10 Intersemiotic Translation as a Creative Thinking Tool
From Gertrude Stein to Dance

João Queiroz and Pedro Atã

1. Introduction: Artists Are Cognitive Cyborgs

Our thesis here is that creative artists are cognitive cyborgs¹ and one of their most decisive implants is intersemiotic translation. Intersemiotic translation is a default procedure in creative arts. Artists such as Gertrude Stein, Georges Braque, Wassily Kandinsky, Paul Klee, Sergei Eisenstein, Orson Welles, John Cage, Merce Cunningham, Morton Feldman and Augusto de Campos are among many notable examples of artists in the last century who relied on translation between different semiotic systems to scaffold the creative transformation of artistic conceptual spaces. They are cognitive cyborgs because they have regulated and augmented their creative activity by coupling themselves to various tools and material structures. This is a new approach in the domain of intermediality that brings together premises from Peircean semiotics and distributed cognition.

This approach is part of intermedial studies because it is interested in modelling relations between different media and also because it shares, to some extent, a similar tradition of research – semiotics and translation studies. However, within intermedial studies, our approach follows its own set of distinctive premises. First of all, we adhere more strictly to Peirce’s semiotics, which had already offered more than a century ago a systematic model of all logical phenomenological relations of meaning, including the materiality and situatedness of meaning. In doing so we are more conservative than others in the field with regard to terminological innovation, preferring to stick with terms that are already discussed within a semiotic framework, such as intersemiotic translation and intersemiosis, than introducing new terminology, such as the notion of transmediation. Secondly, we associate the description of relations between media more closely to models of joint and distributed cognition² than to models of communication. That is, we propose to understand intermedial relations not so much as means for transmitting some meaning or import across context, but rather as means for thinking and acting together. In this paper, we will explore the notion of intersemiotic
translation as a creative thinking tool and exemplify it with an intersemiotic translation of Gertrude Stein’s experimental prose (especially her *Portraits*) to dance pieces created by João Queiroz, Daniella Aguiar and Rita Aquino. In the example, intersemiotic translation works as a thinking tool that scaffolds creativity in dance.

For Clark,³ humans are natural-born cyborgs, symbionts “whose minds and selves are spread across biological brain and nonbiological circuitry”. This thesis is related to our ability to extend cognition through non-biological devices, merging our cognitive activities with the operation of thinking tools and creating an external and distributed cognitive system. Our “mind is just less and less in the head!”⁴ or our mind is “out of our heads”,⁵ and this is not just a metaphor. Humans couple bodies with a paraphernalia of tools in order to augment perceptual, motor and cognitive competencies. Thinking tools are a constitutive part of our cognitive lives: we are able to alter conscious states and our attention by using pharmacological drugs; we “freeze” reasoning and communicate it through the use of alphabets and other notation systems; and we organize, compare and calculate the world through numbers, graphs and diagrams. Various tools, such as pen and paper, calculators, calendars, maps, notations, models, computers, shopping lists, traffic signals, measurement units, etc., are considered non-biological elements of a cognitive system.⁶ Finally, the most impactful thinking tool that shapes human cognition is language: it is a deeply ingrained scaffolding device that radically augments what our cognitive systems can achieve in terms of categorization, memory, inference, learning and attention, as well as regarding building social relations and institutions.⁷ These thinking tools shape cognition: when we alter the constitution of our material environments of artefacts and the practices they afford, we modify the structure and organization of our cognitive/semiotic activity. This is a cumulative process: the newly organized cognitive activity affects the environment in a different way, which further modifies the patterns of cognitive activity, and so on in a circular and continuous process of cognitive (or semiotic) niche construction.⁸ Humans are cognitive niche builders, extending the mind into the space to think more efficiently.

If this thesis is correct, and human cognitive achievements are highly dependent on the use of thinking tools, what about artistic creativity? Distributed cognition and situated problem-solving traditions have described examples of the use of external tools in different domains, for example in numerical cognition,⁹ different kinds of puzzle solving,¹⁰ practising and learning science,¹¹ and in joint creative problem-solving tasks.¹² In the context of philosophy of science, Nersessian¹³ analyzed the role of material resources in problem solving in the emergence of scientific concepts during “scientific revolutions”. But how is artistic creativity dependent on the exploration of thinking tools and artefacts? According to the premises indicated above, artists also rely on cognitive
extensions, and different kinds of semiotic resources are “thinking tools” that distribute cognitive activity. Furthermore, and as emphasized in the literature on intermedial relations, a number of creative artists rely on explicit cross-influence between different semiotic systems in cases variously described as adaptation, ekphrasis, transmediation or intersemiotic transposition. We defend here the idea that this process of intersemiotic translation (IT) is a thinking tool that scaffolds creativity in arts. We explore this idea by taking advantage of an example of IT from literature (Gertrude Stein’s prose) to dance. But first we should answer the following question.

2. What Is Intersemiotic Translation?

Intersemiotic translation was first defined by Roman Jakobson as the “transmutation of signs” — “an interpretation of verbal signs by means of signs of nonverbal sign systems”. After Jakobson had defined this term, it became broader and now it designates relations between systems of different natures and is not restricted to the interpretation of verbal signs. Consequently, this process is observed in several semiotic phenomena, including literature, cinema, comics, poetry, dance, music, theatre, sculpture, painting, video and so on. In this sense, the concept bears similarities to others such as adaptation, ekphrasis and transmediation. An important difference is that the concept of IT is necessarily tied to the notion of semiosis (action of signs): it is grounded on the same epistemological and ontological principles that ground the notion of semiosis, and it stresses a level of description in which communicational processes are treated as semiotic processes. The question “what is intersemiotic translation?” is thus related to the question “what is semiosis?”.

A Peircean approach to semiosis is related to formal attempts to describe cognitive processes in general. This framework provides a pragmatic model of sign-action, a conception of mind as a sign-interpretation process, and a list of fundamental varieties of representations based on a theory of logical categories. Semiosis is a concept that describes the most fundamental properties involved in processes of meaning and cognition as triadic relations, as opposed to the dynamical action of reactive, brute-force processes that occur between two subjects. A description of semiotic processes according to the Peircean model is a formal description and deliberately avoids using psychological and cultural notions. The formal roots of Peirce’s semiotics do not require it to be grounded on human psychology. Peirce is interested in the kinds of relations that are logically antecedent to the special characteristics of any interpreter. Thus, speaking in formal terms, this model differentiates between semiotic and non-semiotic processes by describing semiotic processes as irreducibly triadic relations, while non-semiotic processes...
can be decomposed into dyadic and monadic relations. According to Peirce, any description of semiosis should necessarily treat it as a relation constituted by three irreducibly connected terms – sign, object, and interpretant (S-O-I for short), which are its minimal constitutive elements (see Figure 10.1). Triadic irreducibility is a requirement of any process that we might regard as “interpretative”, “cognitive”, or related to “meaning”. The S in S-O-I is the entity or process that stands for something else. The O in S-O-I is something else that the sign stands for. In the cases we are interested in here, this object should be understood not as a substance, property, or thing in itself but as a “form” or “habit”, a pattern of constraints that regulates how S is determined. The I in S-O-I is an effect produced in a cognitive system by the use of S as determined by O. Semiosis in the cases that interest us here is thus an irreducible process through which a constraining factor (O) acts on cognitive behaviour (I) because of the mediation of a certain entity (or group of entities) or process (S).

It is relevant that semiosis is characterized as triadically irreducible. In an irreducible triad, what brings together all the terms of the relational complex cannot be any sum of dyadic correlations between the terms. Any relation between a sign and its object depends on an interpretant. A consequence of this characterization is that whenever we are describing a meaning relation, we have to make a reference to who this relation is meaningful for. The pronoun “who” does not necessarily refer to psychological agents here, but to any kind of cognitive, interpretative system (see section 3 for a brief discussion of distributed cognition). The effect of the sign on the cognitive system is the interpretant. It is only in simultaneity with an interpretant that any entity can be said to be a sign and possess an object. If you change the interpretant of an S-O-I relation, you potentially change the whole relation. The same entity occupying the functional role of a sign for two different interpretants will have two

---

Figure 10.1 The triadic relation S-O-I. Notice that a triad is different from a triangle. This graphic difference is relevant since in a triad the three terms are irreducible, while in a triangle two vertices are connected regardless of the third vertex.
different objects. Semiosis is not a thing, but an *event or process* of interpretation; it necessarily involves time and it is always prone to change. There cannot be anything like an ahistorical or non-situated semiosis.\(^{24}\)

Another consequence of the formal definition of semiosis as a triadic relation is that sign, object and interpretant are viewed as functional roles.\(^{25}\) These roles can be taken by virtually any entity or process, provided that the interpretant is an effect produced on a cognitive system. Furthermore, the same entity or process can take different roles in different meaning relations: an interpretant in a given S-O-I relation can immediately take the role of a sign in another S-O-I relation, for example. Semiotic relations are not isolated but are connected in temporally and spatially distributed chains and webs.

But what kind of relation is established between S, O and I? In the Peircean model, S-O-I relations are described as determinative: “A sign is anything which determines something else (its interpretant) to refer to an object to which [it] itself refers (its object) in the same way, the interpretant becoming in turn a sign, and so on ad infinitum.”\(^{26}\) According to Ransdell,\(^{27}\) the notion of “determination”, in the context of Peirce’s philosophy, carries both a logical and a causal sense. If we consider the dynamical aspect of “determination”, we can think of it as the production of an effect. In this sense, we are dealing with causal determination in the intuitive sense of “bringing about”, elaborated in the modern theory of causality in terms of efficient causation. If instead we consider the logical aspect of “determination”, we can think of it as a material implication: if \(p\), then \(q\). In this sense, “determination”, should be understood as a constraining (a reduction of possibilities) rather than a causally deterministic process.

What about intersemiotic translation? If translation is a semiotic process, the description above also corresponds to a minimal formal description of what a translation is. In an intersemiotic translation, the semiotic relation S-O-I describes how a translation source is translated into a different semiotic system, resulting in a translation target. There are two possible ways of mapping a translation source and a translation target to the S-O-I triad:\(^{28}\) either the source is the sign (S) and the target is the interpretant (I) (model 1; see figure 10.2) or the source is the object (O) and the target is the sign (S) (model 2; see figure 10.3).

What are the implications of modelling an intersemiotic translation through model 1 or model 2? The two models are not two different types of intersemiotic translation; they show different aspects of the same phenomenon. Model 1 puts the translation source in the functional role of a sign and includes the object of the translation source in the model. It shows how the object of the translation source is codependent on the translation target: different intersemiotic translations of the same source will stress, unveil and/or construe different objects. Also, model 1 puts the target semiotic system (e.g., dance) in the functional role of a *cognitive* system.
Model 2 puts the translation target in the functional role of a sign and includes the interpretants of the target in the model. The object of the triad is the translation source. In this model we have the notion that a translation target stands for a translation source. This S-O connection is, of course, dependent on interpretative effects being produced in a cognitive system. An obvious example of a cognitive system is an audience. Thus, model 2 captures the notion that a work is interpreted by an audience as a translation of another work. However, the cognitive system that interprets the sign doesn’t have to be an audience. We will explore such a case in the section below.

Figure 10.2 Model 1 of intersemiotic translation. In this case, the translation source is a sign, which mediates an object so as to determine the translation target as an effect. Note that this model graphically represents the object of the source but not the effect of the target on its interpreters. Model 1 describes how, through a translation source, a certain pattern of constraints acts on a cognitive system so as to produce a translation target.

Figure 10.3 Model 2 of intersemiotic translation. In this case, the sign is the translation target, which mediates a translation source (viewed not as a substance but as a pattern of constraints) so as to determine an effect on a cognitive system. Note that this model graphically represents the effect of the target on a cognitive system but not the object of the source. Model 2 describes how, through a translation target, a translation source constrains the interpretative behaviour of a cognitive system.
3. How Does Intersemiotic Translation Work?

We are interested in how intersemiotic translation as a thinking tool is used to scaffold creativity in the arts. We will examine models 1 and 2 as semiotic processes that happen during the creation of artworks. In this case, the functional role of the interpretant is not related to audiences but to the creative process. Is the cognitive system in which interpretants are produced the mind of a creative artist? It can be, and it certainly involves what can be described as an individual mind, but the notion of a cognitive system here should be viewed more broadly and not necessarily as mappable to an individual psychological agent. Here we recover the notion of distributed cognition that was briefly introduced in the first section. Distributed cognition, situated cognition and the “4E” paradigm attacked cognitive internalism, claiming that the description of cognitive processes as brain-bound information processing misses the point of how cognitive processes actually happen “in the wild”. A conception of cognition should also acknowledge and integrate perceptual and motor systems, nonbiological material inside and outside the body, and the social, multi-agent contexts in which cognition happens. For distributed cognition, everyday objects such as shopping lists, computers, pen and paper, maps, charts and diagrams and so on, are cognitive artefacts that aid, support, enhance or improve cognition. Hutchins stresses the need to account for cultural practices, i.e., a practice that “exists in a cognitive ecology such that it is constrained by or coordinated with the practices of other persons”. Cultural practices produce cognitive artefacts and organize perception and action, as well as producing the environment itself in which cognitive agents operate. This ecological view of cognition doesn’t see the individual agent as the centre of cognitive processes but as the participant in wider cognitive systems dependent on cognitive cultural ecologies. This notion of culturally – and socially – distributed cognitive systems is a more precise way to characterize the locus of interpretants than the notion of an individual psychological mind. In this sense, the loci of interpretants in the intersemiotic translations we are interested in here are distributed cognitive systems that create new artworks. How does such a distributed cognitive system use intersemiotic translation to scaffold creative processes? Our argument in this section is that models 1 and 2 above, when applied to artistic creation, describe how intersemiotic translation functions, respectively, both as an anticipatory and as a generative tool.

But what do we mean by creativity? According to Margaret Boden, creativity is “the ability to come up with ideas or artefacts that are new, surprising, and valuable. ‘Ideas’, here, includes concepts, poems, musical compositions, scientific theories, cooking recipes, choreography, jokes . . . and so on, and so on.” Boden relates creativity to modifications in conceptual spaces. A conceptual space is a structured style of thought and
determines a horizon of conceivable ideas. Examples include “ways of writing prose or poetry; styles of sculpture, painting, or music; theories in chemistry or biology; fashions of couture or choreography, nouvelle cuisine and good old meat-and-two-veg”.35

How can a cognitive system break away from previously established and structured styles of thought? How is it possible to navigate a novel and yet unstructured space of creative possibilities so as to produce something recognizably valuable – as opposed to, say, gratuitous change? It is in the context of such challenges that intersemiotic translation is often used as a thinking tool. Intersemiotic translation scaffolds creativity by taking advantage of recognized differences between semiotic systems: if a source system is part of a conceptual space that is structured differently from the conceptual space of the target system, the influence of the source system on the target system can generate novelty (difference) in the latter. Furthermore, because the source system has a structure with at least some degree of internal coherence, it is easier to produce novelty that is non-gratuitous and potentially recognizable as aesthetically valuable. We characterize the action of IT in scaffolding creativity as anticipatory and generative.

Intersemiotic translation as an anticipatory tool: Cognitive systems use anticipatory, predictive tools to direct action. This is a ubiquitous operation involved whenever an agent acts expecting something else to happen (using a door handle to open a door and enter your house is a trivial example of an anticipatory system in action). Examples of anticipatory tools used to organize action include schedules, planners, maps, blueprints, norms of etiquette, organizational diagrams and fluxograms and so on. All of these tools reduce (or at least attempt to reduce) the number of possible choices a cognitive system will face in the future (by consulting a map to navigate to the other side of town, I know that I should avoid making any turns until the end of a certain avenue; by consulting my schedule, I know that today I should prioritize a certain work assignment instead of another). A conceptual space can be seen as a set of constraints that simplify the costs of cognitive activity for creators: artists don’t have to start from scratch – they anticipate and simplify their creative process by reasoning in terms of already structured styles, conventions, canonical references and so on. When a conceptual space is being transformed, a cognitive system is faced with unexpected interpretative situations. Intersemiotic translation plays an anticipatory role in reducing the difficulty of making a choice in these situations. In this case, the translation source is being used as an anticipatory, a “map” that tells the creative cognitive system how to navigate through unfamiliar territory and arrive at creative solutions without getting lost or stuck in the several highly costly choices that need to be made. This corresponds to the view shown in model 1, where the translation source occupies the functional position of the sign (an anticipatory tool, in this case) in semiosis (see Figure 10.4).
João Queiroz and Pedro Atã

Intersemiotic translation as a generative tool: One of the functions of IT explored by creative artists is taking advantage of the semiotic difference between source and target to generate competing and otherwise unprompted creative opportunities in the target system. During the creative process in an intersemiotic translation, a transformation in the target semiotic system leads to a cascade of further transformations in that system. The regulatory principles (the “structure” of thinking) that are used to regulate a conceptual space interact, change or are partly abandoned in favour of a different set of regulatory principles which are developed from the translation source. The translation source in this case functions as a generative seed that acts on a target semiotic system. Any translation choice that a creative cognitive system makes that establishes a transformation in a target conceptual space is a choice understood in reference to this generative seed. In this case, a transformation in a conceptual space occupies the functional role of a sign while the translation source occupies the functional role of an object. The interpretant that they determine, and in virtue of which they are brought together, is the notion (to be realized in the future) of new conceptual space (see Figure 10.5).

In the next section we give an example of the anticipatory and generative functions of intersemiotic translation. We present a translation of Gertrude Stein’s experimental prose (especially her Portraits) to dance pieces, created by João Queiroz, Daniella Aguiar and Rita Aquino. Stein’s

Figure 10.4 Intersemiotic translation as an anticipatory tool. The translation source occupies the functional position of the sign and works as an anticipatory tool to help artistic creation. The locus of the interpretant is not the translation target itself but the creative process that in the future will result in creation the translation target. The interpretant is a constraining factor in this creative process in the form of a reduction in the cost of choices for the distributed cognitive system responsible for the creative process. The object is what the translation source is perceived to be "about". Notice that S-O-I irreducibility entails that different creative processes (I) may reveal different objects of the same source.
prose was used as a tool for anticipating choices in the creative process and as a seed for generating unpredictable effects in dance.

4. Intersemiotic Translation of Gertrude Stein to Dance

Gertrude Stein’s work is an example of the most radical literary modernist experimentalism of the early 20th century. Her work was refined through her written portraits, initiated by the novel *Three Lives*. She was strongly influenced by William James, her teacher at Harvard Annex, who directed her literary experiments towards questions about conscious experience and perceptions of time. Her writing intersemiotically translated the compositional techniques developed by Paul Cézanne and Pablo Picasso, creating a kind of literary cubism. Those innovations had an important impact on the representation of dynamic space-time perception. One of Stein’s main innovations is the attempt to deform the development of spacetime perception, freezing its dynamic flux. The creative procedures used to produce such effects are among the most important aspects of her work that we consider here in dance translations from Stein’s work.

From around 2009 to the time of writing in 2019, Stein’s work has attracted the attention of different choreographers. The following are examples of choreography from Brazil and other countries that are translations of Stein’s work: *e [dez episódios sobre a prosa topovisual de gertrude stein]* (and *ten episodes on the topovisual prose of gertrude stein*) (2008) and *sobre.o.mesmo* (2010), by João Queiroz (Brazil); *Always*
The Brazilian dance piece, e [dez episódios sobre a prosa topovisual de gertrude stein] (referred to later as ,e) is a female duet irregularly divided into semi-independent episodes. This dance translation has more than one source text. Although the piece is related to Stein’s work in general, there is a focus on four texts: an excerpt from the play *Four Saints in Three Acts*, the first-phase portrait *Orta or One Dancing*, the second-phase portrait *If I Told Him: A Completed Portrait of Picasso*, and an excerpt from the play *Listen to Me*. Each episode was conceived as an intersemiotic translation of a fragment of Stein’s texts. The process of elaborating each one was based on a systematic discussion of the properties considered most relevant in the source sign according to Stein’s critical fortune and historiography and a discussion about how to creatively translate these properties into dance. In the paragraphs below, we first describe the dance piece as it is intersemiotically translated from Stein’s oeuvre (sections 4.1 to 4.7), and then relate the example to the theory presented above (sections 4.8 and 5).

### 4.1. Overhead Projectors Episodes

There are two episodes that use overhead projectors. The first is at the beginning of the piece, in the staging of an excerpt from the play *Four Saints in Three Acts*. In this episode, the dancers manipulate transparent plastic sheets on the two overhead projectors that are projecting side by side onto a large onstage screen (Figure 10.6). Each projector is manipulated by one dancer. Each sheet shows a monosyllabic word taken from Stein’s text. The sequence in which the text appears is not very different from the original. However, each word occupies a whole sheet of transparent film, covering almost a whole screen when projected. One can recognize, in the manipulation of the transparent films, dance compositional properties: the scene is transformed in a dance duet by the variation of velocity and trajectories caused by the manipulation, which creates a dialogue between the projections that sit side by side. The scene consists of a composition of words on the screen, with the transparency sheets functioning as an augmentation of the dancers’ bodies.

This episode focuses on the physical properties of monosyllabic words. This becomes clear when, at the end of the episode, different identical transparency sheets showing the word ‘Dez’ (Ten) are superimposed on one of the overhead projectors, while the other shows only a single, but also identical, sheet. In this simple episode, it is possible to identify a combination of Stein’s ideas: the materiality of the written word, the insistence, the idea of difference through repetition, and the accumulation of identical instances of the same word.
4.2. **Walk, Sit, and Lie Down Episode**

The second episode is based on the *insistence* of only three trivial actions: walking, sitting, and lying down. The actions are executed in a space limited by the lighting—a cube is delimited by the lighting structure and by a diagram painted on the floor (see Figure 10.7). This diagram was conceived by the graphic designer Phillip Rodolfi, also by following Stein’s texts. Each dancer moves only in straight lines, forward and backward, using only the lateral edges of the cube. The actions (walking, sitting and lying down) occur alternately, between moments in which they are organized in set choreography and others that suggest an improvisational game. The pattern of movements is highly regular and uniform in its dynamics.

Besides the insistence, there is another semiotic relation to Stein’s work in this episode. The repertoire of motor activities is composed of a reduced vocabulary of only three trivial actions, which are not part of any established dance technique. They are trivial movements for dancers, and can be considered transitional movements, which means that they are frequently used as a transition from one dance movement to another. In this case, there is an intersemiotic translation of transitional words.

*Figure 10.6* The dancers manipulating transparent plastic sheets on the overhead projectors.
or relational terms, a resource Stein emphatically explored, to motor actions. How can one translate, in dance, this emphasis on connectives, transitional particles in general and adverbs? In dance, different traditions consider different movements to be the most important ones. However, in general, one could say that the dancer will normally demonstrate some
kind of motor or acrobatic skill, or a high level of refinement relative to
the qualities of the execution of dance movements. But in this episode,
the dancers only walk, sit and lie down, although with exactitude, not
permitting any movement to look like something the audience expects to
see as a dance movement. There is no fluidity between one action and the
next, contravening another familiar quality in dance; rather, what we see
are singular independent actions.

4.3. Gaze Score Episode

The third episode is a gaze score. In this scene, the dancers are outside
the limits of the light cube and are closer to the audience, sitting in front
of a music stand, in a situation similar to that of musicians. The work
lights are on, and the viewer perceives that an action is being performed
with the dancers’ gaze. They follow a score that prescribes where they
should look. In this way, they look at the score, at the dance partner, and
at the audience (see Figure 10.8). The audience watches the performance
of the same action they execute themselves: a gaze action. The dancers, in
the place of the audience, are watching the audience’s performance. Once
more there is a choreography, in this case one action with three vari-
ations, where repetition, unimportant elements and the perception of the
audience are the subjects explored.

4.4. Minimal and Spasmodic Episode

The fourth episode is a solo performed in the delimited space of the light
cube. For this scene, only one of the lines of the light structure is on, focus-
ing where the dancer (Daniella Aguiar) is positioned. She executes minimal
and spasmodic movements, creating vectors with distinct parts of her body
(see Figure 10.9). As in the third section, the audience here needs time to
realize that something is happening in the scene. Once again, in a distinct
manner, the episode works on the perception and the habits of audience
reception. As with Stein’s first-phase portraits, we find here the illusion of a
scene that does not develop, created by the performance of a succession of
movements in low light, where it is hard to perceive the difference between
them. However, as is the case with the more attentive readers of Stein, the
more insistent the spectator of this choreographic piece is, the better he or
she will perceive that the dancer presents a succession of different, even if
minimally different, movements or body positions. This episode explores
the size of motor vocables. The following excerpt from the portrait of
Picasso is an example of Stein’s monosyllabic composition.

He he he he he and he and he and he and he and he and as and
as he and he and he. He is and as he is, and as he is and he is, he
is and as he and he and as he is and he and he and he and he and he.
Figure 10.8 The dancers watching the audience.

... As trains.
Has trains.
Has trains.
As trains.
As trains.
The use of short words creates a peculiar reading rhythm that can be called *staccato*. The translation of this rhythm is obtained with the development of a sequence of almost invisible movements of body segments, for a few seconds creating an illusion of an immobile dancer. By making the movements so small, the dancer finds a correspondence to the monosyllables in verbal language and, at the same time, she reproduces the rhythm imposed by the reading of such elements. It is interesting to note that in this episode,

*Figure 10.9* Sequence of almost invisible movements of body segments.
all elements are presented in their minimal configuration: only one of the
two dancers is performing; the movements are the smallest possible; the
light is low; and the music presents a reduced number of sounds.

4.5. **Transcription of If I Told Him Episode**

The fifth episode is another experiment with emphasis on insistence and
on syntactically minor vocables, as is the first episode. However, it is a
direct translation of an excerpt from *If I Told Him: A Completed Portrait
of Picasso*, using it as a score in which there is a correspondent movement
for each word. Of course, the audience does not have access to the source
text while the dancers perform. Again, the dancers have a music stand in
front of them. The chosen movements are almost imperceptible everyday
actions – straightening the blouse, scratching the nose, and adjusting the
hair. Again, the dancers use movements not traditionally recognized or
perceived as dance, treating them choreographically by using Stein’s text
as a score. Such everyday actions, performed for self-observation, call
attention here to the movement itself (see Figure 10.10).

The dancers’ patterns are not identical; each executes her own self-referralent movement sequence. Sometimes they perform the movements
simultaneously; at other times they each make distinct movements, creating
a kind of canon, as we can see in *Always Now Slowly*. The combi-
nation of similar, but non-identical, movements and the alternation of
unison and non-unison amplifies the sense of insistence. The use of the
same words in different orders, already present in the text, also appears in
the choreography and is amplified by the choreographic strategies used.

4.6. **Overhead Projector Episode – Listen to Me**

Another experiment with the overhead projector is performed in this piece
using an excerpt from the play *Listen to Me*. Here, the same choreographic
strategies are applied to manipulate the transparencies – remarkable care
is taken in handling the sheets, in choreographically controlling the time
and manner of putting them on the equipment. But now it is a solo, not a
duet. Compared to the first overhead projector scene, the relation between
the written text and the dance piece is more referential: it represents the
nature and the dynamics of the work. The excerpt acts as a metalanguage
of the dance piece. It uses this excerpt from *Listen to Me*:

*Fourth Act.* And what is the air.
*Fourth Act.* The air is there.
*Fourth Act.* The air is there which is where it is.

Kindly notice that is all one syllable and therefore useful. It
makes no feeling, it has a promise, it is a delight, it needs no
encouragement, it is full.
Figure 10.10 The dancers in quotidian actions.

Fourth Act. The air is full
Fourth Act. Of course the air is full
Fourth Act. Full of what
Fourth Act. Full of it.
Fourth Act. The air is full of it
Fourth Act. Of course the air is full of it.
Fourth Act. Of course
Fourth Act. The air
Fourth Act. Is full
Fourth Act. Of it.

Figure 10.10 (Continued)
The selected excerpt, shown on the transparencies, highlights Stein’s compositional tactic of insistently using monosyllables. The text also alerts the audience to this characteristic – “Kindly notice that is all one syllable and therefore useful” – and then suggests its sufficiency: “It makes no feeling, it has a promise, it is a delight, it needs no encouragement, it is
full.” Stein makes her language strategies and effects noticeable. By using this text, the dance piece also allows the audience to think about the property of insistently using monosyllables as a choreographic strategy. It creates a dialogue with audience perceptions about dance status, dance movements and music for dance, and it highlights the dance itself and its conventions. This excerpt from the text, therefore, can be interpreted as a metalanguage of the dance piece itself, since even in another language system it presents indirectly to the spectator a comment about what is being watched.

4.7. Dyadic Relation Episode

The last episode is a dyadic experiment (a bilateral relation between two entities), with emphasis on the dynamics of “brute” reaction. Two dancers are sitting on stools facing each other in the delimited space of the lighting cube. From there, they begin a series in which they rise and walk towards each other, and their progress is interrupted when their bodies collide. They come back to their original positions and begin a new cycle, with variations (see Figure 10.11). The beginning (the moment when they start), the development (the duration of the walking) and the end (the colliding) are different in each cycle. We can relate the structure of this

Figure 10.11 Dyadic experiment with the dancers’ collision.
Figure 10.11  (Continued)
episode to the portrait Orta or One Dancing. The following excerpt is an interesting example for comparison:

This one is one having been doing dancing. This one is one doing dancing. This one is one. This one is one doing that thing. This one is one doing dancing. This one is one having been meaning to be doing dancing. This one is one meaning to be doing dancing.

The first direct correspondence that can be found are the successive beginnings. It seems that Stein initiates the same sentence over and over again, and yet a different sentence always emerges. In the same way, the dancers always come back to the initial position, sitting on stools, facing each other. Each cycle corresponds to a sentence. Each new cycle, like each new sentence, is very similar to the previous one, but with subtle differences. The episode, one could say, is equivalent to a paragraph whose sentence beginnings are very similar.

4.8. Conclusion (,e)

In the table below, we summarize the relationship between the dance episodes, the main properties of the literary source, and the target.

<table>
<thead>
<tr>
<th>Episode</th>
<th>Translation source: forms of Stein’s prose</th>
<th>Translation target: I of S-O-I (in model 1) or S of S-O-I (in model 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead projectors</td>
<td>Monosyllabic words; insistence and accumulation of words; difference through repetition</td>
<td>Dialogical properties of duet action with emphasis on verbal material, in cycles or regular reiterative patterns</td>
</tr>
<tr>
<td>episodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk, sit, and lie</td>
<td>Use of transitional particles and adverbs, reduced vocabulary, regular patterns of word usage, insistence</td>
<td>Short vocabulary of action, uniform and regular dynamic of patterns, trivial transitional movements . . . dialogical</td>
</tr>
<tr>
<td>down episode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaze score episode</td>
<td>Repetition, unimportant elements, perception of the audience</td>
<td>Unimportant movements of gaze dialogue to include the audience</td>
</tr>
<tr>
<td>Minimal and spasmodic</td>
<td>Scence that does not develop</td>
<td>Almost invisible actions creating vectors with distinct parts of the body (the audience here needs time to realize that something is happening in the scene); scene that does not develop – very small size of the monosyllabic vocables</td>
</tr>
<tr>
<td>episode</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The division into independent episodes, without climaxes or hierarchical relations between parts, worked as a thinking tool to emphasize salient aspects of Stein’s experiments. This approach reveals relevant properties in Stein’s work, since each episode shows more than the familiar aspect of insistence. The choreography also focuses on audience perception and attention, and this is intensified by the use of low light, brief and non-traditional dance movements, temporal suspension and solemnity in the execution. The piece produces an immersion in this ambience. Contrary to any spectacular action, its mechanisms are very different from a conventional dance piece: there is no demonstration of extraordinary bodily ability and no rhythm alterations or climax to attract the attention of the audience. A peculiarity of this intersemiotic translation is the choice of the movement vocabulary. Each episode or fragment deals in a distinct way with the type of movement performed, presenting to the spectator a specific assemblage of body patterns focused on translating Stein’s work into dance.

In the intersemiotic translation of the portrait If I Told Him observed in the dance piece, the duet has an important role in the composition. It permits the viewer to observe the subtle variations in a choreographic sequence that would not be seen if it were executed by only one dancer. For instance, in \( e \), even if the dancers perform movements based on the same text, they are not identical, but rather they belong to the same group or family of body movements. When associated with the canon, the duet observed in the second part of Always Now Slowly clearly modifies the perception of time. This way of relating duet and canon is very close to Stein’s constructions in which the present continuous is the result of insistence with slight modifications. Besides the syntax deformation connected to continuous repetitions, Steinean uses of gerundial verbal forms intensify the effects of the perception of time.

<table>
<thead>
<tr>
<th>Episode</th>
<th>Translation source: forms of Stein’s prose</th>
<th>Translation target: I of S-O-I (in model 1) or S of S-O-I (in model 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transcription of If I Told Him episode</td>
<td>Insistence, syntactically minor vocables, excerpt from If I Told Him</td>
<td>Quotidian movements, synchrony and asynchrony between the dancers</td>
</tr>
<tr>
<td>Overhead projector – Listen to Me</td>
<td>Excerpt from the play Listen to Me; insistent use of monosyllables; metalinguistic explication of compositional strategies</td>
<td>Properties of monosyllabic words projected onto the screen, superimposition of different transparency sheets.</td>
</tr>
<tr>
<td>Dyadic relation episode</td>
<td>Successive beginnings of sentences in a paragraph and subtle variations in these sentences</td>
<td>Dyadic bilateral relation between two entities, with emphasis on the dynamics of “brute” reaction</td>
</tr>
</tbody>
</table>
To exemplify what we call time manipulation, we look at another experimentation with syntax that is frequent in the dance duets and that is based on the repetition of a small number of movements, creating different sequences. In *e*, they walk, sit and lie down in the restricted space of light. The repetition of only three movements made in different sequences during a relatively long time period creates an atypical composition. Even in most contemporary pieces, the sequencing of movements traditionally engenders a flux towards the next movement, framing the perception of time according to convention. By repeating only three movements over and over again, the action is frozen in time, which works against the principle of time progressing. One could assert that, similar to Steinian explorations, the translations tentatively create a deformed syntax, breaking with dominant traditions related to time perception. In idiosyncratic time perception, not only insistence or repetition but also movement vocabulary and composition de-emphasize the fluency of movements. *e* explores a delineated vocabulary that is based on discrete movements and includes long pauses, breaking the expectation of a fluid and continuous composition. The use of *insistence* plays a fundamental role in the continuous present effect, but it is not sufficient in itself to freeze time in dance. *e* is focused on modifying the perception of time by exploring other choreographic aspects that contribute to freezing action in time. These elements include a rigorous concern with motor vocabulary, the episodic fragmentation of the piece, and the syntactic composition that is based on the coordinated accumulation of trivial movement components.

5. Final Comments – Some Implications of Intersemiotic Translation as a Thinking Tool

We have defended the idea that intersemiotic translation is a thinking tool that scaffolds creativity in dance. In order to structure and support this idea, we introduced the notions of semiosis (*sensu* Peirce) and distributed cognition thesis. In terms of explanatory modelling, artistic creativity is usually associated with psychological traits, cognitive abilities, emotional dispositions, mental illnesses and neural correlates. In all these cases, the research problem is framed in an internalist theoretical framework, according to which cognition is described as the processing of mental representations and in which the role of context and external tools is secondary. The narrative we have developed here suggests something radically different: creativity is described as a non-psychological process that is materially and socially distributed in space-time and strongly based on the design and use of thinking tools. According to our approach, intersemiotic translation is a thinking tool for scaffolding creativity, simplifying choice, perception and inference, and modifying the conceptual space of the target semiotic system for the anticipation of new events and the generation of competing ideas.

Our approach suggests a new relationship between the emergent field of intermedial arts studies, creativity research, and embodied and situated
cognitive science. This liaison, hopefully, will lead to a new research agenda and a new set of research questions.

Acknowledgements

The authors thank Niklas Salmose, as well as the Centre for Intermedial and Multimodal Studies (IMS) of Linnaeus University, Sweden, for comments and suggestions; this chapter is largely the result of discussions that happened in the context of the Transmediations! conference organized in 2016 by the IMS.

Notes

1. Our use of the word cyborg here is based on the work of the philosopher of cognitive science Andy Clark (Natural-Born Cyborgs) and has no immediate relation to Donna Haraway’s “A Cyborg Manifesto”.
3. Clark, Natural-Born Cyborgs, 3.
14. See Gronau, von Hartz, and Hochleichter, How to Frame; Vergo, Music of Painting; Clüver, “Inter textus,” 11–41.
19. A formal demonstration of semiotic triadic irreducibility precedes any investigation of this property and is out of the scope of our approach here (see Brunning, “Genuine Triads,” 252–70 and Burch, “Peirce’s Reduction Thesis,” 234–51 (in the same book)). Indeed, a logical-mathematical analysis of the categories (firstness, secondness, thirdness) should be done before any formulation in the domains of phaneroscopy, normative sciences (including semiotics) and metaphysics, which employ mathematical techniques and results to validate the categories (see Hookway, Peirce, 182; Atkins, “Comparing Ideas,” 562). This demonstration is related to results obtained in graph theory and belongs to mathematically oriented argument (see Burch, “Peirce’s Reduction Thesis,” 234; De Waal, Peirce, 40).
212 João Queiroz and Pedro Atã


21. In Peircean terms, we take intersemiotic translation to necessarily involve (but not to be reduced to) the communication of habits. This corresponds to a constitutive view of language that stands in opposition to seeing language as a system of reference to “things out there”. Under these premises, an intersemiotic translation does not simply refer to a “cultural product” as something taken for granted, but more precisely stands for (and simultaneously participates in the construction of) a semiotic regularity historically exhibited by the cultural product.

22. See Merrell, *Peirce*.

23. From a Peircean biosemiotic perspective, a translation machinery synthesizing proteins from a string of RNA or a membrane receptor recognizing a given hormone can be regarded as an interpreter (see Queiroz et al., “Biosemiotic Approach,” 91–130; El-Hani, Queiroz, and Emmeche. “Semiotic Analysis,” 1–68).

24. By “historical” here, we mean the history of interactions of any semiotic system, not “history” in the sense of “human history”.


27. Ransdell, *Peircean Semiotic*.


29. Scaffolding (see Clark, *Being There*, 45–7 and *Supersizing the Mind*, 44–60; Hoffmeyer, “Semiotic Scaffolding”; Vygotsky, *Thought and Language*) refers to the use of artefacts (including language both spoken and written) to support and/or augment cognitive activity. The term was popularized by Vygotsky and called attention to the notion of scaffolding in the context of child development and learning. Clark in *Supersizing the Mind* and Hoffmeyer in “Semiotic Scaffolding”, among others, apply the term to the uses of supporting structures in all sorts of cognitive tasks.


31. Hutchins, *Cognition in the Wild*.

32. Hutchins, “Cognitive Artifacts.”


35. Boden, *Creativity and Art*, 32.

36. The core of the team was constituted by the dancers-interpreters Rita Aquino (https://ritaaquino.wordpress.com/, accessed April 25, 2019) and Daniella Aguiar (https://daniellaguiar.wordpress.com/, accessed April 25, 2019), the architect Adriano Mattos, the composer Edson Zampronha (www.zampronha.com/, accessed April 25, 2019), and the graphic designer Phillip Rodolfi (http://cargocollective.com/philliprodolfi, accessed April 25, 2019).


Bibliography


João Queiroz and Pedro Atã


Peirce, Charles S. Annotated Catalogue of the Papers of Charles S. Peirce, edited by R. Robin. Amherst: University of Massachusetts, 1967. (References to manuscripts and letters by Charles S. Peirce are in accordance with this catalogue).


**THE TEAM**

*Figure 10.12 The team, (e), from left to right: Rita Aquino (dancer), Adriano Mattos (architect), João Queiroz (choreographer), and Daniella Aguiar (dancer)*
Part IV

Transmediating the Anthropocene