language strategies to maximize their own interests. As for the discursive interactions in police interrogation of a particular case, police will use a lot of language strategies to interrogate suspects and find out truth of the fact; while suspects will also apply the targeted language strategies to answer questions from the police, in order to cover the truth and make the police go astray.

In the process of police interrogation, if the initiative power of the game lies in police's hands, they will take coercive measures in a timely manner to make sure that suspects are totally isolated from the outside world. At this moment, suspects lack effective source of information. They do not understand to what extent polices have already grasped evidences or recognized facts of the crime. Suspects are also unsure whether their accomplices who made alliance with them before will be tempted to betray them or not. This situation is called static custody game³ type in police interrogation.

However, if the suspects are not in custody for some special reasons like releasing on bail, they will clearly know the police's mastery of the facts on their own crime and have the potential collusion with their accomplices. This situation forms the open dynamic game⁴ type in police interrogation.

The process of discursive interaction in police interrogation is highly esteemed as a dynamic game with incomplete information. It is not only concerned with discourse contest between police who represents public power and suspect who stands for private rights, but also discourse consultation among the suspects who maintain the collective rationality and who highlight the private rationality. Furthermore, it is still a discourse deliberation among the suspects in respect to the law or morality. Players' choices of language strategies are reflected in choosing, adjusting and applying the interactive dialogue strategies. When they select the "question-response" style's language strategy, every player in the game of police interrogation not only thinks about their own steps, but also depends on the choices of others. It is a timely process of dynamic change.

³ Static game means the players select actions at the same time or, though they follow the order: one chooses to act first, but the follower does not know choices of the first actor. See <http://baike.baidu.com/view/3190890.htm>, Viewed on April 2, 2012.

⁴ Dynamic game means the players select actions following the sequence; what's more, the latter can observe choices of the earlier and make appropriate choices accordingly. See <http://baike.baidu.com/view/2612091.htm>, Viewed on April 2, 2012.

Generally speaking, there are language turns for police and suspects to go on with their dialogue in the “question-response” discursive interaction. As the caller, police transfers information to the suspects. Suspects, the recipient, feed information back to the police. Information sets between the two sides are changing dynamically. It also makes the players who participate in the game of police interrogation adjust their language strategies dynamically.

From what has been aforementioned, the author finds that investigation and crime are paradoxical aspects of a contradiction, and these two aspects are often in direct confrontation. Therefore, the process of police interrogation is fit for the framework of Game Theory and satisfies the conditions required by Game Theory analysts. Discursive interactions in police interrogation are series of confirmed or anti-proven combinations that a number of parties involved tend to usher to solve the real life situations of the cases. In a word, discursive interaction in police interrogation actually means a game or a combination of several games.

EMPLOYMENT OF GAME THEORY IN CHINESE POLICE INTERROGATION

Based on the transcripts of the taped recordings of Chinese police interrogations, this paper carries out a data-based and theory-driven qualitative research, applying Game Theory models to matrix analysis⁵ of the Chinese police interrogation in a typical institutional language interaction environment. This chapter points out that the process of discursive interaction in police interrogation is a language game between different sets of purely rational self-serving people. It is not only concerned with discourse contest between police who represents public power and suspect who stands for private rights, but also discourse consultation among the suspects who maintains the collective rationality and who highlights the private rationality. Furthermore, it is still a discourse deliberation in respect to the law or morality.

The next step is to analyze the models respectively (that is, “Chicken Game”, “Prisoner’s Dilemma”, and “Path-Dependence”) to discover its implications. At this stage, the author needs to adhere to the rigors of logic. In addition, the author also mentions the language strategies used in the process of profiling Chinese police interrogation modes by means of different Game Theory models. The language strategies involve violation of the conversational principles, presumption, interruption, reformulation, etc. It will contribute to find out the revenue utility of every player in the interactive gaming process of police interrogation.

⁵ Matrix analyses, on the basis of matrix, reflect a number of different factors in rows and columns. The intersection point of the rows and columns describes the competitive differences among these factors, and then analyze them quantitatively; finally the relatively important factors will become prominent.

Main Game Theory models used to analyze the discursive interaction in Chinese police interrogation

“Chicken Game”: *Discourse contest between the police and suspects*

Definition: “Chicken Game”⁶ is also called “coward game”. The name of “Chicken Game” comes from an American child saying: if A says that B is a dove (pigeon) or a chicken, it means B is a coward. “Chicken Game” describes the situation that two balanced strength cocks are fighting for their territory. When engaged in the confrontational conflict, in the premise of ensuring minimal loss, they will try their best to occupy a dominant position and gain maximum benefits.

Applicability of “Chicken Game” model in the analysis of police interview: In police interrogation, police as well as suspect understand some but not all aspects of available information about each others. Nevertheless, each player has to go by new information and action of the other side, and decide on the strategies or counter measures, as the need be. In the run up, the discursive interaction between the police and suspects in police interrogation turn a typical dynamic game characterizing the “Chicken Game” model.

Matrix analysis: For fighting cocks A and B, there are two options: first, to continue moving forward and to attack; second, to take the blame and step down, which in turn can be categorized as follows:

1. If A retreats but B does not step down, then B wins, and A loses face or game and becomes a coward;
2. If A retreats and B also retreats, they tie for the first place;
3. However, if A does not step down but B retreats, then A wins the game;
4. If both A and B continue to move forward, then the result will be a lose-lose situation.

Summary: The discursive interaction between the police and suspects in police interrogation is a typical “Chicken Game”. In police interrogation, the police will exhaust all of the investigative tactics to obtain complete information about the suspects. The suspects will also leave no stone unturned. They will also use various kinds of tactics to be aware of new information and action from the police and their accomplices, and then they could find the basis for their own response strategies. The game will repeat until the cases are cleared up.

“Prisoner’s Dilemma”: *Discourse consultation among the suspects*

Definition: The prisoner’s dilemma illustrates why two

⁶ The specific contents of “Chicken Game” are available on April 16, 2012.

individuals might not cooperate with each other, even though it clearly proves that to do so is in their best interests. It was firstly proposed by Melvin Dresher and Merrill Flood who were working at RAND in 1950. Then, a Canadian mathematician Albert W. Tucker called the game "Prisoner's Dilemma" and formalized the game with prison sentence rewards (Poundstone, 1992).

Applicability of "Prisoner's Dilemma" model: As the *Criminal Procedure Law of the PRC* contains ex officio doctrine and compulsory investigative mode is its main feature, static game of custody is essential in police interrogation. In this situation, each suspect is in solitary confinement with no means of talking to or exchanging messages with the other. This means the members of a criminal gang are lack of an effective information source. Neither of them knows how much criminal evidences the police has grasped, nor do they clearly know whether their accomplices who forged an alliance with him would be tempted to betray him. This will easily lead their relationship changing from an alliance cooperative game which is against the police to a self-serving non-cooperative game which is against their accomplices. That is to say, in the contest process of discursive interaction involving collective rationality and individual rationality, somebody's collective rationality gives way to his or her individual rationality.

Matrix analysis: In this canonical version of the game, betrayal in the end dominates collaboration. Specifically speaking, if the other suspect chooses to stay silent, then betraying gives a better reward (no sentence instead of one year), and if the other suspect also chooses to betray, then betraying also gives a better reward (two years instead of three). It can be clearly seen that betrayal always rewards more than collaboration, all purely rational self-interested suspects would betray the other. What is more, for two purely rational suspects who pursuing individual reward logically the only possible outcome is to betray each other, but they actually would get a better reward if they cooperated.

Summary: Prisoner's dilemma shows that both players in the game will become worse off once each of them chose to lessen the sentence of the other suspect or his accomplice at the cost of spending more time in jail alone. That is to say, in the contest process of discursive interaction involving collective rationality and individual rationality, somebody's collective rationality gives way to his or her individual rationality. Therefore, the "Prisoner's Dilemma" is suitable to analyze the discursive interactions among the suspects in Chinese police interrogation.

"Path-Dependence": Discourse deliberation in respect to the law or morality

Definition: "Path-Dependence" explains how the set of

decisions one faces for any given circumstance is limited by the decisions one has made in the past, even though past circumstances may no longer be relevant.

Applicability of "Path-Dependence" model: The game between the suspect and laws or morality is the soul of police interrogation. The law or morality is not only the rules of the game, but also the Nash equilibrium in it. In the discursive interaction of police interrogation, suspect's words embody the need to minimize the costs of crime everywhere. Actually the need is the bottom line prescribed by law or morality. This puts forward higher requirements to the police. How could they take good advantages of the law or morality which is a typical silent language in the language game is the key to break the suspect's psychological line of defense.

Linguistic and psychological study of Game Theory models

Like other sciences, Game Theory consists of a collection of models. A model is an abstraction we use to understand our observations and experiences. Models cannot be judged by an absolute criterion: they are neither "right" nor "wrong". Whether a model is useful or not depends, in part, on the purpose for which it is used.

Game-theoretical modeling starts with an idea related to some aspects of the interaction of decision-makers. The author expresses the ideas precisely in the following models, incorporating features of the situations that appear to be relevant. For exploring the modes of Chinese police interrogation which is a typical institutional language interaction from the perspective of Game Theory, the following part linguistically and psychologically explores "Chicken Game" model which is suitable to analyze discourse contest between police and suspect, "Prisoner's Dilemma" model which is fit to explain discourse consultation among the suspects and "Path-Dependence" model which justifies the suspects' decision based on their weighing of the laws or morality.

"Chicken Game" model

Example 1:

P: Where do the huge deposits in your bank come from?
 S: The money is my son's. ▲
 P: ▼ your son just graduated and began to work. How could he get such a large amount of money?
 S: < Pause >
 P: Your son is a national civil servant. If the bank deposit is really his money, then there will be something "wrong" with your son.
 S: It --- It has nothing to do with my son. Please do not ll get him involved...
 P: ll Get him involved? It is not we but you who want to

get him involved!

S: Yes, yes, yes, it is my money. Honestly speaking...that money is... (Corpus 1)

Morphologically speaking, this dialogue belongs to a typical “question-response” structure. In this discursive interaction, the police and suspect influenced and challenged each other. It seems as if the police wanted to get the suspect’s son involved. In fact, the police played a language game with the suspect by using this language strategy to intimidate the suspect and force him to admit, so as to discover the truth step by step. For the police, the key of this interrogation was the huge amount of deposits in the bank account. The police visualized a close relationship between the huge amounts of deposits of unknown origin and the crime committed by the suspects.

The Nash equilibrium for police is to open language turn firstly. It demonstrates that the police have mastered sufficient evidence, for instance, “That suspect has a son”, “There is a huge amount of deposits of unknown origin in the bank, which belongs to the suspect.” The tight logical chain of evidence causes the suspect’s strong psychological pressure. Then, when police received the message that suspect wanted to distance himself from the huge amount of deposits of unknown origin in the bank, he used the language strategy of interruption to strongly deprive of the interrupted player’s speaking floor and straightly mentioned vital evidence. The language strategies police used in this discursive interaction hit the nail on the head. Therefore, according to their own advantage tactics, both sides actively adjust their language strategies to speak and refuse to give ground. They constantly updated their information and access to self-interest earnings. It means that the discursive interaction between police and suspects in police interrogation is a typical dynamic game with incomplete information, which can be illustrated the process of the “Chicken Game”.

Example 2:

P: How old are you?

S: 28.

P: You’re born under which year of the Chinese zodiac?

S: I was born in the Chinese year of rat.

P: *Rats “make holes”, you know?*

S: I don’t know.

P: You are a cheat. Before being remanded, how long did you stay outside?

S: Three months.

P: Three months. Up to now, (you) finally speak a word of truth. End your play now! Where do (you) intend to confess?

S: From the time when I ran away... (Corpus 2)

As is seen from example 2, the police do not ask specific questions leading to the circumstances of crime, but goes to use pun instead. From the psycholinguistic perspective, it means to share common knowledge and psychological experience with the suspect in the context of interactive discourse. The police use the pun “RATS MAKE HOLES” to violate the maxim of relevance in tune with Grice’s Cooperative Principle and result in conversational implicature. Meanwhile, the police attempt set a language trap with the use of the slang “make holes”, implying thereby that the suspect might have been involved in the crime of “jailbreak”. Then the police questioned “How long did you stay outside?” implying again that the suspect has had committed “jailbreak”. The police’s question, a type of “tight question”, is strongly subjective, and least likely to be excused by the suspect.

After the suspect admitted that he spent three months staying outside, the police reformulated the statement “three months” to reconfirm the suspect’s confession. In this way, the suspect could not change his language turn. The process of discursive interaction in police interrogation is highly esteemed as a dynamic game with incomplete information. Usually it is achieved by a number of confirmed and anti-confirmed games rounds which aim to make suspects confess their crimes. In this way, “Chicken Game” Nash equilibrium will be generated. The criminal case will be cleared up. Every player involved in the game will gain their own interests served.

“Prisoner’s Dilemma” model

Example 3:

P: Who else was on the crime scene?

S: Only me.

P: Did you go to the Ju Xian Restaurant after the killing?

S: Yes.

P: YOU tell me something about the killing.

S: I did not kill anyone.

P: Then, think it over and tell me, who else ▲

S: ▼ Nobody else. (Corpus 3)

This example seeks genuine information concerning accomplices of the homicide crime. Without obvious presupposition, the first question “Who was on the crime scene?” is neutral in that it intends to explore true information. However, the second complicated question contains a presupposition trigger which is context-dependent and implies that the police have some evidence in hand.

Before the suspect confessed to his guilt, the police asked him such questions, he did not realize that the police were playing a language game with him, that is, by using language strategy to intimidate him and force him to admit. Strategically, the presupposition is regarded as given information which is not noticeable or salient. By

asking “Did you go to Ju Xian Restaurant after the killing?”, the police intended superficially to inquire whether the suspect had been to Ju Xian restaurant, but actually, the potential intention was to make the suspect admit that he had committed a crime., and the suspect gave a confirmative response “Yes”. The police’s presupposition implies the legal culture of “presupposition of guilt” in the context of police interrogation.

Based on the suspect’s thoughtless “confession”, the police use an imperative sentence to raise the third complicated question and aimed to lead the suspect to make self-incriminating confessions. This imperative sentence is rather subjective and is somehow based on groundless guesswork which desires to trap the suspect. When the suspect realized and detected what was implied in the remark, he directly answers “I did not kill anyone.”

Then the police continued to say “Then, think it over and tell me, who else...”, presupposing that there was someone else helping him commit the homicide crime, and the other suspect had already been arrested and detained. However, the suspect responses “Nobody else.” he knew the police was leading and conducive for a positive answer to identify his accomplice. Therefore, he chose not to cooperate and directly interrupted the police, for he wanted the police to set the other suspect (that is, his lover) free or made the other suspect receive less severe sentence.

This is a counter-example of “Prisoner’s Dilemma”. Generally speaking, in the contest process of discursive interaction involving collective rationality and individual rationality, a man’s collective rationality gives way to his individual rationality. That is to say, for each purely rational self-interested suspect who has been held in detention, regardless of what the other suspect chooses or decides, each suspect gets a better payoff by betraying the other. However, there are exceptions, especially when the police do not choose right language strategies to question the suspects; the discursive interaction will become inefficient.

Example 4:

P: Say II

S: II Say what?

P: Your things!

S: We? Who? What’s up? How▲

P: ▼Pretend confused? Ah? You act foolishly to get yourself on the road of no return. You clearly know that the attitude of pleading guilty is critical in sentencing. There is a great difference in sentencing the principal and accessory suspect in a crime gang. You pretend confused, do others will pretend such stupid? Now whoever is not thinking of their interests, who would like to shield other’s crime? ...

S: I---I still do not understand.

P: Your lover is much cleverer than you...does he want to frame you?

S: Can I go home now?

P: You certainly cannot go home. Otherwise, you can go to the house of detention to think ▲

S: ▼ I confess...

(Corpus 4)

As illustrated above, the police use language strategy of presupposition and naturally propose “Your things!” They intend to lead the suspect into their language strategy and guide the suspect to state the truth of the fact. From time to time, the police interrupt the suspects who forged an alliance previously, controlling the suspect’s language turn and going deep into the vital evidence. In order to let two members of a gang have the idea that their accomplice has already betrayed him or her, the police release the false information to the suspects respectively by saying “Your lover is much cleverer than you...do he want to frame you?” to violate the maxim of quality in Grice’s Cooperative Principle and make the conversational implicature come into being. It implies that her accomplice is accountable to their crime; the alliance they had made previously is exposed. Thereby, the police urge the suspects to choose confession, that is, betray his or her accomplice which satisfies the Nash equilibrium strategy. It also can intensify the contradiction and explore more useful information. Two suspects of a gang were interrupted by the police’s language turn or information interference. Controlling by the misleading information, the suspect actively interrupt police’s language turn and confess to the crime facts, for sake of obtaining the commutation of sentence.

It is in line with the process of “Prisoner’s Dilemma” among the accomplices. The police take advantage of the phenomenon where the accomplices get to grasp incomplete information of the discursive interaction in police interrogation. Taking into account the actual life of human beings, the police believe people are often concerned with the interests of others and infer each other’s strategies and the payoffs. Therefore, the police treats the accomplices separately, using the language strategy of presupposition to point out their criminal doubt, interrupting or interfering their language turn and repeating or reformulating the key words. The language strategies can break the suspect’s psychological line of defense, make them frankly confess to the crime facts and tell the truth of the fact.

“Path-Dependence” model

Example 5:

P: Go back and think about it. Leniency to confession, Severity to defiance. You have no other choice but to confess honestly and gain leniency from the government.

It is your only way out. Understand?

S: I'll think about it.

(Corpus 5)

Delivering police warnings to suspects always occurs at the beginning stage of interrogation, spelling out prescriptions of what suspects can do or proscriptions of what they cannot do during the interrogations. Police warnings, like Miranda Warning in the US and Police Caution in the UK, convey to the suspects such messages as they have the "right to silence", "right to legal assistance", etc. The legal ideology behind these warning is to safeguard the suspect's right to avoid self-incrimination. In Chinese police interrogations, the police also warn suspects of what to do and not to do. Unlike Miranda Warnings, however, Chinese police warnings primarily concern the suspects' legal obligations of telling the truth and confession to their guilt, leaving aside their legal rights. We could discern the power asymmetry between the police and the suspects, as is seen from Corpus 7, where a Chinese police warns the suspect at the end of the first police interrogation, by clearly proclaiming the criminal policy "Leniency to confession, Severity to defiance" and compelling the suspect to confess truthfully. Ostensibly, power relation between the police and this criminal suspect in this discursive interaction is highly asymmetrical in that the police occupy a far more powerful position and superior status than the suspect. This power asymmetry is inbuilt in legal system. Meanwhile, this warning provides the suspect with two alternatives: to confess or to defy, and the suspect can make a choice. However, to defy can only result in a more severe punishment. Therefore, the "only" way out, as the warning says, is to confess truthfully to get a lenient punishment. Consequently, the two alternatives are contracted to only one choice, that is, to make a true confession.

It shows that silent discursive interaction among the suspects in respect to the law or morality is a process to legally seek or maximize the benefits. What is more, it is also a type of "Path-Dependence" in the Game Theory. Once some sort of "Path-Dependence" trend comes into being, it will guide the suspect choose strategies directly and determine the suspect's fate.

Example 6:

P: Describe the features of the lethal weapon you brought from home.

S: FEATURES? It is an ordinary pig knife.

P: Whence and whither about the lethal weapon?

S: I don't know. (Corpus 6)

In Corpus 6, the suspect is a poorly-educated habitual offender. Normally, "features" of something is abstract and not easy to describe. When the police use "features",

a formal and abstract word, to seek evidence concerning the lethal weapon, the suspect know exactly what is required of him, but he chooses to give a vague answer. Obviously, "Path-Dependence" exerts impact on his mind. Once he confesses, he may be sentenced to death or end up in prison as before. So the habitual offender builds up the psychological line of defense and takes advantage of the police's abstract word. In his response, the suspect shows his "confusion" by repeating the word "features" and tells nothing in particular about the weapon, except claiming that it is a "pig knife". If the police had chosen some less formal and more concrete words or terms, such as "what sort of knife" and "how long the knife is", the suspect may have no choice but to offer some details about the knife.

In the following move, the police choose another two formal lexes "whence" "whither" in his next turn to consolidate the evidence. These terms are less abstract but formal. The suspect holds back his willingness to cooperate and his desire to communicate, with the answer of "I don't know."

What's more, in the second turn of the interrogation the police also question the suspect by insisting on the legal term "lethal weapon", rather than using the plain word "pig knife". By selecting this word, the police intend to incriminate the suspect. Because lethal weapon is a necessary element for establishing the crime of homicide, while the plain word "pig knife" is not.

The above analysis shows that the police prefer legal and formal terms to plain words when interrogating criminal suspects, for most part of these terms are guilt-oriented. While the habitual offender taking advantage of this phenomenon and using language strategy of repeating or violating the maxim of relevance in Grice's Cooperative Principle and having no willingness to cooperation with the police. For the habitual offender does not want to be put in jail again. .

We can discern from this corpus that if the police had chosen some less formal and more concrete words or terms, the suspect may have no choice but to offer some details about the crime and do not interrupt by the "Path-Dependence".

Summary

Discursive interaction in police interrogation teems with the spirit of game, in form of the specific talking styles, detailed discourse consultation, and the process of realizing discourse deliberation. For exploring the models of Chinese police interrogation which is a typical institutional language interaction from the perspective of Game Theory, this study shows that "Chicken Game" model is suitable to analyze discourse contest between police and suspect. "Prisoner's Dilemma" model is fit to explain discourse consultation among the suspects. "Path-dependence" model justifies the suspects' decision

based on their weighing of the laws or morality. The spirit of game applies specific roles to players in the police interrogation, measures their language features and dominates the entire interactive process of police interrogation which consists of institutional discourse. It plays an important role in the detection of a case.

CONCLUSION

Having reviewed the researches on police interrogation both at home and abroad, the author finds that forensic linguists at home and abroad have conducted fruitful research about the language of interrogation, but merely for the sake of language itself; as a result, their researches are by no means systematic. Though an increasing number of forensic linguists are digging into police interrogation and have achieved great success for the carriage of justice, there are just few who have employed empirical approaches, let alone harnessed Game Theory analytics for the purpose. The present study is expected to provide a brand-new pragmatic method of game-theoretic analysis of the interactive relations between the participants in Chinese police interrogation.

After reviewing relevant literatures, introducing major Game Theory models that can be used to analyze the linguistic phenomenon in the very institutional settings, and analyzing the interactions between the police and the suspects via a data-based and theory-driven qualitative research approach, based on the transcripts of the taped recordings of Chinese police interrogation, we can discern that Chinese police interrogation is a process of "language game".

Contributions and limitations of the present study

Theoretically, it expands the scope of Game Theory's application, which is rather a pragmatic approach to investigate the Chinese police interrogation that has been a linguistic phenomenon in the institutional setting.

Practically, it is designed to find out the typical Game Theory models suitable to analyze the Chinese police interrogation and to describe the main language and mental strategies that the police or suspects could use in discursive interaction in Chinese police interrogation.

While the present study will serve various purposes, as has been illustrated above, there are still some limitations in applying Game Theory to the analysis of the discursive interaction in police interrogation.

Suggestions for further study

The present study has so far accomplished the stated general research objective, could obtain some significant findings, and reached satisfactory answers to the

research questions. Undeniably, it is far from perfect and exhaustive, and never free from the limitations. Actually, there is much room for further studies. Our suggestions are as follows:

1. Video-taped recordings shall be used to study the non-verbal speech like the pitch and pause as well as the verbal speech. These are equally important language devices to study the interpersonal meanings.
2. Field work is highly recommended. Field research like interviewing the police and the criminal suspects shall be taken in to consider.
3. It was high time for linguists in foreign language studies to have developed some outright new theoretical models or approaches to address the Chinese language and the law issues in the field.

To sum up, this study draws on Game Theory, and is designed to set forth a new pragmatic approach to enable effective evaluation of the mental process of the suspect(s) in rather analytical discursive interaction mode. Although it is, undeniably, far from perfect, it is still an endeavor to incorporate Game Theory into a holistic theoretical and analytical framework for the analysis of the language use in Chinese police interrogation. From my deep heart, I sincerely hope that forensic researchers could conduct further research into the discursive interactions in court trial or mediation from the perspective of Game Theory to make practical contributions to judicial practice.

Acknowledgments

The authors wish to express special thanks to Professor Wang Jian, whose critical insight and invaluable advice are the subject of this paper. The contributions of all the scholars whose work were discussed in the course of this paper are specifically acknowledged. We also extend our thanks to all those who do law and language research.

REFERENCES

- Alonso-Cortes, A. (2006). *Game Theory and Linguistic Meaning*. London: Emerald Group Publishing Limited.
- Heydon, G. (2002). 'Do you agree that she would have been frightened: an investigation of discursive practices in police-suspect interviews'. Unpublished PhD, Monash University, Melbourne.
- Poundstone, (1992). *Prisoner's Dilemma*. New York: Doubleday.
- Shuy, R. W. (1998). *The Language of Confession, Interrogation, and Deception*. California: Sage Publications Inc.
- Sun, Y. and Zhou, G. (1997). *Forensic Linguistics*. Beijing: China University of Politic Science and Law Press.
- Wang, J. (1999). *Legal Language Research*. Guangzhou: Guangdong Education Press.
- Westling, W. (1998). Videotaping Police Interrogations: Lessons from Australia (with 25 Am J Crim L, 493-543).
- Wrightsmann, L.S. and Kassin, S.M. (1993). *Confessions in the Courtroom*. Newbury Park, CA: Sage.

APPENDIX

The following transcription convention is applied to the examples in this paper:

▲▼: An interruption occurrence, as in:

S: The money is my son's. ▲

P: ▼Your son just graduated and began to work. How could he get such large amount of money?

---: Someone is speaking in a drawl, as in:

S: It ---It has nothing to do with my son.

||: Speech that overlaps with that of another speaker, as in:

S: Please do not || get him involved...

P: ||Get him involved? It is not we but you who want to get him involved!

Italics: Stressed words or phrases.

CAPITALS: Loud speech

...: The rest of the information is omitted.

P: Police

S: Suspect