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communication: an approach from
Thomas S. Schelling**

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ON STRATEGIC COMMUNICATION

An approach from Thomas S. Schelling

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In their recent work Thomas S. Schelling (2007, 2010), reiterating original arguments about game theory and its applications to social sciences. In particular, game theory helps to explore situations in which agents make decisions interdependent (strategic communication). Schelling's originality is to extend economic theory to social sciences. When a player can anticipate the options and influence the decisions of others. The strategy, indirect communication plays a crucial role. To illustrate, we investigate how to perform the payoff matrix in cases of bribery and threat

Keywords

Social Science, Schelling, game theory, strategic communications, bribes, threats.

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GAME THEORY ON STRATEGIC COMMUNICATION

An approach from Thomas S. Schelling

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Introduction

Quite often people prefer indirect forms of communication to make direct communication, examples ranging from expressions slightly suggestive about sex, veiled threats, or bribes humble requests in the shade. The forms of indirect communication are to a large extent the very structure of our everyday relationships and set up a good understanding about what others think or believe. In other words, beyond everyday experience indirect communication makes up different forms of communication related to the rational strategy in fields as suggestive as international relations, the threat of war, diplomacy or the games in casinos.

Based on Schelling (1960), we propose two issues related to indirect communication, on the central idea that human communication incorporates the relationship between negotiation and conflict². First, the acts of indirect communication, opens up possibilities for negotiation between someone who proposes and another who accepts or rejects. An audience can accept what he recommended and can react with restraint and criticize. Furthermore, this intuition is based on the conventional game theory, which

¹ Professor, Center for Research and Special Projects CIPE, Faculty of Finance, Government and International Relations, Externado University of Colombia (persuacion@gmail.com) this work represents an extension to testing Thomas S. Shelling (1960) and Steven Pinker (2007). Especially chapter 8: "Games People Play", where the author develops an extensive commentary with examples to the theory of indirect speech acts of Paul Grice. The group's research exercises that address have been directed to explore the ideas of Thomas Schelling. The author explains how you set up a theory of indirect communication as part of the strategy in the conflict and negotiation. The author wishes to thank the members of the seminar Strategy of Conflict (second half of 2008). María Fernanda Guerrero Pereira, María Leonor Hernández Porras, María Natalia Díaz Rozo.

² Schelling TC (1960) *The Strategy of Conflict*, Harvard University Press, Cambridge, MA (Versión al español de Adolfo Martín, *La Estrategia del Conflicto*, Madrid, Editorial Tecnos, 1964).

predicts that the costs and benefits may arise directly or indirectly from the tender³. In other words, communication can be understood as a rational negotiation where we discuss the means and ends between a speaker and his audience.

Second, language has two functions: to communicate information, and negotiate the relationship between speaker and audience where he goes (reciprocity and common domain). Moreover, the emotional costs of a mismatch in the relationship can press the need for plausible deniability and, (omit), people care what he says even if no tangible costs (Estrada, 2007a). On one side, people perceive language as a medium that allows you to use common phrases to create knowledge and send a message with fidelity language can serve to point in coordination games. This feature makes direct requests from various hints; he and his listeners can deduct the rest as an intention which can be trusted⁴.

After the introduction (1) This article comprises the following divisions: (2) indirect communication relates to the theory of strategy and conflict negotiation, (3) presents the perspective of strategic communication in Thomas Schelling, (4) are introduced the components of bribery and nonlinear functions of the action of bribe, (5) described the threat as a strategy, its rationale and its psychological aspects, (6) gives some concluding comments, (7) presents an annotated bibliography that can serve the reader to continue the discussion line, (8) presents a general bibliography of texts used in the workplace.

2. Indirect communication as a strategy

Indirect communication plays a strategic role par excellence. It was originally developed within an area of significant actions. A speaker addresses the audience argumentative indicating what they believe or think. The reactions of the audience only have (in principle) with these proposals. The key to the indirect action is that the intention of the speaker no reflection on the communicative act. The ambiguity of the speaker affects the meanings to your words. The result, the strategy of indirect communication can be kept depending on the dynamics of conditions involving the speaker and the audience (Estrada, 2007b).

³ Schelling wrote his book partly motivated by their perception of the limited nature of mathematical language (used by Neumann and Nash) to represent a whole decisive factors involved in game theory (cf. Von Neumann, 107 n, 139, 314 n, 330; Nash, 117 n, 136,147,295 n, 299 in the Spanish edition).

⁴ Tullera, Jantzena and Jirsaa, presented a study to discover the conditions of learning a second, "A dynamical approach to speech categorization Two routes to learning" *New Ideas in Psychology* 26 (2008) 208–226.

One example is in the strategic position of President Uribe on his second reelection



Beto, *El Espectador*, 15/09/08

The grace of the cartoon is its track record of the phenomenon of indirect communication. He keeps about to back to his arguments than explicit. So even if your intention is not necessarily fool the audience, a second alternative retains rationally invisible. The communicative act may keep up the conditions of reliability between the parties, if the audience accepts the premises of the speaker. And we could conceive in the audience interest in keeping down reserve the speaker's original intentions⁵. But while not rectified the original intention, the indirect communication allows relationships are maintained within this strategic area (Estrada, 2004).

Indeed, quite often people do not communicate directly, but conceals his intentions by innuendo, euphemisms and phrases in both directions⁶. We know some examples:

⁵ A set of bibliographic support the basic assumptions that underpin: *Rhétorique et Philosophie. Pour une théorie de l'argumentation en philosophie*. In collaboration avec L. Olbrechts-Tyteca. Préf. De É. Bréhier. Paris. P.U.F., Bibliothèque de Philosophie contemporaine, 1952. (Reimp.2003) 161 p. Contient les articles n° 21,24,25,28,29,30,32,38; *Traité de l'argumentation. La Nouvelle Rhétorique*, en collaboration avec L. Olbrechts-Tyteca. Paris. P.U.F., Collection Logos. 2 vol., 1958, 734 p.; 2 éd. 1970, Editions de l'Institut de Sociologie. Université de Bruxelles, collection Sociologie générale et philosophie sociale; 3 éd. 1976, Éditions de l'Université de Bruxelles, I vol., 734 p. (Julia Sevilla Muñoz, *Tratado de la Argumentación, La Nueva Retórica*, Editorial Gredos, S.A., Madrid, 1989., 855 p.); *L'Empire rhétorique – Rhétorique et Argumentation*. Paris. J. Vrin, Collection "Pour Demain". 1977. 193 p. (Adolfo León Gómez Giraldo, *El imperio retórico, Retórica y Argumentación*, Editorial Norma, 1997, 214 p.); Numerous studies have been dedicated in honor of Chaim Perelman and the Theory of Argumentation: La nouvelle rhétorique, essais en hommage a Chaim Perelman, *Revue Internationales de Philosophie*, N° 127 – 128, 1979., 385 p. ; Langaje, Argumentation et Pedagogie, *Revue Internationale de Philosophie*, N° 155, 1985 – fasc. 4., 476 p. Otros libros y artículos., Apostel, leo. "Rhetorique, psico-sociologie et logique". En: *Logique et Analyse* (Nouvelle Serie) N° 21 –24. 1963.; "What is the force of an argument?" En: *Revue Internationale de Philosophie* N° 127 –128. 1979. Gómez, Adolfo León. *El primado de la razón práctica*, Universidad del Valle, Cali, 1983. Grice, H. Paul. "Logic and conversation". En: *Syntax and Semantics vol. III, Speech Acts*. Ed. By P. Cole and JL. Morgan, Academic Press, 1975. Se cita frecuentemente la versión francesa de Michel Bozon y Frédéric Berthet, en la revista *Communications* N° 30. 1979. Noorden, Sally van. "Rhétorique arguments et exigence première", En *Revue Internationale Philosophie* N° 127 – 128., 1979. Wright, George H. Von. Un ensayo de lógica deóntica y la teoría general de la acción. *Cuadernos de la UNAM*, México, 1978.

⁶ Pinker S (2007) *The Stuff of Thought: Language as a Window into Human Nature* (Viking, New York).

- Would you like to know my apartment? [Sexual invitation]
- A marvel! Pass me the butter [gentle request]
- Will continue in Uraba?, Sorry for your family! [Threat]
- We count on you to lift Armero [grant application]
- Coca growers give their contributions in these areas [bribe]

These phenomena raise a puzzle that is among the field of strategic studies and philosophy of language. Indirect communication is inefficient and risky seemingly unnecessary (with one literal expression could say the same thing). However, as the politeness and other forms of communication, indirect communication tends to become universal in the domains of practical life. We all learn to play this game, as those who are offended not. The attractive character of the forms of indirect communication is the phenomena to the types of behavior by people who use it. Consequently, in practical life indirect communication operates as seemingly superficial have to show preferences, stereotypes, irony and sarcasm⁷. Although there has been little thought on the mechanisms that make it effective, this is part of our goal.

Indirect communication is of much importance in the domain of computer language, understanding of programming systems or new forms of communication such as email. Words such as "What do you say?" Or "Do you know ...? Have not we assumed the direct nature? Forms of talk in diplomatic communication that can be taken as bilateral attacks are structured on indirect communication mechanisms. A complimentary expression may become the occasion for demand or "treason." Such as a dinner invitation might read as a friendly call, extortion or sexual harassment.

The way information is presented an increase of the probabilities of winning in a conflict negotiation. According to Schelling (1960) the obvious result of the agreements will depend largely on how it is stated the problem, what analogies or precedents in the memory raises the definition of the issue to negotiate and the kind of data that can be used in it. Therefore, people recognize the strategic advantages that can take an indirect communication in the Gricean sense.

Indeed, indirect communication is part of the strategic games of bounded rationality. In different circumstances human beings should act recursively to communicate with limited conditions everything we think. Or suffer from gaps and inconsistencies in communication. So that others can accept these limitations. Although, indirect communication increases the several possible outcomes of a strategy of conflict and also facilitates the possibility to withdraw before a choice.

⁷ Brown P, Levinson SC (1987) *Politeness: Some Universalism Language Usage*, Cambridge University Press, New York.

2. The prospect of Schelling

For over 50 forms of indirect communication has been studied by linguists, philosophers and psycholinguistics, and the processes by which rational agents hide their intentions are well documented, however, the reasons why people take part in these strategies concealment (as opposed to directive speech acts) is opening a broad portfolio of opportunities. From this perspective, Schelling applies some reasoning of evolutionary biology and his own vision of game theory to understand the potential strategic advantages of indirect communication:

Many very interesting tactics and game situations depend on the structure of communication, particularly of asymmetries in communication and unilateral options to start communication or destroy it. Threats are fruitless unless they can be communicated to persons to whom they are addressed, the extortion need a way to send knowledge from the alternatives of the chosen victim. Even the threat "stop mourn, or I'll give you every reason to cry" is ineffective if the child is crying too high to hear it. (Sometimes it seems that the children know). A witness can not be intimidated to make him give false testimony if he is under surveillance to avoid receiving instructions on what to say, but could deduct the penalty of the same threat. (Schelling, 1960)

In the event, the highlights various aspects of indirect communication (1) The link established in the threat, with the aim of constraining the behavior of the victim depends on the inequality in the first conditions (2) The effective nature of the communication live in areas undercover (3) The threat may be unsuccessful due to the nature of communication. The analogy used by Schelling is powerfully convincing: a threat is not understood as a "threat" if the representation their in the communication, it reaches the recipient.

Theory of indirect communication emphasize that human communication is a practice of cooperation, a conversation in which participants have the common goal of an efficient exchange of information according to the influential theory of P. Grice. The contributions of Grice to the logic of indirect communication mark a decisive shift in the logical structure - semantics of it. In a complementary perspective, Thomas Schelling, relying on advances in biology, holds that most social relationships are a dialectical relationship between cooperation and conflict. Furthermore, this idea is no less applicable to the communication offensive actions between enemies and, indeed, has found signs that animals exploit manipulation cooperative relationships for information exchange.

In the case of the human species, we could consider the threats (an offer he can not refuse), or dangerous secrets (with programs to protect witnesses), leakage of pollution

(sealed bids or clinical trials), questions recriminatory (for which a response could be harmful) in which case you prefer to remain silent or resort to the law of ignorance. The very existence in the language of indirect actions suggests that such accusations implied are in the game dynamics of human communication.

In cases of strict cooperation, we expect maximum efficiency in the rumors of conspiracy, in cases of conflict; the expectation strains the minds if there is silence. The complexity of the codes of communication that characterize the strategic language, are a mix of cooperation and conflict. Specifically, this conclusion is reinforced by taking into account that most practical applications of indirect communication (diplomacy, extortion, bribery and sexual harassment) have their place in conflict settings.

Indirect communication can take many forms, including gestures of solidarity and deference. The phenomenon of stress is related to the address you are taking registrations indirect speech acts. Everything will depend on the gradual evolution (or reverse) to go find agreements participants. A high sense of affection will need only slight movements of the foot under the table or a gentle slope of the eyelids, so everything is ready. In particular, the anger felt by a jealous rage may be exposed, initially; with color intensity it takes to face up to a description novel about the outbreak caused by the crash of a fist against the glass window.

Indirect communication can also be used to refuse the fulfillment of commitments or promises. In terms of Schelling: "the promise is a commitment to the other party involved in a negotiation, and is necessary if the last action of any of the negotiators is beyond the control of another." In effect, in the promise are fairly enforced the conditions into the future by the performer. However, the agent can make use of indirect communication to make ambiguous the terms of the promise.

Schelling suggests important considerations that may apply to communicative exchanges with greater subtlety that relationships cost / benefit. The first aspect relates to the logic of plausible deniability. In a case of bribery of a police appeal to a veil of innocence is intuitively clear: if some officials are corrupt and accept bribes, but others are honest, the possibility of detention of those who bribe is present. For this purpose, the fact is that in rare circumstances, the police cooperate with the subtleties of communication evening proposed by the driver. With this purpose in mind, a game theorist relatively simple can delineate the circumstances hints that might give an ideal solution to such problems.

The second aspect of indirect communication as a strategy binds us to games software present in social circumstances where no penalties are imposed on tangible, in terms of costs and benefits, for tipping the waiter of the restaurant to hasten care, or an invitation sex after dinner. Unlike the driver and the officer, the bidder does not incur financial penalties by the partner who refuses. Therefore, so the key issue in these cases is to seek the reasons that proponents resort to innuendo or calculation of benefits in various scenarios.

There are also scenarios where people use indirect communication when the degree of uncertainty about the intentions of others is low, either because the valuation of the other is low (the proponent has a high self-esteem), or because the listener is awake and can pick up signals from the proponent with reasonable confidence, why in such cases, a proposal subtly evening is preferable to a direct and clear? In synthesis, the answer should refer to some properties manifest in their own language, as opposed to the processes of inference social that enable the interpretation of the hints.

3. Bribery

Consider the possibility of a bidder whose intervention is due to Grice's Maxims on effective communication, precise, correct, direct and relevant. This depends in turn on the prominence of some element of coordination or so-called Schelling's focal points. Namely, the proponent has passed a red light and considers how to bribe the traffic police. Your choice is between remaining silent or the police propose a \$ 25 dollars.

Unfortunately, the driver does not know if the official is corrupt and accept bribes or whether it is honest and stop him for attempted bribery. This is a theoretical game where an agent's dilemma is not knowing the values they play with others. Certainly, just the property of Thomas Schelling's contribution to game theory is to have illuminated the details of such dilemmas. The benefits and potential field are described in the following graph:

	Police honest	Police deshonest
Does not bribe	Penalty	Penalty
Bribe	Is free	Arrested for bribery
Bribery involved	Is free	Penalty

Graphyc 1. *Situations of bribery*

Profits in the third row are to combine the advantages of bribing a dishonest police with the advantage, not relatively small bribe an honest cop. In these circumstances indirect communication is the most rational option. Note that this analysis is incompatible with the conventional interpretation that makes indirect speech acts in games of pure cooperation. Again, the driver in this case does not use indirect communication to help the honest cop reach your goal (law enforcement), but rather confuses his mission in search of profit.

The intuition that indirect communication is given an ideal strategy can be confirmed by a basic model of rational briber. It is estimated that the costs of bribery are derived from (i) the amount of honest, q , (ii) the cost of bribes, C_0 (iii) the cost of the subpoena, C_1 , (which must be greater than cost of bribery) (iv) the cost of arrest for bribery, C_2 , (which must exceed the cost of the summons), and a crucial psychological variable (v) the probability p that the official interpreter of relatively straightforward statement, d , as trying to bribery.

The direct speech is a semantic variable that corresponds to the degree of vagueness of the proposition (number of readings) and the amount of these readings are most closely related to a bribe than an innocent remark. A proposition of if-then: "If you let me go, I will give 50", is more straightforward than the question: "Is there any way out of this mess?" And a generic comment: "I've learned my lesson, do not worry you will not be repeated," is even less direct (in practical terms, p , can be derived empirically, asking people their degree of confidence because a particular phrase seems a bribe).

Finally, the purpose of indirect communication is to influence the reaction to the proposal, to a point or final solution in which no party is expected to remove the other, building on the main ingredient of what one believes the other expected to wait for the first, and so on. The trend can be observed on the basis of the decision, L , which monotonically relates to the likelihood that the police do not interpret the directness of the proposition. By placing the, it is estimated that the cost of a driver facing a corrupt cop would $yc_{0p} - c_1(1 - p)$, while the cost when confronted with an honest cop would $hc_1 - c_2p - c_1(1 - p)$, in total, costs for the driver are and $yh - c_2p - c_1(1 - p)$,

Another part of indirect communication as a strategy is related to factors that justify certain preferential out of tight spots. In truth, humans use tactics of attenuation or restriction against what they said or how and why they acted so. It is, according to Schelling:

In a series of tactical maneuvering consists in the ability and opportunity to avoid embarrassing efforts ... making the result depends only on the choice of the other party ". The key is to stop communicating under stress "the question of who should make the final decision (Schelling, 1960)

The tactic in such cases as is part of the strategy of transferring responsibility to the opponent.

Now if both honest and corrupt police officers share a linear function L on the decision and (omit) have the same decision L for any proposition p , the optimal level of direct communication is determined by the percentage of staff honest. If we have $q - (c_1 - c_0) / (c_2 - c_0)$, the optimal strategy for the driver would not try to bribe them all: $d = 0$. If the percentage of honest officers is less than the critical threshold, then the optimal strategy

would be to try the driver unequivocally bribery, $d _ 1$. In this model, indirect communication would not be seen as the optimal strategy. The reason is obvious because the cost of the functions have a linear behavior

For the indirect bribe is an advantage for the driver, the function must be nonlinear. This can occur if both the honest and the dishonest officials make decisions $L h$ nonlinear, and probability functions p , are derived directly from the bribery (d) whether for the two types of decision, the functions are different. That is, although honest and dishonest officers interpret indirect communication the same way and therefore have the same measure of "hint" as bribery, honest cop hesitate more to stop the driver that the dishonest police, about the implications can have the information as part of the burden of proof. In general, costs for the driver are:

$$y = q \{C2 Lh (d) + C1 [1 Lh (d)]\} + (1 - q) \cdot \{C0 Lc (d) + C1 [1 - Lc (d)]\}$$

The case of Lh y Lc are functions on the table shows that Figure 2. The anticipated costs for the driver are:

$$y = C1 \text{ si } d < dc$$

$$y = qc1 + (1 - q) C0 \text{ si } dc < d < dh$$

$$y = qc2 + (1 - q) C0 \text{ si } dh < d$$

In the intermediate region, dc , d , dh , the costs will be less for the driver and, therefore, direct communication would be an ideal level. These results confirm that there are circumstances in which the indirect communication is an optimal strategy, formally applied the concept of plausible deniability.

The result depends on the officials but the decision rules of Lh and Lc and the stages of carrying out the duties. Formal systems and semantic rules synthetically contribute to extrapolate the above arguments. While corrupt officials have a lower threshold reason that honest, that is $Lh (d) Lc (d)$ with significant intervals of time, it is easy to show that within a range of parameters, the values obtained are minimal with respect to d , between the limits of absolute silence and take direct responsibility and without additives.

It should be stressed also cases where threshold limits are distributed between the two types of police officers. Another possible extension to life is a sequence of direct or indirect communications that allow probing the inclinations of the officer: "What a morning so splendid, that sentence, Agent and know I have to pay for the mistake, I greatly admire the ability to work you have, can be another way to solve this problem without subpoenas?"

It should be noted, the dynamics between these variables are developed in a scenario where the influence that "public pressure seems to force the participants to a solution obviously, just or reasonable, by way of pressure and how it acts on the participants. In its capacity to coordinate expectations through the power of suggestion, what makes it so effective to the public, the preceding or ethical?

What is the most plausible hypothesis for decision functions differentiate between honest and dishonest police officers? The answer depends on the determining factors in the cost function. Take the honest cop, why did not immediately arrested, who expressed veiled bribery in the same way a dishonest officer accepts any bribe? Beyond, the reason is that although all drivers make proposals that could be interpreted (correctly) as implicit bribes, some honest drivers also argue such proposals as innocent observations (this phenomenon is intrinsic to the definition of indirect speech acts), thus, arrests may be unsuccessful. Lose concentration in these cases can be costly to the officer, facing charges of libel, and to subject the institution to pay punitive damages.

The costs incurred by honest officials to detain a driver rely, therefore, the percentage of drivers to make direct observations of nature in similar situations and incentives to punish the people who proposed bribes. Instead, for dishonest staff costs depend on the amounts of bribes and the possibilities of being denounced. For this reason, it is unlikely that the two decision functions with the same shape. While the case of a bribery trial action leads to rationality linear mechanisms in the case of a bribe that uses indirect communication, rationality does not run in a linear fashion.

5. Threat

One of the criticisms of Schelling to the conventional theory of games is their inability to explain the conditions of strategy where forms of communication are present in everyday life. For instance, happens with indirect information. Indeed, the author suggests that game theory other than zero-sum games may have squandered their most promising field "to be taken to a too abstract level of analysis" (Schelling, 1960, 141). In brief, this level of abstraction exceeds a considerable amount of human experience situations where communication systems offer an opportunity to make big changes from small subtleties.

What happens to the stocks subject to intimidation paramilitary groups for long periods of time? What conditions generate criminal liability of public officials who are "forced" to sign contracts with agents of violence? What model of game theory could correspond to situations where one party "has the upper hand?" More importantly, the perspective we have emphasized what are the communication mechanisms used for the threat? How do you defend the threatened community? What type of key used to defend against the imposition of violent force?

Schelling is concerned with cases that may illustrate the indirect communication in everyday situations. Take the example of a man enters a restaurant and threatened with a gun to diners talking quietly. If twenty men propose it be overcome, however, the risk to them is much. How to choose? They can also promise to refrain from threatening retaliation after he caught. However, they can not communicate his threat, such as, do not speak the same language, "can not verbally disarm.

In the context of such questions, Schelling raises an objection to all possibilities of communication of the threat, what is the structure of information or communication that immune to threats to the dogs, idiots, children, martyrs and fanatics? One seems to move less on the design of the media, but on the status held by these people. Since, a response should see the character of the incommensurability between different worlds. What dogs have in common, idiots, children, martyrs and fanatics? Keeping Schelling's analytical matrix can say that "A limited rationality to sort objects in space" or "give a time sequence of their actions."

Indirect communication under conditions of threat is sufficiently problematic aspects. To start, an advantage which he plays threat is the surprise of his victims. The primary reaction states often triggers deep emotional shock. The threat causes coordination failures, can not react to the threat with another threat unless we all agree. The threat conditions certain commitments. To explain, in a situation where mass communication had originally an indeterminate nature, the threat sets limits between two players. A player makes a commitment and the other takes a final decision. The game presents the threat of a certain nature.

The threat presents another distinctive feature. One person says that in a particular contingency which will obviously rather not do if there were such a contingency, which depends on the other side. In summa, this is an indirect communication in which the determinants of the action comes from that there is no ambiguity about the message hidden implicative carrier. The aim is to test the potential force of violence on the victim, i.e. able to prove a power threatening to deliver outstanding results for both parties.

The breadth of choice is limited. And the film is projected on the mind of the victim, emphasizing the images of calamity. Indirect communication has discretion in these cases the potential force that can use the master agent. Since, although the main aim of the threat is a change of behavior of their recipients.

The threat may coerce their target if he succeeds in communicating some semblance of obligation. The obligation is fraught with implications. Schelling says that while the compromise sets a course of action, a majority of cases of those who set out, the threat sets a course of reaction, suggesting response to another communication. In spite, the commitment is a means of obtaining the first move in an exchange in which the first movement involves an advantage; the threat is a commitment within a strategy for the second movement.

The analogy with classical mechanics is extremely concise. The principle of action / reaction, the phenomena of commitment and threat seem to offer further detail. Only in the case of the threat, relied forces tend to cause an obvious imbalance. The victim of the threat must give the severity of damage if you breach the obligation. The second movement is offset by hidden costs the first move. Generally, the aggressive nature of the threat is restricted, if you change your mind that threatens or is unable to comply with the action implied there.

The distinctive character of the threat is reflected by an indirect communication, however, must keep its power of intimidation. The threat, or is superfluous and does not join a movement, or conveys a genuine and structures related to information and communication perfectly distinguishable. Schelling's observation is relevant in this regard: "... in fact if, as often happens, the threat is of a nature that the act of commitment is not contained in the act statement," if the commitment before the communication of the threat or the threat and evidence of its credibility, the first step in the process of threat alters the very structure of incentives ... "(Schelling, 1960, 146).

The key to the effectiveness of the threat is not then in the terminal phase of realization of it, but enough to control the means of indirect communication. Are the expectations created by the words and the meaning given to the message indirectly that which creates the conditions of interdependence to be the victim of the threat with his executioner. Over time, the process may be accompanied by evidence of using a force

The game of strategic moves by Schelling is illustrated with a typical daily life:

The robber who finds that his victim, yet still immensely rich, no money is not over at that moment, can not seize his chance unless he can get and hold it hostage while awaiting payment, and even that not take effect unless it can find a way to take a convincing commitment to return the hostage to a mode that is subject to the possibility of an identification or capture (Schelling, 1960, 147)

The situation has two faces the same dilemma. With the first, the robber must overcome a situation resulting from the real conditions of his victim, streamlining the procedure to be used to do their goals. The second side suggests that the operation itself imposes some risk to the offender. Usually, on both sides of the dilemma communication plays a central role. The strength of commitment to cause the damage depends on the efficiency that has the speech act by threatening.

A threat is essentially a statement likely to be believed, a conditional choice for the second movement. The power comes from intimidation, then the images that are communicated in the first movement of the offending agent. In the phrase "this will hurt you more than my" made explicit the threat depends on interpersonal utility comparisons. The main feature is that the advantage in the first movement depends on

effective communication and that this strategic advantage, play a decisive role in the proposed outcomes for who makes the threat.

The question is whether we admit that the game has "movements", ie it is possible for one player, to or for both together, to undertake in the course of play, actions irreversibly alter the game itself, which somehow change the payoff matrix, the order of elections or the structure of information in the game. From this point, Schelling reevaluates the psychological place to discuss the threat with Luce and Raiffa:

If a threat is more than information which is intended to draw the attention of the other player must ask what else can be. And it must involve some idea of commitment-real or fictitious, if it must be something (Schelling, 1960, 149).

This note is comprehensive because it allows us to make two clarifications on the originality of Schelling. The first is that the theory of strategy implicitly assumes a theory of asymmetric information. The rationale with which each player can maneuver the information available is crucial. Second clarification, strategic games, information do not flow in a monotonic or linear but operates as a web that has a role of trap. In the case of the threat, this means that the information provided encourages direct changes to the set of beliefs of the person concerned.

Pinker argues that threats tend to be ensured in implicatures for two reasons. One is familiar, the extortionist not mince words would expose himself, and thus run the risk of having to carry legal penalties, like the briber. But it also faces the aim of extortion as the challenge brings out his threat. In order to keep up the reputation of living, the extortionist would have to carry out the threat, which can be risky and expensive, and it does not make sense after that has failed to coerce their target.

An implied threat solves both problems. If the threat is unofficial will be harder to condemn the extortionist, and if it is challenged, you can choose not to pursue it without recant and undermine its credibility. For example, in the Magdalena Medio paramilitary chief operating as an officer of the Armed Forces during the day while at night performing crimes and massacres, sends the following communication between local transport companies, "If you do not engage with our company, it is possible that their vehicles reach their destination. Who could argue that this message does not contain a prescient forecast, and not a deliberate policy?"

6. Conclusion

The central idea that has guided this discussion is that human resources available communication mechanisms that are not limited to the point. Much of our life is spent in conversations and dialogues, in which the two-way communication flows, jokes,

teasing or intimidation; various settings in which attitudes we communicate with gestures, movements of the hands or feet.

Schelling gets renewed game theory in a tradition of outstanding scientific ancestry (Newman, Nash, Luce, Raiffa) because he dares to develop strategic relationships in everyday domains: the raising of children, a hell of rush hour traffic, war cold or a cold used as an excuse. A key part of his analysis is to have unlocked the logical structure of communication in strategic games. More precisely, the indirect communication mechanisms those forms: verbal or nonverbal exchange with long detours or extensions often unnecessary.

Therefore, in direct communication could subjectively predict what someone means, as opposed to guess. In cases of bribery, denial ratio hypothesis predicts that indirect communication open spaces courtesy to simulate it "was not what I meant." The outputs that make the indirect speech act, can keep a relationship reach the jaws of Hell. Under situations of tense coexistence, indirect communication can change our relationships with others by making the threat is taken as a joke. Everything depends on where the emphasis falls of the communicative act.

References

Betty Tullera, McNeel G. Jantzena, Viktor K. Jirsa, 2008, "A dynamical approach to speech categorization Two routes to learning" *New Ideas in Psychology* 26, 208–226.

Brown P, Levinson SC (1987) *Politeness: Some Universalism Language Usage*, Cambridge University Press, New York.

Clark HH., 1996, *Using Language* (Cambridge University Press, New York); Holtgraves TM (2002) *Language as Social Action* (Erlbaum Associates, Mahwah, NJ). Pinker S (2007) *The Stuff of Thought: Language as a Window into Human Nature* (Viking, New York).

Dawkins R, Krebs JR., 1978, *Animal signals: Information or manipulation? Behavioral Ecology*, eds Krebs JR, Davies NB (Blackwell, Oxford), pp 282–309.

Estrada, Gallego, Fernando, 2004, *Las metáforas de una guerra perpetua. Pragmática de la argumentación en el conflicto armado en Colombia*, Fondo Editorial Universidad Eafit, pgs. 178.

Estrada, Gallego, Fernando, 2007a, "La información y el rumor en zonas de conflicto, estrategias por el poder local en la confrontación armada en Colombia", *Revista Análisis Político*, IEPRI, v.60 p.44 – 59.

Estrada, Gallego Fernando, 2007b, "La argumentación: Alternativa para el manejo de conflictos", *Revista Zero*, Universidad Externado de Colombia, v.18, pp.48 – 54.

Feiler B., 2000, *Pocketful of dough*. *Gourmet* October:99–101.

Goffman E., 1981, *The Presentation of Self in Everyday Life* (Doubleday, New York). Versión española: *La presencia de la persona en la vida cotidiana*, Buenos Aires, Amorrortou.

Grice HP., 1975, *Logic and conversation*. *Syntax & Semantics*, eds Cole P, Morgan JL (Academic, New York), Vol 3.

Pinker S., 2007, *The Stuff of Thought: Language as a Window into Human Nature* (Viking, New York).

Richard Breheny, 2006, Communication and Folk Psychology, *Mind & Language*, Vol. 21 No. 1 February, pp. 74–107.

Schelling TC., 1960, *The Strategy of Conflict*, Harvard University Press, Cambridge, MA (Versión al español de Adolfo Martín, *La Estrategia del Conflicto*, Madrid, Editorial Tecnos, 1964).

Schelling, T. C. 1984. *Choice and Consequence*. Cambridge, MA: Harvard University Press.

Schelling, T.C., 2007, Jean-Paul Carvalho, "An interview with Thomas Schelling" *Oxonomics* 2.

Schelling, T.C., 2010, "Game theory: a practitioner's approach", *Economics and Philosophy*, 26, 27–46

Stephen Levinson, 2000, "After Grice: Neo- and post-perspectives", *Review article of Stephen Levinson, Presumptive Meanings: The Theory of Generalized Conversational Implicature*. The MIT Press, Cambridge, MA. xxiii + 480 pp., en *Journal of Pragmatics* 38 (2006) 2223–2234, Paperback, ISBN: 0-262-62130-4.

Williams GC., 1966, *Adaptation and Natural Selection: A Critique of Some Current Evolutionary Thought* (Princeton University Press, Princeton); Trivers R (1985) *Social Evolution* (Benjamin/Cummings, Reading, MA).