

# The puppet gesture and the living gesture : cleavage, illusion, complexity and disorder.

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**Abstract.** The art of puppetry consists to moving the matter, to the point of making it seem that it comes to life by itself. This illusion is based on a complex interplay of figures of the double in which paradoxes, ambivalences, and equivocations are intertwined. The living comes to life on its own, self-poiesis, through a game of interpretation. This interpretive dimension originates from a separation between the internal and the external environment, a cleavage between an objective reality and a subjective reality. Thus the inevitable errors that make "take one thing for another", the "qui pro quo", are both a way of resisting the unpredictable and an opportunity for a redeployment of reality on other possibilities. Isn't it also the vocation of art to invite the spectator to augment himself through otherness?

## 1 Introduction

The question of illusion arises, particularly, in two fields of activity that I have carried out in parallel; that of image analysis in cellular pathology and that of the practice of puppetry [1]. These two activities, which everything seems to separate, have come together on the interpretive dimension with two questions that mirror each other. The first question, which concerns my theatrical practice, is how to give an illusion of life to an inert object such as a puppet. The second question, which is addressed to the biologist, is to know what is the part of illusion in the behavior of the living cell. Since illusion is both cause and effect of living presence, real or simulated, can it be the paradigm? Is illusion the main source of disorder and complexification of the living?

## 2 What is an illusion?

"The fundamental structure of illusion is none other than the paradoxical structure of the double," remarks Clément Rosset [2]. We tend to divide reality into two distinct realities, one objective and the other subjective. And we are in the illusion when one reality prevails over the other to the point of making it forgotten. The optical illusion, for example, imposes itself so clearly that it is difficult to deconstruct it. Narcissus is the victim when, faced with his own image, he drowns in his own reflection. The loss of illusion, the disillusionment, is a reminder of reality. In this sense, it invites a readjustment of subjectivity. Disillusionment is also a source of knowledge, when it reduces the gap between reality and its symbolic representation. It is recognition, when it makes the thing coincide with its preconceived idea.

In antiquity, the Greeks used the "symbol" as a mark of recognition. This symbol was, a shard of terracotta

broken in two. The random fault line was equivalent to the co-signature. Also, it is in the interlocking of the parts that the symbol takes on its full etymological meaning (συμ "together" βάλλω "to throw"). The first use of the symbol, as a physical object, was then applied to a sign relating to an idea, and then, by symmetry, to an abstract model of a concrete reality. It is no longer a question of coincidence, but of approximate resemblance. And it is precisely in this gap that the cognitive categories are constituted: distinction, causality, interpretation. Between the visible and the legible opens up the space of discourse, in the literal sense of "a race from one to the other", which by dint of going back and forth makes the world intelligible. So, the stories can only be adventurous, at most plausible, "similar to the real thing".

Illusion is that conviction in which the thought of the thing "for what it is in itself" ceases in favor of action on the thing "for what it is for ourselves." Also, illusion is the mainspring of action in the unpredictability of reality, an adventurous action that is not without risk.

## 3 The puppet game of the simulacrum

The puppet, before being a ludic object and theatrical object, was originally one of the privileged objects of animist and shamanic rituals, common to many cultures. Its ability to embody an invisible presence has become a medium for the passage from reality "as it is" to a surreality populated by spirits. And it is by setting it in motion that it gives this illusion of presence, prior to the modification of states of consciousness. Also, the puppet gesture invites the cleavage between here and elsewhere, between the visible and the invisible, between matter and spirit. At the same time, he proposes to reconnect, in another way, with what he divides. What the puppet gesture proposes is also what unconsciously nourishes the daily gesture.

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This is why puppetry in early childhood plays such an important role in structuring its actions.

### 3.1 A theatre of the double

Puppet theatre shows double game, that of the puppet object and that of its manipulator, on two juxtaposed stages, the "castelet" and the puppeteer's space. This double game, puts the spectator in a situation to also make an act of doubling. A split from reality that involves him in the complex game of illusions by projection, transference, inversion from one reality to another. Between what plays and what is played, between what decides and what is decided, what means and what is signified, the spectator willingly lets himself be caught up in the game of illusions. Because the double, as a transitional object, can take on everything, endure everything, like the toys that are in turn pampered or mistreated in early childhood. Thus, when the transitional object comes to life, its provocations, its impertinence are forgiven. Even more, we admire her audacity, her rebellious spontaneity, her transgressions when she does, deliberately, what everyone refrains from doing. It is in its mimetic and transgressive action that the effect of the presence of a living body is most significant.

### 3.2 The body between illusion and allusion

The spectator, letting himself be caught up in the game, projects a fictional body onto the reality of the puppet object. A simulacrum in which he recognizes himself in part without however being confused with it. Thus the puppet body is both similar and quite different. It is a strange body whose effect of presence is paradoxically all the more vivid as it moves away from realism. This gap prevents any fusional projections that would make us forget its reality as an object. Also, puppet anatomy is as much an illusion as an allusion [3].

What creates an illusion is a mimetic game in which the spectators are the dupes. As the bumblebee, attracted by the orchid, believes that it sees in it its partner, the audience believes that it is in the presence of life where there is none.

What alludes to comes from organisation of forms. Just like pareidolia, which shows a face in the clouds, the spectator is surprised, knowing that it is only an artifice.

The strange familiarity of the anatomy of the puppet object, between illusion and allusion, opens up a surreal and poetic space, overhanging and encompassing the reality of the object and the reality of what it represents for us.

### 3.3 The puppet gesture

The puppet object, when it is waved in all directions, seems to be subject to the whims of its manipulator. Also, to give the illusion of autonomy, the manipulator imprints a direction and an impulse on the puppet body. This illusion is reinforced when, beyond the simulated action, the gesture is a sign. The puppet gesture alludes, in this it is a language with its grammar

that is both strange and familiar. It is in the gap, between illusion and allusion, that the puppet object acquires a surreal dimension. He can do everything effortlessly and risk-free. With this travel into the field of the impossible, the object seems, in the eyes of the spectators, more alive than alive.

### 3.4 the immobile presence

Dramaturgical force comes from a cleavage between an action and the action that is contrary to it. To mark the tension of the oppositions by punctuation, an immobilization, is to give time to the multiple interpretations of the spectators [4]. The puppet has stopped, why this stop? what is it going to do? continue the movement started? Taking a new direction? What is the obstacle that constrains it? Does it lack courage? What does she fear? Is she a regret, a doubt? Is the puppet subjected by an internal conflict?

It doesn't take more than a fraction of a second for the projections of intentions to unfold on this suspended moment. "To be or not to be, that's the question", between two exclusive realities which to choose? The inflection marks this bifurcation. The splitting gives way to the intrusion of a third party: to the « coup de théâtre » where another possible comes to change the course of the dramaturgy. It is also a turn of events when Gepetto, having finished Pinocchio's eyes, noticed that they were moving and staring at him. The puppet is alive when it escapes. What is alive is that which escapes all that has been frozen by previous states...

## 4. The living is an interpreter

Observation under the microscope of the smallest living unit, the cell, shows that it moves, and that its movements strangely resemble those of an autonomous organism. For example, movements by pseudopods are similar to those of the macroscopic gesture, especially in the way of preparing for the action and projecting oneself while avoiding the obstacle. Also for the observer, the tendency to attribute an intention to the cell is irrepressible. This illusion echoes that of an intentionally animated object such as the puppet. This interpretation raises the question of the multi-scale invariance of the gesture of which illusion seems to be its foundation. Does not the living gesture, which by its nature creates an illusion, itself proceed from an illusion ?

### 4.1 The game of doubles

In his lesson on the phenomena of life, [5] Claude Bernard puts forward the idea of a double environment: *"I think I was the first to insist on the idea that there are really two environments: an external environment in which the organism is placed, and an internal environment in which the elements of the tissues live"*. The living, as a complex open system, is structured with two realities: an external reality "in itself" subject to random variations and an internal reality "for itself" that is self-regulated. It is through this cleavage that the

living resists the hazards of its environment. Between subjective reality and objective reality there are concordances but also discordances that lend themselves to interpretation. Thus illusion, which makes us forget reality in what it is for itself, is at the same time an inexhaustible source of disorder and complexification.

## 4.2 Recognition and confusion

Recognition, at the molecular level, is done by complementarity of form, between the capturing molecule and the target molecule. The protruding relief (epitope) of the target molecule is found in a hollow (paratope) on the receptor. Complementarity (paratope-epitope) is verified by nesting, according to the key-lock model [6]. But, unlike the symbol of the Greeks, the paratope, playing the role of memory, pre-exists the epitope. The steric attraction (paratope-epitope) is the result of random mutations, and selective pressures. In this way, the steric adjustment (paratope-epitope) coincides, generation after generation, up to a threshold of equilibrium, a compromise between specificity and sensitivity that leaves room for coupling error. And it is precisely at this point that the living escapes determinism.

## 4.3 Mimicry, disorder and complexity

### 4.3.1 Molecular mimicry

A molecular receptor can mistakenly capture a molecule whose epitope resembles that of its target molecule. This coupling error, inherent in the primacy of form, can be a source of disturbances but also of the acquisition of new balances. For example, the coupling error, between the enzymatic paratope and the epitope of its product, alters causality, the effect (product) being taken for the cause (substrate). This error introduces circularity into the metabolic chain that maintains the body's balance (homeostasis). The coupling error can also constraints the organism to recompose itself with otherness (allostatic equilibrium) [7]. Molecular mimicry is at the origin of the development of immune systems. It is also at the origin of the symbiosis that plays a major role in evolution.

### 4.3.2 Animal and plant mimicry

Mimicry involves three actors: the mime, the model and the dupe. When the livery of the mime merges with its support (model), we speak of cryptism. When this livery refers to an object of the dupe's memory, it is called signalling mimicry.

In both cases, the mime's livery is a reflection of the dupe's perceptual acuity and interpretive capacities. Also, the realism, the rate of iconicity, of the mime's livery presents an optimal degree of iconicity. The livery then presents itself as a convincing caricature that accentuates the relevant features while omitting the inessential details. The visual selective pressure exerted by the dupe on the simulacrum stops at the threshold of plausibility, where the false positives (the illusion)

statistically outweigh the false negatives (the disillusionment).

### 4.3.3 Pareidolia, a protective illusion

The illusions that guide our actions are most often forgotten. But they sometimes impose themselves with such force that they seem to be the manifestation of another reality. This is the case of pareidolia which appear spontaneously in random configurations such as clouds, rocks, spots, etc.

The unexpected appearance of a face is the most common pareidolia. It originates from an activation of neurons in the spindle-shaped cortex, which specialises in face recognition. This recognition is based on a frequency cleavage of the visual image into two images; one in low spatial frequency, the other in high spatial frequency. The fastest perception, that of the low spatial frequency, shows the relationships (predicates) between the parts (morphemes) even before they are identified. This perception of predicates is particularly resistant to local disturbances. Recognizing a face, without precisely analyzing its parts, has an advantage, the counterpart of which is pareidolia.

The conservation of this illusion, in the course of evolution, raises the question of its selective advantage. One explanation could be that of a protective effect through the attractive or repulsive emotions they trigger. Indeed, first vision (predicates) is related to negative (repulsive) emotions and second vision (morphemes) to positive (attractive) emotions. Isn't it safer to be suspicious before trusting too quickly? The pareidolia which makes us see a snake in a root holds us back to too precipitate an action. After all, isn't it better to mistake a root for a snake than the other way around?

## 5 The work of living time

The present of the living is extended in duration by what it connects to past and projects into the future. This conjugation of times can be illustrated by the metaphor of the chain stitch. The tip of the needle would be the present which, pulling its thread in the loop of the past, projects itself into the future by piercing the weft of what presents itself incidentally. It is through this chaining of the past (retention) and the future (protection) in tangible reality that the living is actualized. In other words, he incorporates what presents itself in an unpredictable way into the fabric of his experience. This updating by chaining time presents all the qualities of the gesture. A gesture that is both displacement and spacing, a gesture that constantly reconnects what it separates. This gesture is not without illusion when the weight of the past makes us forget the need for change, when the reproduction of the same prevails, or when the attraction of novelty makes us forget the experience acquired. This illusion is inherent in the cleavage of the only reality of time, the present, into two fictional times, that of the past and that of the future.

## 6 To exist is to forget...

To exist is, in the literal sense, to "stand out" (*ex-sistere*)[8], out of the unexpected, out of the accidental. It is not about escaping from reality, but about standing on the margins of the vagaries of the present. To exist is to resist by relying on what is no more, the past, and what is not yet, the future. Thus existence stands on the side of the pregnancy of memory, of anticipatory projection, of subjectivity. To exist is to stand back in order to commit oneself with full knowledge of the facts. But taking action is also about adventuring. It's taking a risk by forgetting yourself. "*All action requires forgetting, just as every organism needs not only light, but also darkness,*" writes Nietzsche [9]. To forget is to make space for illusion, for errors of interpretation that make take thing for another. Forgetting oneself is also an opportunity to discover the unimaginable and even more so to increase oneself from the unexpected.

## 7 Conclusion

The art of puppetry, through the illusion of life it provokes, provides an opportunity to reread the living in its interpretive dimension. This dimension originates from a gap between two realities: the reality of the world for what it is "in itself", and the reality of the representations we make of it "for ourselves". The gap gives way to interpretation, which is an illusion when it makes us forget reality "in itself" in favor of reality "for oneself." The disillusionment, conversely, invites us to reconsider our prejudices. The game of illusion and disillusion are sources of complexity and disorder for the living. It is also at the center of the project of living art.

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