Competence, Counterpoint and Harmony: A triad of semiotic concepts for the scholarly study of dance

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1. Introduction

1　This article proposes *competence*, *counterpoint* and *harmony* as semiotic concepts that are directly applicable to music/dance scholarship—e.g., to ethnochoreology, ethnomusicology, dance anthropology, performance studies. I wish to emphasize the fact that competence requires sanction. That is, one cannot declare oneself competent, but the validation of "being competent" comes from another person or entity—in the case of a dance performance, the applause of the audience to the dancers and musicians can validate their competence. Because of this dependence, competence is *relational* in character and provides the researcher with a useful point of view to understand how dancers, musicians and audience interact during a dance event. In other words, while music/dance scholarly disciplines may have their own methods for analysis, competence can serve as an anchor point to solve a difficult problem: synthesis.

2　I take as a case study the Peruvian step dance *contrapunto de zapateo*. The semiotic study of the *contrapunto de zapateo* was fully developed in my master thesis (Miranda Medina, 2017). This article summarizes some of my key findings reconsidering certain aspects such as the affective element that humor as play brings in complementing competence. Contrasting the format of alternation (taking rounds) in the *contrapunto de zapateo* with the understanding of *counterpoint* in Western classical music, I propose an abstract semiotic definition of counterpoint based on actants interrelated by the perception of each other's actions. Counterpoint considers retention and protention, or in engineering terms, memory and prediction. Within the framework of the counterpoint

represented using input–output blocks and functions, Greimas's narrative schema can be reinterpreted as a specific case of counterpoint that depends on two actants: the setting and the subject. Along with the definition of counterpoint, I explain how it can be relevant to the study and understanding of dance. Drawing from the philosophies of Leibniz and Spinoza, and through their abstract notion of *harmony*, the intensity or varying degree of affect can be understood as the maximization of actions by all actants (dancers, musicians, and the audience). Hence competence, counterpoint and harmony are closely related to each other.

2. Competence: from Chomsky to Greimas

3　Noam Chomsky was the first to introduce the concept of *competence* into linguistics with performance as its correlate (1965). While competence refers to the user's knowledge of the language, performance refers to using the language in specific situations. Competence corresponds to a virtual state, a potentiality, while performance corresponds to an actualization of this potentiality in the act of using the language (Greimas & Courtés, 1979, pp. 67-70).

4　Greimas's insight was to redefine competence as a general capacity of which linguistic competence is only a manifestation (*ibid.*). From dictionary definitions (competence, 20[ ]) it is possible to summarize the following traits of competence:

　　1. Competence implies that a competent subject *S* possesses certain characteristics (e.g., adequacy, knowledge, skill or capacity), or that the subject is capable of *performing* certain tasks.

　　2. Competence requires that an external entity confirms that *S* possesses those characteristics, or that *S* performed the task as required. That is, *competence requires sanction.*

　　3. The performance or the characteristics that allow the sanction "*S* is competent" are specific to a situation— in Greimas's terms, to a specific narrative program or actantial configuration —and are therefore *not* universal.

5　In Section 3 I explain the generative trajectory and the narrative schema that allows the formalization of competence as a semiotic concept. In parallel, I undertake the application of the generative trajectory to the *contrapunto de zapateo.*

3. The generative trajectory and the narrative schema

6　Some may misunderstand the task of semiotics to be mapping signifiers to signifieds. Greimas, however, developed a semiotics oriented towards accounting for the conditions and pre-conditions for the *production of meaning* (Greimas & Fontanille [1991] 1993). For Greimas, meaning can be understood both as "translation and transcoding" and as "intentionality" (Greimas 1989).[1] The narrative schema which formalizes competence pertains to the second level of the *generative trajectory*, a more comprehensive method devised by Greimas to study and grasp the possible meanings in a *semiotic system*.[2] The generative trajectory is composed of three interconnected levels: (1) the discursive level which describes the use of time, space and actors in the semiotic system (2) the surface narrative syntax, describing the sequenced anthropomorphic processes taking place in the system, and (3) the deep level, which consists of

fundamental logico-semantic structures that underpin the signification of the semiotic system.

7   In what follows, I bring forward findings of my semiotic study of the Peruvian dance *contrapunto de zapateo* using the generative trajectory (Miranda Medina, 2017), emphasizing on the surface narrative syntax, and reflecting on competence in terms of the canonical narrative schema and the *Semiotics of Passions* (Greimas & Fontanille, [1991] 1993).

3.1. The discursive level: introducing the contrapunto de zapateo

8   The discursive level is fundamentally descriptive; it studies how the abstract concepts pertaining to the deep level are given actor-space-time coordinates (Martin & Ringham 2000, p. 27). The analysis starts examining the utterances that compose the semiotic system in order to identify different categories (lexemes) and oppositions within these categories (semes) (Miranda Medina, 2017). In my case study of the *contrapunto de zapateo*, my method was to take an ensemble of videos of *contrapuntos* available online (Juan Felipe Miranda Medina 2017), describe a number of them meticulously, and identify features that were common to all—e.g., how the performance is structured in time, the movements and gestures the dancers use, the number of dancers involved, etc. (*ibid.*). My study is informed by my experience as a *zapateo* dancer and by fieldwork I conducted in Lima–Peru in 2016. Before undertaking description, let us understand the context of the *contrapunto de zapateo* as a practice.

9   *Zapateo* can be roughly translated as "using the shoe", and it is a valuable skill in a number of Peruvian dances. However, in the context of the *contrapunto de zapateo*, *zapateo* refers to a specific improvisational step dance which includes body percussion. This style of dancing is also referred to as *Afro-Peruvian zapateo*, due to its associations with the Afro-Peruvian revival (Feldman 2006), or as *zapateo criollo*, due to its connections with *criollo* music. *Contrapunto*, on the other hand, refers to a competitive format deployed not only in dance but also in poetry (e.g., in the *cumananas*) where the participants improvise taking alternated rounds (Tompkins 2011).

10   Before the revival the *contrapunto* was a competition between two dancers: the dancers would alternate taking five or seven rounds each until a winner was announced. Each round consisted of several improvised motifs which had to be performed in reverse order to close the round, and the dancers were not allowed to repeat motifs from previous rounds. The staging of the *contrapunto* during the revival removed the judge from the performance, and added a final round with a common choreography performed by all dancers. The aim was no longer to win, but to gain the favor of the audience through applause and laughter. The dancers began using gestures to tease each other, and some gestures were integrated into the dance itself—e.g., imitating a horse while dancing, mocking gestures such as cleaning one's shoes on the other's pants, or adding a humorous touch to the dance motifs. In addition, dancers in the *contrapunto* sometimes interrupt each other's round as a ludicrous provocation. The staging of the *contrapunto* allowed for the dance to be choreographed—or in semiotic terms, for the narrative program to be modified. The dance is no longer solely based on round alternation between two dancers (AcuarelaCriolla 2009*b*). Some performances may include three or more dancers (Lyele Media, 2015), in which case dancers may form alliances by dancing together, and in some occasions dancers enter the stage

suddenly in the middle of the performance (AcuarelaCriolla, 2009*a*). Figure 1 illustrates some representative gestures which may be carried out at the beginning, end, or during the course of a round. Figure 2 describes the time structure of a *contrapunto* performance[3] while Table 1 summarizes the classification into the categories (figurative isotopies) of actors, place, space, time and actions.

3.2. The surface narrative syntax and the canonical narrative schema

11   The *surface narrative syntax* is concerned with the characterization of sequenced anthropomorphic *processes* for the semiotic system. It comprises two abstract structures that Greimas intertwined—the actantial narrative schema and the canonical narrative schema. One of the strongest assets of the level of surface narrative syntax is that it is concerned with processes (and hence relations), and due to the ubiquitousness of processes in the natural world, it is applicable to the sciences and the humanities, as well as to the study of aesthetic practices—according to the Paris school of semiotics it underlies all forms of discourse: "scientific, sociological, artistic, etc." (Martin & Ringham 2000, p. 9).[4]

12   Greimas defined the canonical narrative schema as a model consisting of four sequential processes: contract, competence, performance and sanction. The actantial narrative schema, on the other hand, consists of six *actants* that interact along three axes: subject—object in the axis of desire, helper—opponent in the axis of power, and sender/messenger—receiver on the axis of transmission.[5] In most texts, including Greimas's own ([1966] 1973, p. 236), the actantial narrative schema is represented using arrows drawn between the six actants as shown in Figure 3, which completely obviates the sequence of processes corresponding to the canonical narrative schema. One of the contributions of this article is to use an input–output functional representation, shown in Figure 4, inspired by engineering and applied mathematics (Proakis & Manolakis 1996), in order to articulate the six actants, the four processes, and the different modalities[6] present in each stage. This intertwined schema resulting from the articulation of the actantial narrative schema and the canonical narrative schema will be referred to from now on as the *narrative schema.*

13   As an example, imagine a young teenager that attends a *zapateo* performance. She becomes inspired and decides one day to perform at a *contrapunto de zapateo herself* (process 1: contract, virtualizing modality of wanting-to-do). She finds an old *zapateo* master and takes lessons with him for several years and becomes acquainted with the *zapateo* milieu (process 2: gain competence, actualizing modalities of being-able-to-do, knowing-how-to-do). She is then invited to perform at a venue together with other young dancers and she dances elegantly challenging her fellow dancers (process 3: performance). At the end of the *contrapunto* she receives a warm applause and the congratulation of her colleagues (process 4: sanction). She is now realized, conjoined with her object of desire which was to perform in public.

14   The representation in Figure 4 makes clear how the message that transforms the receiver into a subject (contract) is also responsible for sanctioning the outcome of the performance of the subject (sanction)—as opposed to emphasizing the sender as an actant. The intervention of a helper/opponent or a possible anti-Subject are only accessories in the input–output representation, because the very presence of the boxes

for the four processes already implies a function of transformation. I have nonetheless chosen to draw them as inputs into the function/process to preserve the resemblance to the original formulation of the model. Figure 4, in addition, highlights the sanctioning that is proper to competence.

Figure 1

Different gestures used between dancers in zapateo. (1) Upper left: *X* cleans his pants on *Y* before starting the round. (2) Upper right: *X* mocks (caricaturizes) *Y*. (3) Lower left: *X* creates suspense at the start of the round. (4) *Y* (at the right side) utters hand gesture on *X*'s performance: "more or less".

The images are print screens from AcuarelaCriolla (2009*a*); Bisbal (2012); Efa Tele Meyra (2015) and Pedro Luis Juliin Manrique Medrano (2012), respectively.

Table 1

```
Actors  dancers, audience, musician (almost always a guitarist
        in zapateo criollo), commentator (very rare)

Place  peña, big concert, stage performance, small theaters, TV

Space  spatial distribution: on stage, off-
       stage (audience seats)

       movement across space:

              the dancers can move all around the stage, the
              musician usually stays in one place (on the
              stage, behind the dancers), the audience is
              seated, usually in one place

       spatial reference systems (for the dancers):

              egocentric, the other
              dancer(s),            the
              audience, the center
              of the stage

Time  rounds interlude: the time between one round
      and the next liminoid:

              the transition between rounds--interlude and vice versa.

       interruptions

Actions  (utterances)
         sitting
         (audience)
         laughing
         cheering  verbal
         expressions

         gestures (can be superposed to all of the above)
         appearing  on  the  stage  dancing  (improvised  or
         choreographed)

         'waiting' for next round to finish:
         common  choreography  exiting  the
         stage

         moving across the stage (dancers only)
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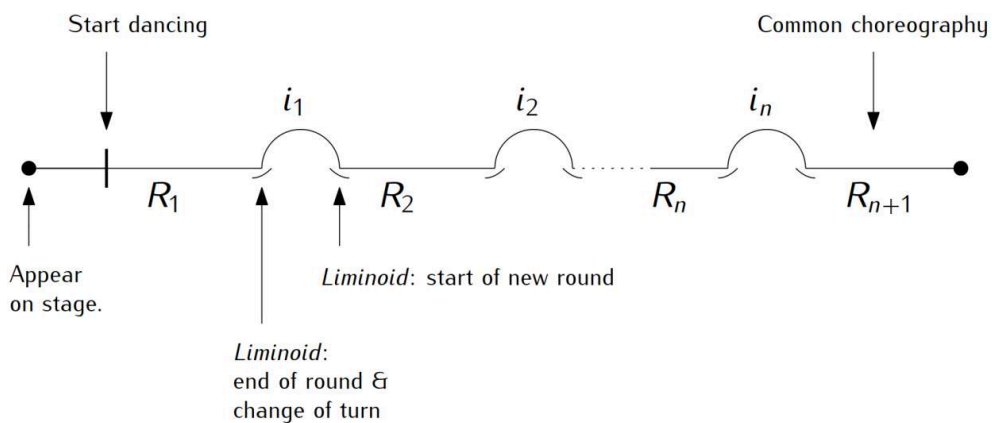
Categories (figurative isotopies) for the *contrapunto de zapateo* in coordinates of time, space and actions.

Figure 2

Timeline of a *contrapunto de zapateo* composed of rounds (*R*) and interludes (*i*). The interludes represent the time periods in between rounds in which the dancers interact. The figure marks the 'liminoids' both between round–interlude (when the turn of a dancer ends) and interlude–round (when the turn of the next one starts). Often it is difficult to locate precisely these time events.

Figure 3
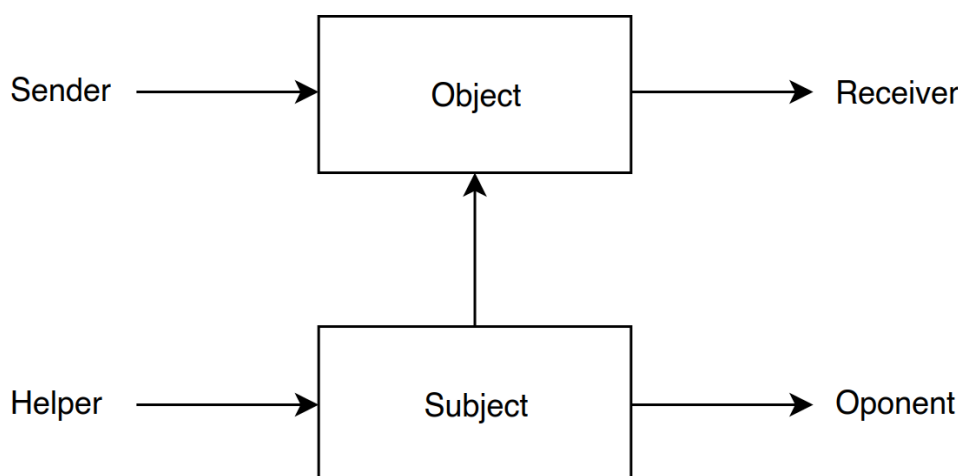
Greimas's graphic representation of the actantial narrative schema which includes only the actants and semantic axes.

15   The usefulness of the narrative schema can be understood by describing an unusual *zapateo* performance: a solo by Marco Campos (Angeles Bisbal, 2012). After dancing the first round and receiving the applause of the audience, Marco takes a sheet of paper which seems to be a dance score that he shall attempt to read—this becomes the object of his quest, his having-to-do (contract). Next, he approaches a musician and asks him using gestures how the score should be read, and the musician performs a turn on one foot. Marcos hesitates and with gestures indicates to the musician that his reading is wrong. The musician acts as an opponent, for he is leading Marco astray. The musician does not know-how-to-do. Marco then tries to read the score himself, and when he has just started reading-dancing, Eva another opponent, comes towards him and interrupts him. She indicates to Marco that he is wrong, and taps her foot marking a rhythm. Marco dismisses her, indicating with gestures to the audience that she is crazy (competence). He hesitates once more and retakes the reading-dancing, but this time he finishes successfully (performance), to which the audience reacts cheerfully (sanction). In this process Marco acquired the competence of being able to read-dance the score in two trials rounds, he managed to perform the entire score in his third round and gained a favorable sanction from the audience (Miranda Medina, 2017, pp. 47–49).

16   A limitation of the narrative schema is that the subject is conceived only as a "subject of doing", i.e., as an abstract void entity that executes a sequence of actions within a narrative program. The *Semiotics of Passions* ([1991] 1993) overcame this shortcoming by incorporating phenomenology into textual analysis in order to create a subject actant that is also capable of *being* in certain states and undergoing transformations in its being—this accounts for passions and brings the body into semiotics. The *Semiotics of Passions* reconceptualizes the object. In the case of competition, for example, the object can be conceived as an empty locus for which two subjects with parallel narrative programs are competing—in the *contrapunto*, the two dancers on the stage are trying to outdo each other and gain the favor of the audience. The object can also be a good in circulation between the subjects, which might circulate synchronically or diachronically (Greimas & Fontanille [1991] 1993)—e.g., the dancers reinforce each

other's performances applauding and cheering each other, each waiting for their turn to display their skills.

Figure 4
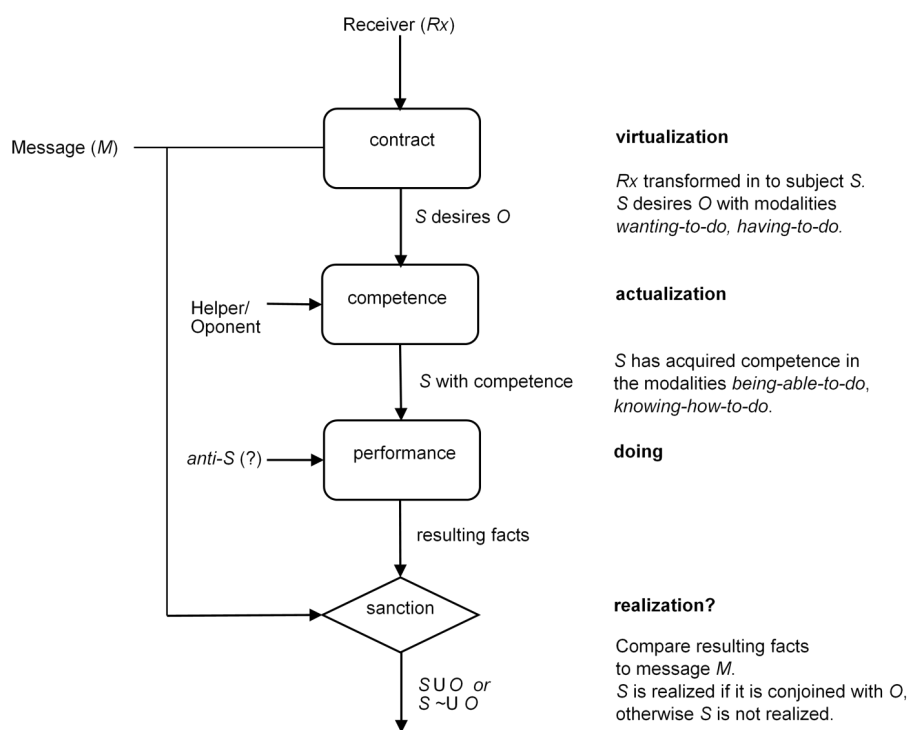
A representation of the narrative schema using input−output modeling to articulate the three semantic axes of subject−object, helper−opponent, messenger−receiver with the sequential dimension through the processes of contract, competence, performance and sanction.

3.3. Convergence−projection and the deep level

17 In the *contrapunto de zapateo*, the object in dispute is the *center of the stage.* For the dancers it is a point of departure and continual return. It is a point of maximum exchange, where the dancer projects themself to the others, and the others converge towards the dancer (Figure 5). The dancers seek to do something different from what they and the others did before (differentiation), and this fulfills the expectations of the audience, which by means of applause, cheering or laughter, will sanction the dancer as competent. In the *contrapunto*, the dancer pursues two inseparable objects: being-able-to-dance, and being sanctioned as being-able-to-dance/knowing-how-to-dance. The dancer's resources to achieve these goals are dancing and improvising fluently, virtuosity, and surprising the audience.

18 In parallel to the physical space, there exists a *space of movement* consisting of dance moves/motifs and gestures which becomes populated in the course of the performance. The act of differentiation expands the space of movement, and the expectations of the audience are relocated each time to the new boundaries of this space. When a dancer interrupts the turn of another, s/he is *opposing* the process of convergence and projection, i.e., the process of construction of the space of movement, rather than reinforcing the ongoing dance. The process of populating the movement space, the

reactions of the audience, the guitar and other factors affect the intensity of the performance. However, the accumulation of intensity is possible due to the center of the stage as point of exchange. In the reaction of the audience to the dancing there is more than the conjoinment of the dancer with the sanction of competence; there are degrees of intensity reflecting involvement—semiotic counterpoint (Sections 4 and 5) can be useful in characterizing these intensities as capacities of action. The repetition of a 'fancy' movement elicits the response of the audience, but the fact that repetition is only effective a limited number of times regulates the accumulation of intensity, marking cycles. Thus arises the need for the dancer to find not one, but several moves that engage the audience, to constantly reinvent his/her strategy (Miranda Medina 2017, sec. 2.5).

19   The elementary model[7] in Figure 6 summarizes the modes of interaction present in the dance for a short time span: attention–indifference and reinforcement–opposition. Attention–indifference refers to how much the dancers care about what the other is doing as one of them is dancing, while reinforcement–opposition has to do with the positive or negative attitude they might have towards the other's performance. In some cases *Y* stares at *X*'s feet as *X* is dancing (attention). *Y* can reinforce *X*'s dance smiling at *X*, or for example with utterances such as "¡qué bonito!" ["that's so nice!"], "¡juégala!" ["go play it!", "keep on going!"]. *X* can oppose *Y* for example mocking a movement that *Y* did in a previous round, or staring at *Y* defiantly while performing a motif.

20   Based on these modes of interaction, I identified five fundamental modes of performance in the *contrapunto*: partnership, rivalry, dominance, indifference and common choreography. These modes were the result of examining different modal configurations between the two actants *X* and *Y* (the one dancing, and the one awaiting their turn). Thus competence was defined in the form of the modalities being-able-to-do and knowing-how-to-do, combined with a prospective or retrospective orientation of action—"in my round I want to do better than the other dancer did" (prospective, emulation) or "I fear that the dancer that comes after me will be more applauded" (retrospective, umbrage) (Greimas & Fontanille [1991] 1993). This is summarized in Table 2.

21   The modes of interaction can be understood intuitively. For there to be either partnership or rivalry in a *contrapunto* both dancers have to be quite even regarding dancing skills, and both experienced enough to engage the audience. In partnership both dancers relate to each other in a 'friendly' manner, while in rivalry there is a desire from both to outdo the other. Dominance will occur if one of the dancers is clearly more skilled or experienced than the other (an imbalance in the being-able-to-do, or in the knowing-how-to-do), resembling the relation master--student. In indifference each dancer will be more concerned about their own performance than about what the other is doing. Dancing together in a common choreography shares with indifference that there is no mutual challenge between the dancers. In general, however, alternation between dancers is what creates conditions for challenge, while a common choreography can only lead to reinforcement between them.

22   Play was identified to be key in the quest for competence, because it is a way of engaging the audience through ludicrous gestures that may come in between rounds ("I clean my shoes on your pants"), or gestures that are superposed to well-known dance motifs to make them funny or provocative. At the same time, play can directly

affect the time structure of the performance, for example when a dancer interrupts the other's round, or when one or more dancers appear suddenly on the stage.

23   The deep level (the third level in the generative trajectory) thus consists of five modes of interaction that are represented in Figure 7 by means of an elementary model.

Figure 5
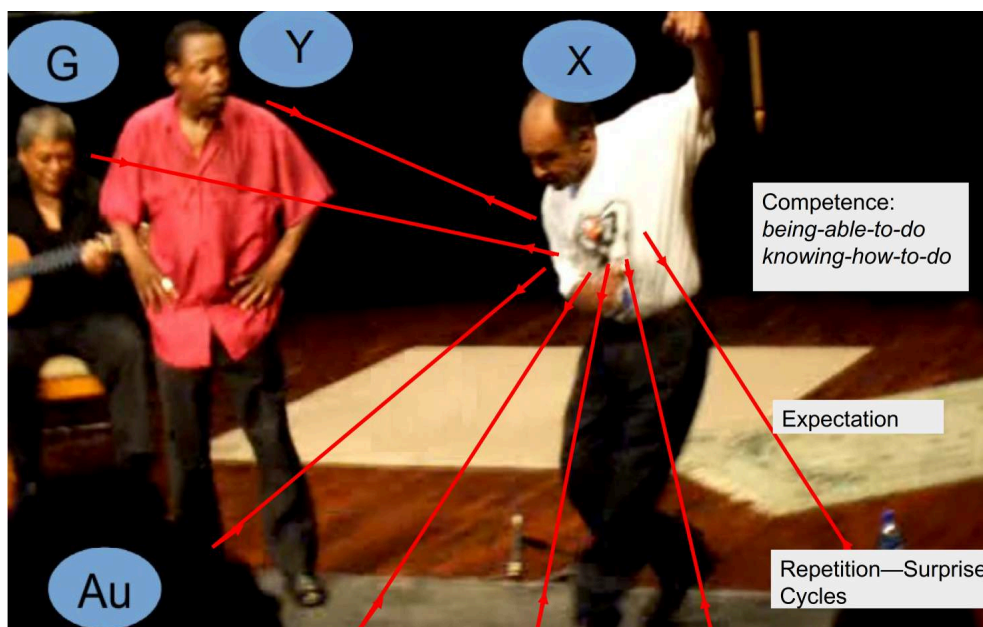
In the contrapunto, as in many other stage practices, the forces of convergence and projection are responsible for the integration of the actors and their actions into one semiotic system. The center of the stage is represented as the point of convergence, which is also a point of maximum exchange: the possibility of maximum presence of the dancer for their spectators, and of the spectators for the dancer. *X* stands for the *zapateador* dancing, *Y* for the one awaiting their turn, *Au* for the audience, and *G* for the guitarist.

4. *Contrapunto* as *counterpoint*

24   There seems to be a discrepancy in the use of the term *contrapunto* in the context of *contrapunto de zapateo* with the concept of *counterpoint* deployed in Western classical music. *Contrapunto* seems to refer to a step dance carried out in alternation by two or more actants, where only one actant is active at a time. In contrast, counterpoint refers to the composition of one or more melodies based on a pre-given melody—i.e., the *cantus firmus*—considering certain aesthetic criteria, given that the melodies are to be played simultaneously (Hoffman 1997, pp. 71–73). I argue, however, that the apparent discrepancy between the two is resolved if each definition is inspected more carefully in order to formulate a semiotic definition of counterpoint.

25   For the *contrapunto de zapateo*, because of the quest to achieve competence, the dancers (actants) are on the one hand actively involved in the other's performance even when it is not their turn to dance. On the other hand, they are continuously attending ('perceiving') the other's performance while being aware of their own actions, which allows them to engage the audience and prevents them from repeating motifs.

26 From the point of view of counterpoint, it is useful to consider the Latin roots of the term: *punctus contra punctum*, meaning "point against point". To simplify the argument and without any loss of generality, consider the first species of counterpoint where the rhythm of the counterpoint melody is identical to that of the *cantus firmus*—there is a one-to-one correspondence between every note of each melody (*ibid.*). The categorization of consonant vs dissonant intervals functions as an aesthetic rule that restricts combinations of notes that can be played *simultaneously*. Aesthetic rules such as the preparation and resolution of dissonances, or avoiding parallel fifths or octaves (Fux 1965 [1725]), act as rules that apply in the *sequencing in time* of musical notes. Hence, the nth note of the counterpoint melody is not chosen solely depending on the nth note of the *cantus firmus*. It depends on the $n - 1$th note in the counterpoint melody, and on the $n - 1$th note in the *cantus firmus*. Hence, counterpoint is a system with memory. A more general musical definition of counterpoint can be given based on improvisation, when there is no *cantus firmus*, but instead we have a number of melodies/rhythms that are adapting to each other based on certain aesthetic criteria.

Figure 6
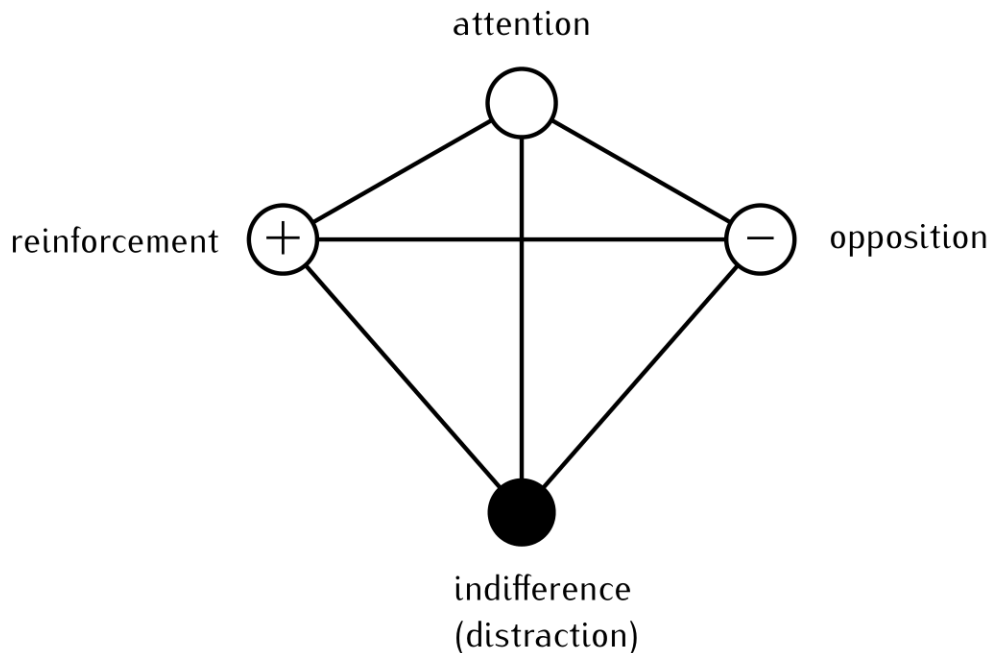
Elementary model describing the attitude of one dancer towards the other. This corresponds to short-span actions and processes pertaining to the coordinate of action. Note that attention presupposes reinforcement and opposition—Y must be attending X's performance whether it is that Y is mocking or applauding X. Indifference excludes both reinforcement and opposition. In this mode Y may not even be looking at X's dance, and X might be little concerned about outmatching Y or connecting with the audience more than Y did.

Table 2

Time span	Config.	Subject	Subject desires …	Projection in time
1-2 rounds	Doing together		X1: being-able-to-do	Present
			X2: being-able-to-do	
			(this is the only config. without challenge)	
	Emulation		X: being-able-to-do [as well or better than Y]	Retrospective
			Y : Indeterminate (Y already realized)	
	Umbrage		X: not-being-able-to-do	Prospective
			Y : being-able-to-do	
	Alliance (established at the start of the round)		X: being-able-to-do [as well or better than Y]	Prospective
			Y sends X on a quest	
			(X is doing on behalf of Y)	
1-2 rounds up to whole perf.	Partnership	X	X: being-able-to-do [as Y did]	Retrospective
			Y : being-able-to-do	
		Y	X: being-able-to-do	Prospective
			Y : being-able-to-do [as X is doing]	
	Rivalry	X	X: being-able-to-do [as well or better than Y]	Retrospective
			X communicates this to Y	
		Y	X: being- and not being-able-to-do	Prospective
			Y : being-able-to-do [as well or better than X]	
	Dominance	X	X: being-able-to-do [better than Y]	Retrospective
			X: communicate this to Y	
			(X: knowing-how-to-do [better than Y])	Prospective
		Y	X: not being-able-to-do	
	Indifference		X/Y : being-able-to-do	Present
			X/Y is indifferent to Y/X Y/X is indifferent to X/Y	(projection dissociated from Y/X)

Actantial configurations spanning a few rounds up to an entire *contrapunto* performance. The configurations take as actants the person dancing *X* and the dancer *Y* awaiting for their turn.

Figure 7
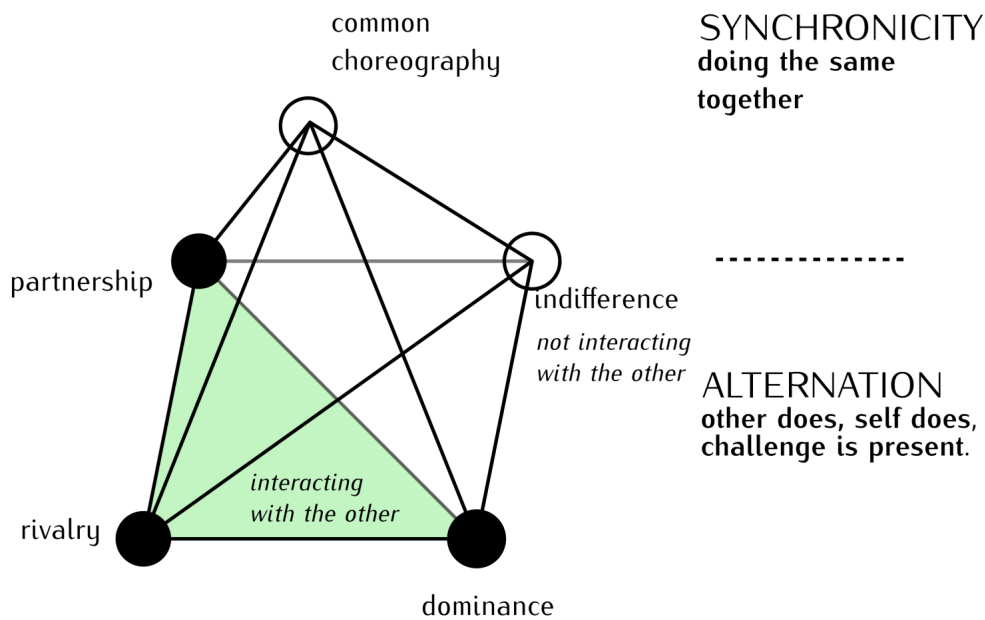
A semiotic pyramid (an extension of the elementary model) resulting from the narrative processes spanning a few rounds up to an entire realization (Table 2).

27　An abstract semiotic definition of counterpoint can then be formulated by replacing melodies for general entities or actants, and sequences of notes are replaced by sequences of actions. The interdependence common to the *contrapunto* and to musical

counterpoint is also present in this definition: the actions of any given actant depend on its perception of the actions of all other actants, including the perception of its own actions and of the setting in which the actions take place. At the same time, the actions of the actants are coordinated according to some criteria or constraints, some specific to each actant, some common to all actants, so that viewing the output of all actants as a whole results in a defined aesthetic practice such as a dance, or musical style (this is equivalent to hearing all of the melodies in a counterpoint at the same time, and based on the style—i.e., the setting—recognizing that it is a baroque fugue).

28   Figure 8 illustrates three interdependent actants; the third one stands for the *setting* in which the actions take place. For the sake of clarity, Figure 8 indicates but does not represent the fact that the actions in a present time or "now" of an actant are conditioned by its memory of previous perceptions (retention), and by its expectations of the future (protention). Let us discuss each element present in the figure:

- *Actants*: actants were already defined as elements of the narrative schema located in the level of surface narrative syntax within the generative trajectory (the second level). While actants for Greimas in the context of the canonic narrative schema (consisting of contract, competence, performance and sanction) are entities that can act or are subject to actions, in the case of semiotic counterpoint actants are also capable of perception. In the case of the *contrapunto de zapateo* actants can coincide with actors, and can represent the dancers, the guitarist and the audience.

- *Mapping functions* are internal to each actant. They determine how an action maps its perceptions into actions. Mapping functions can change in time. As an example, upon hearing the same song (perception), two dancers might choose to move in different ways (action).

- *Constraints* of each actant: (1) condition or limit the possibilities of action of an actant (2) the manner in which the actant perceives action (3) determine its goal-oriented action (i.e., what is its object of desire). For example, the motifs that a young, fit *zapateo* dancer can perform will not be constrained by their body. An older dancer, however, might be better at hearing the details of the guitar (perception) and find complex rhythms to match its melody. The young dancer might desire to 'look cool' and be applauded, while the older one might focus on expressiveness.

- *Setting*: the setting is a set of constraints that applies to all other actants. The setting bears information from to the discursive level. Recall that in Table 1 I defined the categories (figurative isotopies) for the *contrapunto de zapateo* in coordinates of time, space and actions. This included possibilities and limitations in terms of action—what a dancer and the audience has-to-do and has-not-to-do—where *zapateo* performances usually take place, the fact that *contrapuntos* are composed of several rounds in time and have to finish with a common choreography.

- *Actions*: the actions of each actant depend on retention (memory) and protention (prediction). The actions of all actants are interdependent: the actions of an actant at the current time depend on its previous actions, and on the previous and current actions of all other actants. Its actions also depend on the actant's protention, that is, of its expectations or predictions of the future. An actant can have different time spans both for memory and prediction. For example, when a couple dances salsa, the rhythm at which each of them is dancing depends on the song being played, and as they hold hands, the one following must be continuously sensing the gestures and movements of the leader in order to move accordingly. In a short time span the follower must remember the movement that just happened, and expect or be prepared for the movement s/he thinks is coming.

Figure 8
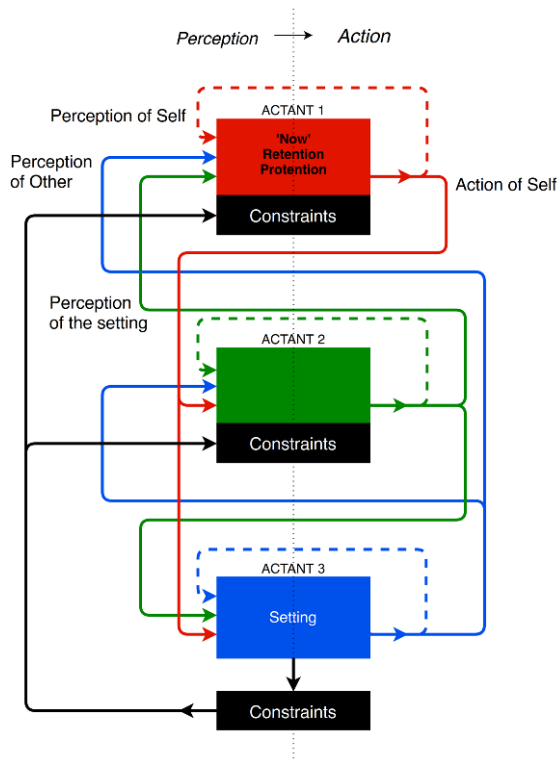
Semiotic model of counterpoint. Perception maps into action and the perceptions−actions of all actants are interdependent. The model assumes a set of constraints, some of which are common to all actants.

4.1. Mathematical representation of an actant in counterpoint

29   In this section mathematical equations are deployed to represent what Figure 8 expresses integrating retention and protention into the present perception–action. The readers that are not acquainted with mathematics can proceed to Section 4.2. where the key points of the counterpoint model are addressed.

30   Memoryless representation of action, where every actant's actions depend on its perception of the actions of all other actants including itself in the present time, can be expressed in the following set of equations:

$$a_1(t) = \Gamma_1(a_1(t), a_2(t), a_3(t) \mid K_1 \cup K) \quad (1)$$
$$a_2(t) = \Gamma_2(a_1(t), a_2(t), a_3(t) \mid K_2 \cup K) \quad (2)$$
$$a_3(t) = \Gamma_3(a_1(t), a_2(t), a_3(t) \mid K_3 \cup K) \quad (3)$$

31   where $a_i(t)$ represents the actions of the ith actant. The mapping function $\Gamma_i(\cdot)$ maps the perceptions of the actions of all actants into the actions $a_i(t)$ of actant i, and $K_i \cup K$ represents the set of constraints regulating the possible actions of actant i, meaning that certain constraints K are common to all actants, while other constraints K_i are specific to each. Remember that according to Figure 8, the common constraints K are a function of the setting exclusively.

32   It was explained above that both for the *contrapunto* and for musical counterpoint, the output of the actant depends both on current and previous inputs. That is, the actant is

a system with memory. According to Husserl's phenomenological theory, however, the structure of the act of perception intrinsically "integrates three different functions"—retention, primal impression, and protention. The three correspond to "an act of memory of a past event, an act of expectation of a future event, and an act of perception of a present event", respectively (Dimitriu 2013, pp. 212–213). Stated differently, "primal impression—-the direct access to the strictly present phase of the intentional object-—…is related to the future when it anticipates what we will perceive next, and it is related to the past when it retains what has just been fulfilled" (*Ibid.*). Greimas attributed to the actant a relation to the past and to the future through the states of *prospective* and *retrospective* action (Greimas & Fontanille [1991] 1993). Thus, for the semiotic model of counterpoint to be of more use, it should be expanded to account for retention and protention; which I prefer to call, according to the conventions of engineering, memory and prediction.

33   A memory function that comprehends the stream of actions in a time span of τ, that is, in the time interval $t - \tau$ to t, can be defined as

$$\mathbf{a}_i(t,\tau) = f(a_i(t),\tau) = \{a_i(t), a_i(t - \delta), a_i(t - 2\delta), \ldots, a_i(t - \tau + \delta), a_i(t - \tau)\} \text{ where } \delta \to 0, \quad (4)$$

34   and $\mathbf{a}_i(t,\tau)$ is actually a vector (an enumeration) of all the values of $a(t)$ in the time span from $t - \tau$ to t. Then, the actions of the ith actant and the mapping function $\Gamma_i(\cdot)$ from perception to action could be formulated in the following more general manner to include memory:

$$a_i t(t) = \Gamma(\mathbf{a}_1(t,\tau_{i1}), \mathbf{a}_2(t,\tau_{i2}), \mathbf{a}_3(t,\tau_{i3}) \mid K_i \cup K) \quad (5)$$

35   Eq. 5 means that an actant can have different memory spans $\{\tau_{i1}, \tau_{i2}, \tau_{i3}\}$ for its own actions, for the actions of the other actant, and for the setting, and that all perceptions across these different memory spans $\{\mathbf{a}_1(t,\tau_{i1}), \mathbf{a}_2(t,\tau_{i2}), \mathbf{a}_3(t,\tau_{i3})\}$ are integrated, given certain constraints ($K_i \cup K$) to produce the present stream of actions.

36   For the sake of a more compact representation, I define a vector of memory spans $\mathbf{u}_i$, where

$$\mathbf{ui} = \{\tau i1, \tau i2, \tau i3\} \quad (6)$$

37   In the same manner, I abbreviate in vector $\mathbf{A}_i$ the perception of the actions of all actants along the different memory spans:

$$\mathbf{A}_i = \{\mathbf{a}_1(t,\tau_{i1}), \mathbf{a}_2(t,\tau_{i1}), \mathbf{a}_3(t,\tau_{i1})\} \quad (7)$$

38   Then we arrive at a more compact representation of eq. 5 that expresses exactly the same,

$$a_i(t) = \Gamma_i(\mathbf{A}_i(t,\mathbf{u}) \mid K_i \cup K) \quad (8)$$

39   The *being* of the actant is represented in the internal parameters of function $\Gamma_i(\cdot)$, that is, in its internal structure, which is allowed to change over time. The *doing* or instantaneous performance is determined by the sensed actions, namely $\{\mathbf{A}_1, \mathbf{A}_2, \mathbf{A}_3\}$, and the memory constants $\{\tau_1, \tau_2, \tau_3\}$.

40   Prediction, or protention in phenomenology, I interpret as referring to a mechanism that in the 'now' (in the primal impression) drives us to expect something in the future, and to contrast that expectation with actual perception once that future becomes the 'now'. There must therefore be a function $\Psi_i(\cdot)$ that takes perceptions across different memory spans as $\Gamma_i(\cdot)$ does, and that is limited by the same constraints. This function

can be understood as an internal representation created from perceived data and identical to $\Gamma_i(\cdot)$ *in form*. Thus, from eq. 8 we have that

$$z_i(t) = \Psi_i(\mathbf{A}(t,u) \mid K_i \cup K). \quad (9)$$

41 In prediction, this representation will be contrasted with the output of the prediction $z_i^0(t)$ in the form $z_i(t) - z_i^0(t - T)$, where the predicted output of the ith actant is given by

$$z_i^0(t + T) = \Psi_i^0(\mathbf{A}(t,u) \mid K_i \cup K). \quad (10)$$

42 where T is the prediction span (T can be very small for the prediction of immediate situations, or large for the case of decisions in the long-term future). Consequently, the action functions for the ith actant that include both perception, memory/retention, and prediction/protention can be written as

$$a_i(t) = f(\mathbf{A}_i(t,\mathbf{u}_i), z_i(t) - z_i^0(t - T) \mid K_i \cup K) \quad (11)$$

43 Applied to three actants, this results in

$$a_1(t) = f(\mathbf{A}_1(t,\mathbf{u}_1), z_1(t) - z_1^0(t - T) \mid K_1 \cup K) \quad (12)$$
$$a_2(t) = f(\mathbf{A}_2(t,\mathbf{u}_2), z_2(t) - z_2^0(t - T) \mid K_2 \cup K) \quad (13)$$
$$a_3(t) = f(\mathbf{A}_3(t,\mathbf{u}_3), z_3(t) - z_3^0(t - T) \mid K_3 \cup K) \quad (14)$$

4.2. Understanding the model of counterpoint

44 After presenting a semiotic definition of counterpoint where the actants themselves have been defined anew, and their interactions have been described relating perception to action including memory and a projection to the future, a myriad of observations and questions may be posed:

- *What are the entities that compose semiotic counterpoint?* Actants, perceptions, actions, mapping functions, constraints (some render certain actions impossible, others orient action towards a goal (desire of an object)), time spans for memory and protention, and the relation between these entities.

- *What relation does this model of counterpoint hold to Greimas's narrative schema?* In Greimas's narrative schema protention is included in the form of a subject S that desires an object O in the modal form of having-to-do, wanting-to-do. Memory is not included in the narrative schema, and as Figure 9 shows, only two actants would be required if we transfer the narrative schema into the semiotic counterpoint model, namely the setting and the subject. The setting includes constraints in space-time-action coordinates (i.e., constraints arising from the discursive level in the generative trajectory). Furthermore, it is equivalent to the 'initial conditions' of the system (in Greimas's terms, it plays the part of the messenger and the message that transforms the receiver into S). Figure 9 illustrates that the canonic schema (the sequential dimension of Greimas's narrative schema) can be reformulated as a time signal with four events. To each event at the output of the setting corresponds an action of actant S and/or a modification of the mapping function. The feedback loop represents the sanction that the performance of actant S receives according to the setting.[8] In semiotic counterpoint, sanction is included inside the actant as a contrast between prediction of expectation and realization of expectation, which affects the future actions of the actant.

- *The input–output representation used in semiotic counterpoint provides a better representation of the interrelation of processes at the level of surface narrative syntax*: The transformation of the receiver into a subject S, and the actions of S to achieve O become clearly visible, as well as its dependence on the setting (message). Input–output representation is more apt to

formalize the interrelation of actants and processes, which makes it suitable to design dynamic models that incorporate passions. Moreover, it is possible to use mathematical equations to account for memory and protention.

- *The setting as an actant is special*: It is the source of the constraints for all other actants which conditions their possible actions. The modal form of the constraints for any actant is determining what it has-to-do and what it has-not-to-do. In semiotic counterpoint, the setting and its constraints might be affected by the actions of any of the actants (including its own)—i.e., the actants can transform the environment in which they act. The setting splits time in the narrative, for time before the receiver is transformed into a subject by the message (contract in Figure 4) can be regarded as negative time, and positive time starts from zero at the instant in which S acquires the desire for O (i.e., in which the actant is conditioned to a goal-oriented action).

- *What is the relation between semiotic counterpoint and the* Semiotics of Passions? In the *Semiotics of passions* ([1991] 1993) the setting may consist of actants with parallel narrative programs— there might be two or more actants S_i desiring the same O. Competence is embedded within this arrangement. In these parallel narrative programs, actions are oriented towards similar goals, which forges the connections perception–action between two or more different actants (see Figure 8).

- *What is the role of the individual constraints (K_i)?* In some cases, and depending on the discursive level, the constraints of each actant may represent its *goal-oriented action* (*S* that desires *O*)— e.g., "the dancers were longing for applause, and outdid themselves with acrobatic moves". The individual constraints K_i can also regulate the power or capacity to act of actant *i*, i.e., limit its possibilities of action. In this sense semiotic counterpoint is flexible, so that more constraints specific to each actant can be listed (depending on the discursive level), or several constraints arising from the setting can be included. Constraints may be identified that apply to certain groups of actants but not to others, as opposed to purely individual constraints. In any case, at least one constraint in the perception–action mapping function must reflect goal-oriented action.

- *Given that semiotic counterpoint allows for different time spans for memory and protention, how are perceptions combined?* An actant may have both short memory spans and long memory spans. For example, a dancer may be following the last few movements of his/her rival to identify which sequence the rival is performing. The dancer may also remember in less detail the most important movements the rival executed throughout the performance. An advantage of formalizing semiotic counterpoint by means of a block diagram (Figure 8) and mathematical equations is that it highlights the complexities of memory integration. Given that actant *i* perceives the actions of all other actants, the setting, and its own, and remembers these, how does the actant remember? is it that all of these perceptions are combined into a coherent structure first and the sequence of such structures is remembered? or shall memory be modeled as buffering the perception of the actions of each actant individually to combine them later on? Even if I am inclined to think the former, a proper answer to this question would require a deeper investigation into phenomenology and cognitive science, and it might also be dependent on the specific dance or practice being studied (i.e., on the discursive level).

- *What does* protention *refer to more specifically?* Protention was modeled based on the idea that all of the perceptions with their respective memory spans are being integrated into an internal representation $z_i(t)$ (eq. 9) in each actant. This representation is unobservable, for it is not action itself, but it will affect the next action to be performed (eq. 11). With this in mind, I take protention to refer to three interrelated things:

Figure 9

(1) Condition *S* to desire *O* (messenger) ⟶ (1) Acquire desire for *O*
(2) Provide competence (helper/oponent) ⟶ (2) Acquire competence
(3) Final test (*anti-S*) ⟶ (3) Perform ('do')
(4) Sanction (messenger) ⟶ (4) Be conjoined or disjoined from *O*
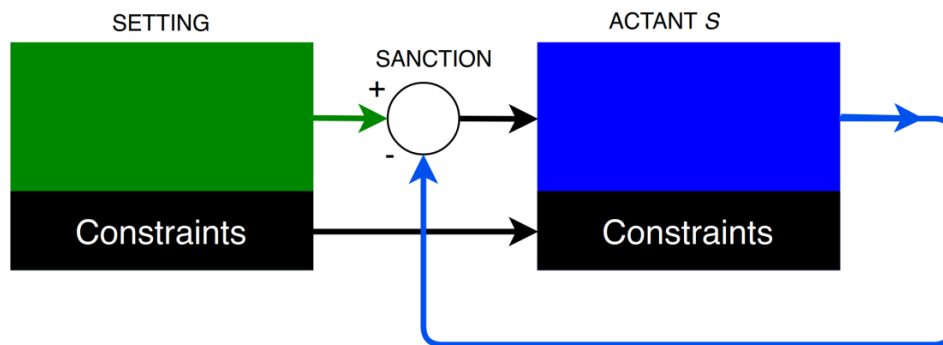
Greimas's narrative schema represented as semiotic counterpoint. As a specific case of counterpoint, the setting has no input, hence *S* cannot modify the constraints.

1. *Expectation* of the future state of the counterpoint system in the form of the *prediction*—mathematically, $z_i^0(t)$ carried out T seconds ahead of the internal representation function $z_i(t)$ that integrates the perception of all actions.

2. The *contrast* between expectation and reality—the difference $z_i(t) - z_i^0(t\text{-}T)$ in eq. 10.

3. A *goal* (or object of desire) that conditions all subsequent actions and their predictions. The model may be extended so that the actant has different time constants: short-term goals or longer-term goals, short-term predictions or longer-term predictions. Prediction can be carried out for the action of the predicting actant or for the perception of the actions of all other actants (including the setting).

- *The mapping function* $\Gamma_i(\cdot)$ *that maps perception to action represents the state of being of the actant*: In Greimas's narrative schema, the mapping function can be thought to be transformed by the helper and the opponent (i.e., acquisition of competence in the form of being-able-to do or knowing-how-to-do). In semiotic counterpoint in general, and in agreement with the *Semiotics of Passsion* ([1991] 1993), the mapping function is altered by the interaction of the actant with other actants and with the setting.

- *Every element of the counterpoint system can be made to vary in time*: This applies to the mapping function, the constraints of each actant, the constraints of the setting, the time spans for memory, and to the time spans for prediction.

5. Harmony

45   By means of the concept of competence, I was able to account for the interaction of all of the actors involved in the *contrapunto de zapateo*; i.e., the dancers, the guitarist and the audience. The center of the stage worked as a point of maximum exchange between the dancers and the audience, and the common 'object of desire' of the dancers was to receive the sanction of the audience declaring them to be competent (through applause, cheering, laughter). Since all of the dancers share the same desire, they can be regarded as interrelated actants (i.e., as actants having parallel narrative programs) in the surface narrative syntax. Play in the form of ludicrous gestures or humorous

dancing was central to the performance of competence, for it engaged the audience in a different manner—beyond applauses, the audience laughed, or even yelled (Negro Calde, 2015). At the same time, play as opposition ("making fun of the other") stimulates challenge so vividly that it may result in relationships of rivalry or dominance between the dancers.

46   Despite the successful use of competence to relate dancers, guitarist and audience to each other; and to involve gestures and dance together and relate them to the audience's gestural utterances, the different modes of affect, i.e., the different levels of intensity, that are reached in a dance event as a whole have not been addressed. What conditions the reaction of all of the actors involved in a dance event to end up laughing out loud, or on which basis can some performances be regarded as 'more exciting' than others? is there something other than the display of skill by the dancers that gives a dance event its level of intensity? I argue that Leibniz's definition of *harmony* can provide a compelling approach.

47   Harmony occupies a primary role in Leibniz's philosophy, who defined it in his early writings as "similarity in variety, that is, diversity compensated by identity" (1970 [1672]).[9] In his later work, Leibniz added:

> Harmony is when many things are reduced to some unity. For where there is no variety, there is no harmony. Conversely, where variety is without order, without proportion, there is no harmony. Hence, it is evident that the greater the variety and the unity in variety, this variety is harmonious to a higher degree (Cited in Carlin 2000, p. 101, latin version available at Leibniz 1999, pp. 1357-1367).

48   Thus for Leibniz harmony has not to do with cultural values such as 'beauty', but rather variety and order as a unifying force are its necessary conditions; greater variety and greater unity result in greater harmony. In semiotic counterpoint, the system of actants is fundamentally defined by interactions from perception and action, and hence maximizing variety in order to maximize harmony implies maximizing the power of action of all actants. Maximizing the power to act is also at the core of Spinoza's philosophy (Newlands, 2010)[10], who associates a greater capacity of action to a greater state of perfection (Spinoza, 2012 [1677], IIIp11s, IIIp54, IIIde02, IV Preface). Action consists in the realization of possibilities inherent to the actant—within the semiotic system in which the actant is embedded.

49   These reflections can be readily applied to semiotic counterpoint, and hence to the *contrapunto de zapateo*. The requirement of systemic order that Leibniz establishes can be satisfied thanks to the interconnections of the actants/dancers through competence, perceiving each other's actions. My study showed that one of the aims of the dancers is to differentiate themselves from the other as they dance (maximization of diversity), which implies that they have to be continuously aware of the other's moves (perception of action). What can make a difference in the increase on the level of intensity, understood as an increase of harmony, is *play* in the form of humor. The effect of ludic gestures masterfully performed are that the audience laughs, becomes engaged, shouts loudly encouraging the dancer—i.e., the possibility of action of the audience tends to be maximized. While this stimulates the person dancing, it poses a challenge for the next dancer, who must in turn do something playful, or engage the audience in some other way in order to be sanctioned as competent. Then the configuration of rivalry *that includes play* is the one that can maximize the power of action of all agents: the dancers are continuously and creatively putting each other to the test, the audience is

energetically expressing its engagement with the dancers' performance, and the skilled guitarist will also express the different moments in the performance playing different motifs or in different styles, sometimes laughing in conjunction with the dancers. In short, it is up to one of the dancers to trigger the audience through skillful play; if the other one manages to follow, the audience will continue to be engaged, creating an atmosphere of high intensity. Flow and intensity of action will act as the force of unification required by Leibniz, while the exchange of challenge between the dancers, as well as the vivid utterances of the audience, will provide the required diversity.

50   I do not claim that harmony in its abstract definition is a principle that applies to every form of dance or music practice, but I do contend that it applies to several: in Capoeira, harmony can be correlated to the native concept of *axé* or energy exchange in the Capoeira circle (Capoeira 2006, p. 140), in contact improvisation, the continuous giving and taking of weight between the dancers can lead to states of uninterrupted actions or flow (Novack 1990, p. 121), and in break dancing, the intensity of challenge that continuously involves the yelling and movement of the audience can be felt when the dancers are able to surprise with 'cool' moves or sudden changes, leaving the other dancer without response (Best 2007; Simard 2014). Harmony and semiotic counterpoint could also be used to characterize a single dancing body, where different body parts function as different actants—the discursive level could be given in the form of video recordings, movement analysis or notation, or even motion capture data.

6. Conclusions

51   Semiotics can do more for dance/music scholarship than decipher the 'symbolic meanings' of rituals and performances. Following Greimas's lead, my endeavor has been to present *competence*, *counterpoint* and *harmony* as semiotic concepts that can be useful to understand the interrelation of the dancers and musicians involved in a given practice (the actants). The formalization of the concepts I presented follows an approach from engineering based on input–output modeling: actants were represented as having each other's perceptions as inputs and actions as outputs, given that they share a common goal as they dance or play music. I have shown that this mode of representation is compatible with Greimas's semiotics, and that it brings forward processes and relations. In particular, the complexities of integrating perceptual information became readily apparent, and this opens the possibility of exploring further links between semiotic counterpoint and phenomenology or cognitive science. The concepts presented seem promising not only for the further study of the *contrapunto de zapateo*, but also for dances such as Capoeira, break dancing and contact improvisation; as well as for the study of moving bodies in general. However, I do argue that a proper semiotic study of a dance cannot be carried out without proper ethnographic work that ensures an adequate framework of empirical knowledge. This is decisive for the characterization of the discursive level, upon which the rest of the semiotic study depends. Semiotics can certainly be useful in dealing with the complexities of traditional and popular music/dance practices, and it will surely benefit from the problems that the study of each practice—mediated by the disciplines of ethnochoreology, ethnomusicology and anthropology—will pose.

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NOTES

1. Consciousness refers to having an *experience*, or a "state of what it is like" to be in, e.g., to perceive color, or when the dancer moves there is a "what it is like to be dancing". *Intentionality* has to do with consciousness always having to be about something—consciousness is always directed, *intending* something (Siewert 2017).

2. I use the term *semiotic system* to refer to that which can be studied by semiotics, since Greimas never reduced semiotics exclusively to the study of texts (Greimas & Fontanille [1991] 1993). The music score of Mozart's Don Giovanni, video recordings of a Bollywood performance, a text or a collection of texts can all be regarded as semiotic systems, in so far as they are ensembles of interrelated signs, and as such are bearers of meaning.

3. Some figures and captions as well as Table 1 were imported directly from my own thesis (2017).

4. An excellent example of the usefulness of the narrative schema and of the surface narrative syntax is its application to Schenkerian analysis in music (Tarasti 1994; Pankhurst 2008).

5. An *actant* "is someone or something who or which accomplishes or undergoes an act" (a person, anthropomorphic or zoomorphic agent, a thing or an abstract entity). Actants "are situated on the level of surface narrative syntax" (Martin & Ringham 2000, p. 18). The term actor refers "to any individual, anthropomorphic or zoomorphic agent, to a group (e.g. a crowd) or to an abstract entity such as fate that is perceptible on the discursive level of an utterance and plays a part in a story" (*ibid.*, p. 20). For example, imagine a *zapateo* dancer that wishes to perform brilliantly in his debut, but misses the tempo in one of the steps because he is nervous. In this case the only actor is the dancer. However, according to the actantial narrative schema, the dancer corresponds to the actant "subject" desiring the actant "object" (a brilliant performance), where the actant "opponent" becomes the dancer's nerves. As explained in Section 4, in a *contrapunto de zapateo*, the two dancers that challenge each other can be regarded both as actors and actants. Both have a common object of desire: the applause and cheering of the audience.

6. *Modalities* refer to "modal expressions such as wanting, having to, ought, may, being able to, knowing how to do" (Martin & Ringham 2000, p. 85). In the context of the narrative schema the fundamental modalities are (1) *virtualizing* modalities (wanting-to-do, having-to-do) which are communicated by the messenger to the receiver in the first processes of the canonical narrative schema (contract), and (2) *actualizing* modalities (being-able-to-do, knowing-how-to-do) which endow the subject with the competence (second process, competence) required for performance (third process) (*ibid.*, p. 87). Note that modalities are also related to semiotic modes of existence: virtualized, actualized and realized. The first two are self-explanatory from their corresponding modalities. *Realization* refers to a subject that after performance and sanction transitions from having the competence to perform (virtual state) to *being conjoined with the object of desire* (realized state). This is illustrated in Figure 4.

7. Greimas and Rastier (1968) developed a model known as the *semiotic square* to represent a fundamental relation of opposition and exhaust its possibilities. This model pertains to the deep level in the generative trajectory. The model distinguishes between the semantic relation of opposition, and the logical relation of contradiction. Black and white can be said to be opposed, whereas the contrary of black is not-black. The semiotic square has at its left upper corner the first opposite *X1*, at its right upper corner the second opposite *X2*. At the lower left corner *not-X2* is located, and *not-X1* is located at the right lower corner. Other terms can be placed in between

each pair of vertices, thus giving rise to 8 different terms to be grouped together in one structure. *Elementary model* refers to a compact model similar in form to the semiotic square grouping several terms, but without strictly ensuring a relation of contradiction between the diagonals. The semiotic square (and the elementary model) hold a great potential to be applied in dances where several different modes of relation are present, or in discourses where many other possible terms relating to an opposition may be hidden (e.g., gender).

8. The actantial narrative schema can be construed as a brilliant synthesis of a major concern in Western philosophy: the subject (S)–object (O) relation. It can be interpreted as a vector of action defined by two points: S and O. The cause driving S to pursue O, however, is outside of S itself, in accordance with Leibniz's principle of sufficient reason (Melamed & Lin 2018). It is given by the setting.

9. Leibniz's understanding of harmony is clearly in line with harmony in music, where the term refers to tailoring the combination of concurrent notes from independent melodies considering the opposing categories of consonance and dissonance. While dissonance grants variety, fluent transitions of consonance to dissonance (and viceversa) provide unity.

10. "If he [a human being] be thrown among individuals whose nature is in *harmony* with his own, his power of action will thereby be aided and fostered, whereas, if he be thrown among such as are but very little in *harmony* with his nature, he will hardly be able to accommodate himself to them without undergoing a great change himself" (Spinoza, 2012 [1677], IV appendix 7, my emphasis).

ABSTRACTS

This work presents to dance/music scholarship the concept of *competence*, developed and deployed by Greimas, together with the semiotic concepts of counterpoint and harmony. I emphasize on competence as a time process that requires sanction by an external entity, and that corresponds to the level of surface narrative syntax within Greimas's method of generative trajectory. To exemplify the application of the generative trajectory to dance, I take as a case study the *contrapunto de zapateo* from Peru. In this step dance, two or more dancers take rounds and perform for an audience that claps and cheers for them, on which their competence depends. To better account for the complex relations between all actors in the *contrapunto*, I resort to the concept of semiotic *counterpoint*, which is first explained by means of input–output boxes, inspired by black box modeling in engineering. Counterpoint is also represented using equations, especially to address memory/retention and prediction/protention, with a subsequent discussion of its relevance and articulation to Greimas's semiotics. Finally, I complement counterpoint with Leibniz's definition of *harmony* and Spinoza's principle of maximization of action, in order to account for different kinds of fluent interactions between dancers, arguing for its application not only to the *contrapunto de zapateo*, but also to dances such as Capoeira, break dancing, and contact improvisation.

Cette contribution présente, dans le cadre des études en musique et en danse, le concept de *compétence*, développé par Greimas, conjointement à ceux de contrepoint et d'harmonie. On souligne le rôle de la compétence en tant que processus temporel demandant une sanction par une entité externe, correspondant au niveau de la syntaxe narrative de surface dans le parcours génératif greimassien. Afin d'exemplifier l'application du parcours génératif à la danse, on

s'attardera sur le *contrapunto de zapateo* du Pérou. Dans cette danse, deux ou plusieurs danseurs tournent et se produisent face à un public dont dépend l'appréciation de leur compétence. On formule le concept de *contrepoint sémiotique* afin de mieux rendre compte des relations complexes parmi les acteurs impliqués. Ce concept est compris d'abord comme un circuit d'inputs et d'outputs, à l'instar de la modélisation des boîtes noires en ingénierie. Le contrepoint est également représenté par des équations – en particulier par rapport aux processus de rétention/ mémoire et de protention/prédiction –, ce qui conduit à un examen de sa pertinence et de son articulation dans la sémiotique greimassienne. Finalement, la notion de contrepoint sera complétée par la définition leibnizienne d'*harmonie* et par le principe spinozien de maximisation de l'action. Cela nous permettra de rendre compte des différents types d'interactions entre les danseurs, et de suggérer que le modèle peut s'adapter non seulement au *contrapunto de zapateo*, mais aussi à d'autres danses telles que la capoeira, la break dance, et la danse contact.

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