Language, Games, and Minds

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Abstract:

Language has often been compared to the game of Chess. In this article, I claim that a productive analogy for linguistic interaction would be the Asian board game GO. I further explore common aspects of language use and creative play that we find in improvised ensemble music-making. What is said about language and games, and language and improvised music-making is then related to a discussion of linguistic interaction as constitutive of thought and mind.

Keywords: Language, Linguistic Interaction, Games, Multi-modal Communication, Improvised Music-making, Mind.

Language and Games

In the beginning of the last century, Ferdinand de Saussure (1966) introduced the game of chess as an analogy for a conception of language, which he called la langue, as governed by an abstract system of rules. La langue was prior to and did not depend on the material realization, which he called la parole, of the abstract system much as the physical features (shape, size, colour, etc.) of the

chess pieces are immaterial to the game as an abstract system of rules. The rules that governed la langue were conceived of in analogy with the rules of chess.

In the 1930's, Ludwig Wittgenstein (1953) used the analogy of games in general to characterize a revised version of his earlier picture of language as a reflection of reality (Wittgenstein 1922). Wittgenstein noted that ways of using language in different situations resembled what one finds when one looks at games. There seems to be an infinite variety of ways of using language as there is an infinite variety of ways of playing games. It seems impossible to discover a common characteristic in all uses of language much as it seems impossible to find a common feature that would characterize all games. Wittgenstein introduced the notion of language-game to talk about these multifarious situated uses of language.

About the same time as Wittgenstein was investigating the notion of language-games, von Neumann and Morgenstern (1944) were developing a mathematical theory of games which has later come to play a major role in modern economics and political science. In one type of competitive game, called zero-sum, one player's gain constitutes the other player's loss (and vice versa). Another type of game, investigated by Schelling (1960), consists of games where players coordinate to achieve an outcome that is good for both, or at least not worst for both.

The theory of games has been put to use in the Philosophy of Language and Linguistics. Reviving David Hume's notion of a natural convention, David Lewis (1969) has taken Schelling's ideas about coordination games and used the theory to give an explanation of how the conventions of a natural language are established. Building on David Lewis, Herbert Clark (1996) introduces the theory of coordination games to characterize language use. He also reintroduces

the analogy of the game of Chess in the study of situated language use, but this time on a concrete level where the material aspects of the game are important. The pieces in the game are likened to artefacts and various objects that speakers use to mark changes and progress in an on-going linguistic interaction, the glasses, filled with some intoxicating liquid, that are raised when proposing a toast, for instance.

Chess and GO as Models for Language

Chess

I assume that readers are familiar with the basic rules of play for the game of Chess. Here I will simply describe a set of features of the game that will be used in a comparison of Chess with the Asian board game GO.

In Chess, the different pieces have different functions and before the start of the game the pieces are placed on the playing board in a standard configuration. The same configuration obtains for all games of Chess. All relevant pieces and their corresponding functions are available from the outset of the game. Pieces may be converted or transformed to fulfil the function of other pieces (pawns may be converted upon reaching the other side of the playing board), but players may not create new functions for the pieces (say a piece that would be a cross between a knight and a bishop).

The game is regulated by a system of conventional rules where the goal of the game is defined as the threat of unavoidable capture (checkmate) of the opponent's king. This goal of the game entails that one piece is more important than all others. The goal also defines the normal outcome of the game (unless there is a draw or 'stalemate'). One side wins and the other side looses. Barring

a draw or 'stalemate', the victory or loss is total, all or nothing. There is nothing like a close loss or a narrow victory.

During the game, pieces are captured and removed from the playing board. This means that normally the number of pieces at the end of the game is less (usually much less) than at the beginning of the game. The play is basically of a destructive or reductive nature as concerns the number of pieces in play as the game progresses. Players may not pass their turn and if a player is forced into a situation where the only alternative for play is to place his/her own king in jeopardy of capture (check) then the game is stalemated.

The basic starting configuration gives rise to a confrontational perspective on the developments on the playing board. The players view the developments from the perspective of whether the action of the game is taking place on their own or the opponent's side of the board.

GO

For a basic introduction to the rules and elementary strategy of the game of GO, I refer the reader to Iwamoto (1977). Here I will describe features that are of interest for comparison to Chess and the theme of the article.

In the game of GO, the pieces, consisting of round markers of different colours (normally black and white) referred to as stones, are all the same size and shape. The playing board consists of a set of intersecting lines arranged in a 19 by 19 grid (in the standard case). The size of the board may however vary so that 9 by 9, 10 by 10, etc. grids are also possible and regularly used for short or instructive games of GO.

Play consists of placing the stones on the intersections of the grid. All pieces have the same basic function, namely to occupy an intersection. The aim of the game is to build connected structures of stones that control a larger area of the playing board than the opponent. In even games (games with players of equal ability) the game starts with an empty board, or in the case of a difference in playing skill the weaker player is allowed to place a number of handicap stones in standard configurations on the board before play is initiated. In even games there is no standard configuration at the start of game, the first player (black) plays on any intersection deemed strategically valuable. The players then take turns placing stones on the board until they mutually agree that the interesting possibilities for further play have been exhausted and terminate the game. The areas under control of each player are summed up and compared and a winner (the player controlling the larger area) is declared. In tournament play, the player playing white (who in even games is always the second player) is awarded 5 ½ points at the outset of the game to offset the advantage of the first player (black). This means that tournament play never ends in a draw. After more than 200 turns at play, some championship games have been decided by ½ of a point!

The playing of the game is regulated by what I like to refer to as basic conditions of play and a few definitions of situations rather than a set of rules that determine how the various pieces are arranged at the outset and can be moved during play as we find in Chess. The basic conditions of play consist of the following.

1. Players take turns putting stones, one stone for each turn, on unoccupied intersections of the board.

2. A stone or a group of connected stones of the same colour is said to be alive if it has at least one outer unoccupied intersection immediately adjacent (a liberty)

to it, or if the group contains at least two intersections that may not be occupied by the opponent (usually referred to as eyes).

3. A stone or group of stones of the same colour that lacks an outer liberty or a pair of eyes is deemed dead and is removed from the board.

4. The unoccupied intersections made free by the removal of dead stones may be played on in the continuation of the game.

5. All stones or groups of stones that are alive remain on the board until the end of the game.

6. Because any empty intersection is playable, even previously occupied ones, there is one general restriction on play that prohibits stagnation or endless repetition and which basically says, "don't present the same situation twice in a row to your opponent" (ko rule).

7. A player is allowed to pass his/her turn. This usually occurs when a player concludes that there are no more interesting moves to be made and initiates a bid for the termination of the game.

The goal of the game is to gain control over points (intersections) on the board. The winner is the player who has relatively more points at the end of the game. There is no given situation or configuration that determines the end of the game. The end of the game is effected by the players offering passes in three consecutive turns (A: pass, B: pass, A: pass) when no more interesting opportunities are available.

Because more and more stones are placed on the board as the game progresses, GO has a constructive character. Structures of stones are built up incrementally over the span of a number of turns in competitive interaction with the opponent during the game and can be said to constitute the moves of the game. Moves in GO therefore emerge in a co-constructed (but not necessarily cooperative) manner that differs radically from Chess.

Each corner situation in Go constitutes a sub-game so that the overall game consists of a combination of several parallel local sub-games. In a normal game (19 by 19 board) there will be at least 5 to 7 or 8 parallel local sub-games running during the course of the overall global game. A primary strategic goal of GO is a striving to obtain and maintain an equilibrium of power and opportunity in the various parallel local sub-games. Exaggerated greed on a local level can, and often does, result in a substantial loss on a more global level.

The development of structures on the board can be described as a slow process of determination by players across turns. Strong players are reluctant to make definite structural commitments early in the game and will leave local situations rather undetermined, awaiting developments that may arise in other nearby or remote local situations, until quite late in the game.

GO is non-confrontational. Both players view the board from above rather than from the perspective of which side of the board they happen to occupy, and the development of the structures on the playing board has an organic-biological emergent character. An aesthetically appealing (beautiful) shape of the configurations of the stones, usually based on an intuition of balance or harmony, both on a local and on a global level is an important aspect of good strategy and the mark of strong players.

GO and Linguistic Communication

The characteristics of GO described above fit quite well with important aspects of linguistic communication as it has been conceived of in modern interactional linguistics. The basic conditions of play in GO resemble the basic constraints for linguistic communication that consist of turn-taking and ethical principles underlying some version of Grice's (1975) maxims or Allwood's (1976) principles of rational activity in conjunction with basic constraints on cognition of the participants, e.g. short-term memory, concentration span.

As in GO, in linguistic communication there is an incremental and emergent co-constructive (but not necessarily cooperative) development of sense and meaning across turns and speakers. As in moves in GO, the meaning, purpose, or value of a linguistic expression (an utterance) is determined, sometimes over the course of several speakers and turns, in the developing context.

As in GO, linguistic interactive communication is constituted by parallel developments on various levels. Local developments are incorporated in more global developments as the interactive communication progresses. And, as in GO, the end of the interaction is negotiable and the outcome is relative.

If we want to use the game analogy in Linguistics in an analysis of interactive linguistic communication we are better served, I believe, relying on GO than Chess. If we focus on only one important aspect of linguistic theory in respect to the games of Chess and GO, one could say that the classical parts-of-speech used in traditional grammar may be seen in analogy to pieces in Chess. A specific restricted number of types of expressions (pieces and moves) are used in specifically regimented ways to instantiate contributions to meaningful linguistic

structures (tactical and strategic sequences of moves). The classical parts-of-speech, however, take on more scalar qualities in actual language use, both spoken and written. Words tend to be more or less 'noun-like', more or less 'verb-like', etc. or something in-between. If we look carefully at the semantic and pragmatic aspects of the expressions, there seems to be an almost infinite variety of parts-of-speech more in analogy with the nearly infinite variety of the configurations that constitute what we could call (for lack of a better term) moves, as described above, in the game of GO.

Davidson's (1986) claim that there is no such thing as a language may be true if we try to compare linguistic communication with Chess, but probably not if we think more of spoken language interaction in terms of the game of GO, where we, instead of rules in any strict sense, find mostly emergent tactics and strategies.

Games and Play

Clark (1996) uses the notion of joint action to characterize what we are doing when engaging in interactive linguistic communication. Clark claims that there are individual actions like paddling a one-man kayak or playing a solo instrumental musical piece that we perform alone. Interactive linguistic communication (language use) involves, however, what he calls participatory actions that, although carried out by individuals, are part of a joint commitment by at least two individuals to create something together that is greater than the sum of the individual contributions. He uses the examples of paddling a two-man canoe or playing a duet for musical instruments. The specific example he gives for the duet is the performance of a piece by Mozart.

Using a written musical composition or score as a prime example as an analogy for the type of joint activity Clark wants to compare with interactive linguistic communication is, I feel, off the mark. Normal language use is not performed from a score, but is improvised concerted activity more in analogy to what is found in jazz and flamenco ensembles. In what follows, I describe a number of characteristics of ensemble flamenco performances which are, I believe, relevant as analogies to interactive linguistic communication.

Flamenco Improvisation

Flamenco music consists of a collection of related styles or genres of musical expression. Exactly how these styles or genre are related to each other is not relevant for the argument of this article and will not be pursued here. For an in-depth description of flamenco styles and genre, I refer the reader to Pohren (1990).

In traditional flamenco, a performance is kept within the framework of the style or genre for its duration, be it a song or dance, with or without guitar accompaniment. There are no written scores or compositions that serve as a basis for the performance.

A style or genre is defined by a framework consisting of a combination of a specific rhythmic pattern in combination with a specific scale and chord sequence. Different combinations of rhythmic patterns and scales and chord sequences give rise to different styles or genres.

Melodic figures for the singing (cante) and the guitar (falsetas) are traditionally restricted to the possibilities offered by the harmonic and rhythmic framework

of a particular style or genre. Within the framework of the style or genre there is freedom to create new melodies and melodic figures, either spontaneously or after being pre-rehearsed, and to weave together well-known melodies and figures in new ways to structure the performance. A flamenco performance can be and is, when it is at its best, unique, both in what is being performed and how it is being performed.

Traditionally, a flamenco performance is a group performance. The traditional ensemble consists of a singer, a dancer, a guitarist and a hand-clapper. This setup is usually referred to as a 'cuadro'. Participants take turns contributing in cooperation with each other. Normally there are at least two participants coordinating contributions together at any point in the performance. This can be a guitarist who is laying out a basic harmonic and rhythmic pattern for a singer or a dancer, or both. When the guitarist gets a turn at contributing the melody, the singer and/or dancer will take the roll of accompaniment and carry the rhythm with hand-clapping.

A flamenco group performance is characterized by mutual dependency, coordination, negotiation, and improvisation. All members are dependent on all the other members to be able to make a positive contribution to the performance. The contributions must be well coordinated so as not to disturb or breach the basic rhythmic framework (compás) of the style or genre being performed and to enable all members to know where (beginning, middle, end) they are in the performance. When contributions are appropriate or called for is a matter of negotiation during the on-going event. What contribution to make is something that can be, and in the best case is, created spontaneously to fit in with the emergent development of the particular performance.

Being a combination of singing, dancing, guitar playing, and hand-clapping, a flamenco performance is a highly multi-modal event where there is no one dominating modality. A good performance aims at a balancing of the contributions in the audio (singing, guitar playing, hand-clapping, footwork) and visual (costumes, posture, movement, gesture, facial expression) modalities.

The interactive nature of a flamenco performance leads to inspiration of the imagination and a good deal of improvisation, both on a local (what happens next?) and a more global level (who does what, when?) in the performance. There is also a good deal of collaboration or conspiring between the members of the ensemble (faking what is not fixed) to make a good mutual and common performance, something the ensemble and the audience can be happy with.

Flamenco offers the member of an ensemble a constrained creative and re-creative freedom of interactive musical experience and expression. Originally, flamenco ensembles performed primarily for the entertainment and pleasure of the performers themselves and not necessarily for a listening (non-participating) audience.

Linguistic Communication and Musical Improvisation

Interactive linguistic communication can be seen in analogy to concerted interactive musical improvisation as is the case in flamenco. Linguistic interaction uses bits and pieces of expressions (phrases, constructions, sentences, etc.) to create and recreate meanings. Many of the expressions used are recycled, revised, or minimally altered versions of earlier expressions and constructions by the same speaker or other previous speakers (variations on recurrent themes). Linguistic interaction shows a high degree of mutual dependency consisting of feedback and other speech management signals. The contributions must be well

coordinated so that what is said is experienced as relevant and coherent to the actual on-going development of the interaction and so that there is a reasonable balance of opportunity to contribute on the part of all participants. What is contributed, by whom and when and how contributions are to be interpreted and evaluated is something that is negotiated during the on-going event.

Face-to-face linguistic interaction is also a highly multi-modal event. Speech, facial expression, gaze, gesture, posture, proxemics, dress, timing, etc. all contribute to the total communication event. It is perhaps only due to a cultural linguistic bias that we tend to attribute more importance to what is being said, as opposed to what is being communicated via the other modalities.

The contributions are spontaneous and improvised and inspired by the contingencies of the interaction. Participants orient to global aspects of the interaction concerning how the different local segments constitute what will be considered a good, beginning, middle, and end of the interaction. There is also a good deal of conspiring and collaboration involved in the achievement of a mutually rewarding performance. Linguistic interaction offers the participants a constrained creative and re-creative freedom of interpersonal experience and expression.

Language and Mind

The relationship between language and mind has been a recurrent theme in linguistic theorizing. If we restrict the notion of mind to that part of consciousness where thoughts are conceived and formulated, we might say that an intrinsic relationship between language and mind (a complete sentence expressing a complete thought) has been in linguistic theorizing since, at least, the time of the Stoics. The Sapir-Whorf take on this relationship was a retake on

a linguistic version of Kantian Idealism by Humboldt in the early nineteenth century, passed on to them by Boas. Here the linguistic categories and structural possibilities allowed by the grammar of a language constrain the conception and formulation of thought by the speaker. The picture that is presented is that of a speaker performing a single, uninterrupted, non-co-constructed, individual act of cognizing through the medium of the native language.

A competing picture of the relationship between thought and language is also found in Humboldt (1997) when he speaks of the energia aspect of language that is realized in living dialog. Here speaking and thinking are mutually constitutive and are sensitive to the particular circumstantial contingencies of the speakers. Thinking something through or getting one's thoughts in order about something at a particular time and place, is done primordially in speaking to another person. Although research in interactional linguistics has revealed orderly developments in concerted communicative achievements in on-going dialog, it has also shown that the notion of a complete thought being expressed by a complete sentence by an individual speaker is a statistical rarity. Talking and thinking go hand in hand, but neither language nor thought seem to appear in linguistic interaction the way they are described in books of grammar or logic.

A very widespread and robust folk theory of thinking also bares witness to the notion that thinking is a type of inner monolog or dialog (with a speaker/thinker playing one or both roles). Thought is enacted in dialogic talk. Linguistic interaction would, according to this view, constitute an essential part of the conscious thinking mind.

Old entrenched analogies die hard, if ever. The notion of language as constituted by an abstract system of rules in analogy to Chess has been with us for about one hundred years. The conception of the relationship between language and

thought, where language structures a speaker's thought, much as an isolated Robinson Crusoe would construct a little habitat for himself, is also still very much with us.

Research inspired by an interactive perspective on language calls these analogies into question and calls for a rethinking of these basic analogies between language, games, and mind. Both the language used and the thought expressed are constrained creative improvisations on cooperative and collaborative multi-modal interpersonal experience. If and when the old analogies ever really die, we might find that when they do, that they will give way to analogies that support a conception of language as multi-modal dialog that constitutes the enacted and interacted mind. Two such analogies have been explored here, that of playing the game GO and the improvisation of concerted interaction found in ensemble flamenco performances.

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Biographical note:

Having studied in Madrid with the flamenco guitarist Triguito between 1969 and 1971, the author was a professional guitarist for a number of years before returning to academic studies in the late 1970's. The author attained the rank of first-grade amateur master (shodan) of GO at the 1979 Nordic Championship in Copenhagen, Denmark.