Diagrams: Images in the Form of Texts

Maria Lai, Tying Oneself to the Mountain

Tiziana Migliore
Università di Urbino Carlo Bo[*]
tiziana.migliore@uniurb.it

ABSTRACT. The present contribution intends to outline diagrams in the process of their becoming and as the result of live-action gestures between people. It aims to demonstrate that diagrams are images produced in form of "texts", that is in form of any interweaving of relations. After a re-reading of the notions of "image" and "text", our article highlights the continuities of Peirce's views on the diagram, as a not only verbal function, into Deleuze and Guattari's theory, and provides a closer look at Wittgenstein's idea that diagrams are indissociable from their use. A semiotic analysis of Maria Lai's work of art *Legarsi alla montagna* (1981, *To Tie Oneself To the Mountain*) will show this recurrent dimension of performativity in diagrams, revealing the extent to which they create not general relations, but social and intersubjective ones.

KEYWORDS. Semiotics; Diagrams; Relations; Wittgenstein; Maria Lai.

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* *Correspondence:* Tiziana Migliore – Dipartimento di Scienze della Comunicazione, Studi Umanistici e Internazionali (DISCUI), Università di Urbino Carlo Bo, via Saffi 15, 61029, Urbino, Italy.

> *I have before me millennia of silences, of attempts at poetry, of bread from celebrations, of loom threads* (Maria Lai)

1. Texts: The Interweaving of Relations

Investigating the gestures in diagrams implies an analysis of the *interweaving of relations* that constitutes every signifying whole. At play here is a redefinition of the notion of "text" that cuts across expressive forms, moving beyond verbal language. Contrary to those who hold the text to exclusively be something written, literary or linguistic, this redefinition is based *tout court* on the latin word *textum* from which the term derives, trouncing the Greek *συμπλοκή* (*symploké*) with the visibility of the intersection in the grapheme 'x' thanks to the knot at its centre. Indeed, «as the etymology of the word 'text' recalls the intertwining of threads, one could say that with the interpretation of the text as a heterogenous mechanism, divided up into a hierarchy of texts within texts, we are restoring the original meaning to the concept of the 'text'»[1] .

1.1. Texts and images: two different levels

This rethinking has been further developed elsewhere into an integrated theory of *imagining*, *weaving*, and *using/operating*, with regards to the movement between the interoceptive and esteroceptive in our ways of being and doing in the world, be they virtual, potential, actual or realised[2] . The aim here is to develop the hypothesis that the diagram is a kind of text, the result of the *interweaving of relations* that, even in the absence of verbal definition, utilises gestures to *transform images into actions*. We will examine Maria Lai's relational work of art, *Legarsi alla montagna* (1981, in English, *To Tie Oneself to the Mountain*) in

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1   LOTMAN 1985, 265.
2   MIGLIORE 2018.

order to demonstrate this. This will also require a re-reading of the notion of image.

Today, we understand "image" to mean both the potential and the actual forms of meaning. We insist on calling everything an "image", encouraged by the dematerialisation produced by digital media. But the characteristics and placement of the image are psychical, belonging to the inner experience of both the individual and the collective. The image clings to the forms of the virtual and potential existence of meaning, those matters of the imaginary and the imagination, themselves no less significant than the actual form of text and the realised form of the work of art, but different. So much so that in Teutonic languages, English clearly distinguishes between the level of *picture* (texts and works of art) and the level of *image*: «You can hang a *picture*, but you cannot hang an image»[3], while German offers a wide range of possible designations for both, but maintains their differences. The German language really goes into detail when it comes to the produced, constructed image, even more than picture in English. In German they use the word *Bild*, literally "construction", a "tangible representation", to indicate the material "image". *Bildung* are the social processes of construction with which it is possible to share one's own culture with others; *Einbildungskraft* is the "imagination", the power of producing the image as a construction; *Abbild* is "reproduction". Less obvious and more rare, though very much present, is the expression *Vorstellung*, "mental representation". Romance languages, on the other hand, summarise the relation between production and imagination under the single term "*image*"[4], f r o m *imaginem* o r *imitaginem*, "imitation" (from Porphyry) or *mimaginem*, from the Greek root μίμος, *mimos*, "mime", μιμέομαι, *miméomai*, "I mime", from the verb "to mime". "*Pittogramma*",

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3   Mitchell 2005, 85.

4   When translating "picture" in Mitchell's motto «You can hang a picture, but you cannot hang an image», we can obviously use the Italian "quadro" or the French "tableau". However, both are no more than the equivalent of "painting" in English and therefore represent a limitation of the wider concept of "picture" to the domain of only one particular artform.

"pictogram", equivalent to *picture*, from the Latin *pictura*, which has the same root as the Sanskrit *pinkte*, which is similar to *peç-as*, "figure", which is also related to the Greek cui ποικίλος, *poikílos*, "variegated", "multi-coloured", and the ancient Slavic word *pis-tru*, "variegated". As we can see, English has two terms to indicate the material image and the mental image, *picture* and *image* respectively, whereas German places greater value on the actual, realised dimension of meaning, its assumption of a concrete form, with *Bild.* Conversely, romance languages, such as Italian, French and Spanish, place value on the ways of virtual and potential existence – *imagine* (It.), *image* (Fr.), *imagen* (Sp.). This brings us to now, when we upturn this axiology, confusing (for example) the physical or digital layout of an apartment – the *picture* or what we would refer to in this text as "an interweaving of relations"[5] – with the memory, with the mnestic trace of that same layout – *image.*

1.2. Paper's aim and articulation

Hypothesising, as is our intention here, that the diagram is a special kind of text capable of translating an idea by using forces that can carry out collective action, requires us to distinguish between the two levels, material and mental, and the evaluation of their specific result of meaning. Our paper is articulated as follows. Having clarified here our conception of "text" and its difference with the level of the "image", we will introduce, in the second paragraph, the way in which Deleuze and Guattari insist on Peirce's views on the diagram as a non-linguistic function made up of visible relations, which indicates possibilities of facts by tracking images. The third paragraph then considers how Wittgenstein's understanding of diagram, also filtered through Deleuze, underlines the idea that diagrams are particular kinds of texts that provide images with a sensitive, embodied and enactive character, making diagrams indissociable from their use. The fourth paragraph delves further into the topic of gestures in diagrams,

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5   MIGLIORE 2018.

enriched by the example of Paul Klee's allegorical diagram on the function of the nervous system. Our analysis of Maria Lai's *To Tie Oneself To the Mountain* in the fifth paragraph is an example of this recurrent dimension of performativity in diagrams in action, revealing the extent to which they create not general relations, but social and intersubjective ones.

2. Diagrams: Non- (though Not Only) Linguistic Texts

We must thank Louis Hjelmslev, Saussure's genial successor, for some concepts that cut across disciplines and which are not limited to verbal language, one of which is the text. Hjelmslev freed semiotics from the idea of the sign, welded onto the signifier-signified, preferring to study the *textus* of the real[6], «a process as a relational hierarchy»[7], a syntagmatic form «whose chains, if expanded indefinitely, are manifested by all purports»[8]. Deleuze and Guattari brought Hjelmslev into philosophy, particularly in their theory on strata, on the subdivision between material, substance and form in relation to both expression and content, which is the basis for their work, *A Thousand Plateaus*[9] . Their ability to manipulate concepts is known, to carry out creative distortions, jumps, extensions and impulses from and between "philosophical characters"[10] – which are "seeds for thinking" rather than philosophers of flesh and bone – that function as "guides", "types" or "motives" for a particular level of immanence or philosophical era, on issues that almost always involve the generative nature of structure[11].

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6   Hjelmslev 1953 [1943].
7   Hjelmslev 1953 [1943], 116-7.
8   Hjelmslev 1953 [1943], 106.
9   Deleuze and Guattari 1980.
10 Deleuze and Guattari 1991, ch. 3.
11 Duffy 2006.

2.1. Peirce According to Deleuze and Guattari

Bolstered by Hjelmslev's thoughts on stratification, and believing firmly in «the misunderstood nature of semiotics […], descriptive science of reality, beyond existing languages, verbal or otherwise»[12], Deleuze encounters the Peirce of phaneroscopy, the immanent principle of signs as «existing», taken «in so broad a sense that the interpretant of it is not a thought, but an action or experience», an active figure of the world[13]. This is a semiotic approach that goes beyond verbal language. The idea of Peirce's that must have jumped out at Deleuze is that of «an emanation of signs from images that then become actions, which can, in turn, transform themselves into habits or go back to being new attachments or qualities»[14]. This is how the «cinematic material» functions in the relation between image and representation, and between image, movement and time: images detached from their supports re-emerge and reproduce themselves in new textual forms. Deleuze therefore intercedes for Hjelmslev using Peirce: «Peirce's strength, when he invented semiotics, was to conceive of signs on the basis of images and their combinations, not as a function of determinants which were already linguistic»[15]. Peirce, as Paolo Fabbri points out, is the card that Deleuze plays in order to demonstrate the strength of semiotics in the visual domain, regardless of lexical definitions[16]. In this way, «we are liberated from the privilege that would suggest linguistics decisively codifies all semiotic experiences. If there is a form of expression and a form of content, it is clear that the expressive form is a similar diagram that can cut across different kinds of substance»[17].

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12 DELEUZE 2005 [1985], 28.
13 Peirce, 8.332, in PEIRCE 1978.
14 MONTANARI 2015, 77.
15 DELEUZE 2005 (1985), 30.
16 FABBRI 1997.
17 FABBRI 1997, 118.

2.2. How Images Become Actions

From Peirce's theoretical apparatus comes a particularly fecund concept in Deleuze and Guattari: the diagram[18]. «An icon of intelligible relations»[19] which «depends upon conventions» and has «the form of a relation»[20]. «One can make exact experiments upon uniform diagrams; and when one does so, one must keep a bright lookout for unintended and unexpected changes thereby brought about in the relations of different significant parts of the diagram to one another»[21]. Peirce gives the example of maps in war, which can demonstrate relations within enemy-occupied territory with more clarity than one can see the territory before them. They impact favourably upon the «territory of operations», because they lead to you «laying out your detailed plans»[22]. It is therefore an advantage to make a clear terminological distinction in Peirce «between diagrammatic reasoning as involving the construction of external diagrams and mental modeling that operates exclusively on mental models». In Peirce, this is «diagrammatic reasoning as involving the construction of external diagrams and mental modeling that operates exclusively on mental models»[23]. As for the external diagrams, they are *representamen*, mediated representations, phenomena that manifest themselves in the mind, implying the objective rules and conventions of representation with which each person's cognitive processes need to interface[24]. This second meaning of diagrams as «elements of distributed cognition», «the means of a culture, not of individuals»[25] is the most common. In the interpretation given by Deleuze and Guattari[26], it constitutes a point of suture between the actual way of existence of the text and the virtual and potential ways of existence of

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18 DELEUZE AND GUATTARI 1980.
19 Peirce, C.P. 4531, in PEIRCE 1994.
20 Peirce, C.P. 4530, in PEIRCE 1994.
21 Peirce, C.P. 4530, in PEIRCE 1994.
22 Peirce, C.P. 4530, in PEIRCE 1994.
23 HOFFMANN 2007, 7.
24 PAOLUCCI 2010, 193, our translation.
25 HOFFMANN 2007, 9.
26 HOFFMANN 2007, 9.

image. A virtuous circle binding signs and mental schemes: «The purpose of a Diagram is to represent certain relations in such a form that it can be transformed into another form representing other relations involved in those first represented […]. The Diagram is an Interpretant of a Symbol in which the signification of the Symbol becomes a part of the object of the Icon»[27]. It is essentially thanks to the symbol's transformation into an iconic form that the diagram helps us know something more about the object, by translating the (virtual) relations of the symbol into the (actual) relations of the icon[28].

2.3. The Diagram as a Possibility of Fact

The two authors seem to draw on Peirce for Hjelmslev in order to clarify that the image, when it is expressed, is always presented in the form of a *textus*: the diagram traces the image, transforming potential into actual, and only becomes a possibility of fact through an interweaving of relations. The diagram is a kind of text that embodies images and ideas and *sets them in motion*. Deleuze and Guattari call it a «desiring machine»[29], inspired as ever by Hjelmslev's dynamic semiotics, by the concept of the sign as a *signic function* between "functive" expression and "functive" content, which «causes form and substance, content and expression to flow according to the flows of desire; and that breaks these flows according to points-signs and figures-schizzes»[30].

   Peirce himself provides only a few thought experiments on the diagram. The first example Deleuze and Guattari give of a diagram, in the years before a demand for a semiotics that would extend to other expressive systems, is an homage to Hjelmslev: the figure of the lobster with its doubly articulated claws, the idea of the simultaneous

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27 Peirce, *Logic Notebook*, MS 339, 286r, September 5, 1906.
28 See BELLUCCI AND PAOLUCCI 2015, 6-7. For diagrammatic reasoning in Peirce, see also STJERNFELT 2007, MAGNANI 2011, GIARDINO 2013. For a historical overview of the concept of the diagram in logic, see MOKTEFI AND SHIN 2012.
29 DELEUZE AND GUATTARI 1980.
30 DELEUZE AND GUATTARI 1977 [1972], 242.

cutting of both the form of expression and the form of content (Fig. 1)[31].

Figure 1. Deleuze and Guattari's diagram on the double articulation in form of expression and form of content.
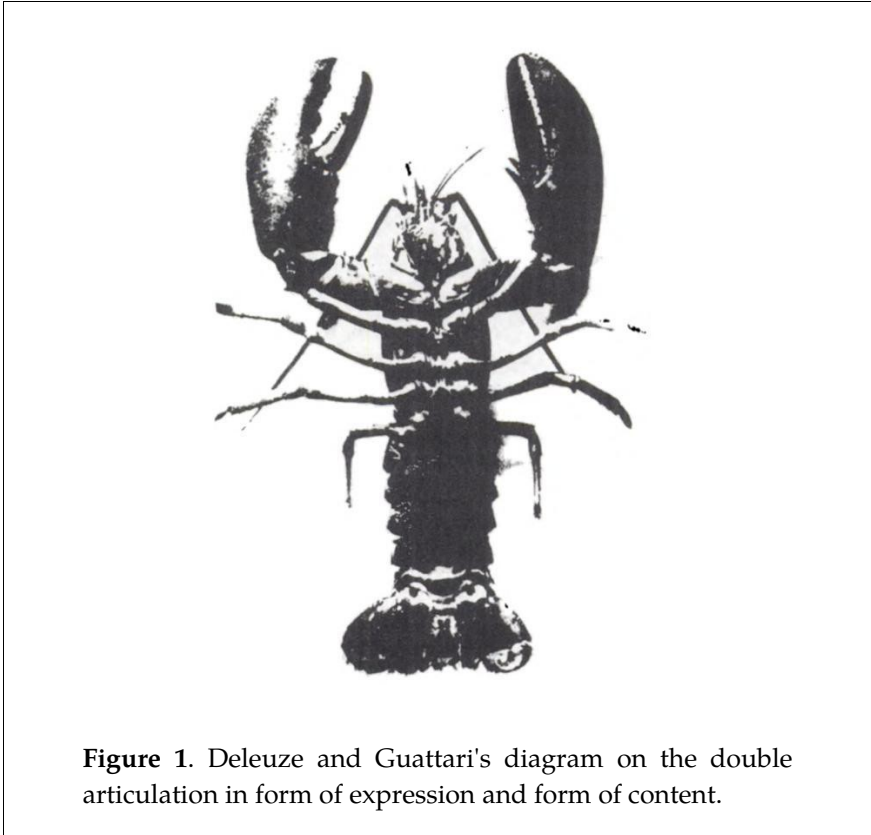
The "large prawn" depicted in the photograph draws on an icon (the prawn) translating it into abstract figural oppositions by selecting a number of its pertinent traits, be they morphological (the symmetrical organisation of the crustacean's body), narrative (the "cutting" by the claws), aspectual (the unison and coordination of those two cuts). Fabbri, who has considered this subject in depth, notes how in creating their diagrams, Deleuze and Guattari, for example in their «portrait» of Kant's theory[32], use symbolic dimensions as well as

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31 Deleuze and Guattari 1980.
32 Deleuze and Guattari 1980.

indexical and iconic ones, as if the diagram were not «one of Peirce's many categories, but a *textualized collection* that itself contains many different categories»[33]. And he defines the diagram as:

> a spatialised inscription of abstract characteristics and the creator of a transformative virtuality. The diagram is in the order of the virtual, which is actualised through the realisation of new possibilities. It not only represents static relations, but dynamic ones also, correlating between the planes of expression and content, and posing the operative premises of possible transformations[34].

This brings to mind Rudolf Arnheim's analysis of Picasso's 1937 masterpiece *Guernica*, in which the work of art's monochrome palette is considered «strongly abstract, less substantial materially, closer to a diagram, then the visual representation of an idea»[35].

Demonstrating that, in philosophy, in the arts and sciences, the diagram is a text that translates ideas, Deleuze and Guattari dedicate two diagrams to Descartes and Kant, or rather, the visual manifestation of the Cartesian *cogito* and the (visual) articulation of its definition through the categories of time and space[36]. The art of the portrait, as a rhetorical technique much like the mental, noetic, machinic portrait, is comparable to the history of philosophy[37]. The register can be philosophical or aesthetic, like the Metamechanics of Jean Tinguely named after philosophers such as Nietzsche, Heidegger, Schopenhauer, Kant, Bergson, Sartre, Rousseau, Engels, and, years later, Félix Guattari himself, immortalized by Jean-Jacques Lebel in a work of art in which the portrait, «a collective assemblage of enunciations» with multiple vanishing points, becomes «a monument»[38]. In Francis Bacon's paintings, the diagram is a field of

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33 FABBRI 2014, 32, our italics.
34 FABBRI 2014, 28, our trans.
35 ARNHEIM 1962, 25.
36 DELEUZE AND GUATTARI 1991.
37 DELEUZE AND GUATTARI 1991, 55.
38 FABBRI 2018.

chaotic forces, in which «waves of consistency», places of «transduction» are created. Deterritorialisation and territorialisation penetrate one another, filtered by the device of the «home», while the human figure is «becoming-animal», subject to deformations[39]. According to the artist, the activation of the image in the diagram, the passage from the potential state to the actual state occurs *once the possibilities of all types of fact* have been planted[40].

> You see, for instance, if you think of a portrait, you maybe at one time have put the mouth somewhere, but you suddenly see through this diagram that the mouth could go right across the face. And in a way you would love to be able in a portrait to make a Sahara of the appearance –to make it so alike, yet seeming to have the distances of the Sahara[41].

2.4. Wittgenstein: Sensitive Possibilities of Fact

The most relevant «philosophical character» here is no longer Peirce but «Wittgenstein, who invoked a diagrammatic form in order to express possibilities of fact»[42]. Deleuze directly translates the reference to Wittgenstein in Bacon's painting:

> Because they are destined to give us the Figure, it is all the more important for the traits and color-patches to break with figuration. This is why they are not sufficient in themselves, but must be utilizedż They mark out *possibilities of fact*, but do not yet constitute a fact (the pictorial fact). In order to be converted into a fact, in order to evolve into a Figure, they must be reinjected into the visual whole; but it is precisely through the action of these marks that the visual whole will cease to be an optical organization; it will give the eye another

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39 DELEUZE 1981.
40 BACON 1975, our italics.
41 BACON 1975, 56.
42 DELEUZE, 2003 [1981], 185, note 6; 185; 196.

power, as well as an object that will no longer be figurative[43].

What is so unique about Wittgenstein's understanding of diagram that it convinces Deleuze to apply it to Bacon? In Wittgenstein the diagram stands out because of its sensitively perceptive, embodied and enactive character: «The end-points of the graduating lines actually *touch the object* that is to be measured»[44] and «These co-ordinations are, as it were, *the feelers* of its elements with which *the picture*[45] *touches reality*»[46]. Wittgenstein's diagram, though illustrated by *exempla ficta*, is a sign, or rather an indexical textual interweaving that is contiguous to corporeity:

> Let us now imagine a use for the entry of the sign Sż in my diary. I discover that whenever I have *a particular sensation* a manometer shows that my blood-pressure rises [...]. And what is our reason for *calling Sżthe name of a sensation here*? Perhaps *the kind of way this sign* is employed in this language-game[47].

But most importantly for Wittgenstein, the diagram cannot be disassociated from its use, a notion that must have attracted Deleuze because it explains the deformations of the logic of sensation in Bacon's paintings. In addition to being a theory of the visible, a unique characteristic of Wittgenstein's semiotics[48] is the impossibility of a sign

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43 DELEUZE 2003 [1981], 101-2, our italics.

44 WITTGENSTEIN 1922 [1921], 2.15121, our italics.

45 «*Diese Zuordnungen sind gleichsam die Fühler der Bildelemente, mit denen das Bild die Wirklichkeit berührt*». In keeping with our initial reflections on the lexicalisation of the concept of "image" in the German language (in § 1) here Wittgenstein uses *Bild* and not *Vorstellung*.

46 WITTGENSTEIN 1922 [1921], 2.1515, our italics.

47 WITTGENSTEIN 1953, § 270, our italics. Wittgenstein continually emphasises a constant property in diagrams, as «The majority of modern logical treatises make at any rate occasional appeal to diagrammatic aid, in order to give sensible illustration of the relations of terms and propositions to one another» (VENN 1894, 110).

48 During the conference held at the GNAM-Galleria Nazionale d'Arte Moderna, Rome, May 22nd 2015, as part of the *Art and Philosophy in the 1900s* exhibition, curated by Giuseppe Di Giacomo and Maria Giuseppina Di Monte, we attempted to point out that there is a semiotic Wittgenstein yet to be discovered.

being disassociated from its use: «Every sign *by itself* seems dead. *What* gives it life? – In use it *lives*. Is it there that it has living breath within it? – Or is the *use* its breath?»[49]

3. The Impossibility of Disassociating the Diagram from its Use

Philosophical Investigations, wrongly considered a break from "early Wittgenstein", is not the first time we come across the notion of "use". Already in *Tractatus* the graphic or phonic sign, without its logical-syntactic use, is something dead and inert. The sign in itself is insufficient: «In order to recognise a symbol by its sign we must observe how it is used with a sense»[50]. Wittgenstein, who wanted to equip his *Tractatus* with diagrams[51], offers two eloquent examples. The first diagram refers to translation between languages (Fig. 2)[52]:

Figure 2. Wittgenstein, Diagram about the translation between languages.
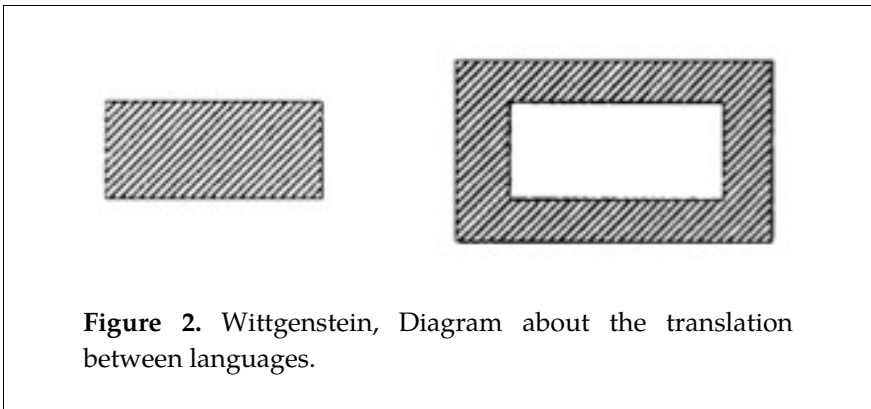
«The proposition, the picture, the model are – in the negative sense – like a solid body restricting the freedom of movement of others; in the positive sense, like the space bounded by solid substance, in which

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49 WITTGENSTEIN 1953, § 432: 135).
50 WITTGENSTEIN 1922 (1921), § 3.326.
51 WITTGENSTEIN 1984 [1914-16], 14.10.14.
52 WITTGENSTEIN 1922 [1921], 4.463.

there is room for a body»[53]. The second example (Fig. 3) refers to the projection of language onto reality, which Wittgenstein intends in a literal sense[54], from the latin *proicio*, "throw beyond", "defer" or even "drive away", "abandon", "betray"[55].

Figure 3. Wittgenstein, The projection of language onto reality.
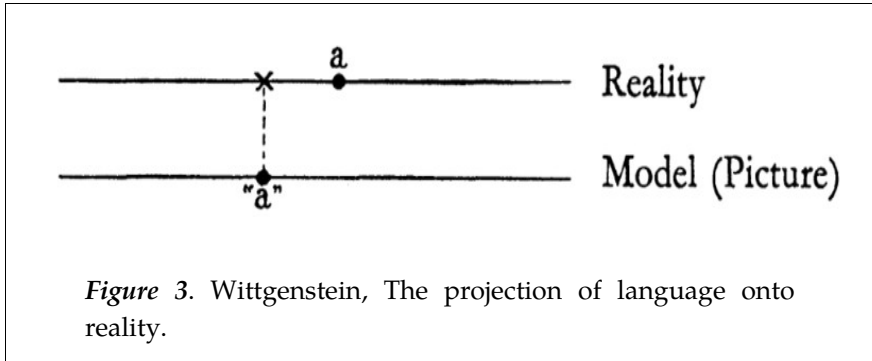
In this diagram, reality and the model occupy two parallel lines. Image "*a*", a dotted line, projects itself along the line of reality without, however, centring the corresponding object *a.* The projective relationship deviates, slips away from the facts; this is itself also a translation. According to Wittgenstein, it casts its shadow over the world. And like a shadow, with that hint of the arcane that accompanies it, whether it is stubby or elongated, it is never faithful to the shape of the body[56]. The idea that a model does not mirror reality but translates it in its own way, grows stronger over the years, leading Wittgenstein to insist that: «There is a way of grasping a rule which is not an interpretation, but which, from case to case of application, is exhibited in what we call following the rule and going against it»[57], to dealing with the various aspects of use, changes of aspect that, for him, converge in the concept of signified. «If you say Now it's a face

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53 WITTGENSTEIN 1922 [1921], 4.463; WITTGENSTEIN 1984 [1914-16], 14.11.14.
54 WITTGENSTEIN 1984 [1914-16], 15.11.14.
55 FABBRICHESI 2000, 32.
56 WITTGENSTEIN 1984 [1914-16], 15.11.14.
57 WITTGENSTEIN 1953, 8. «How do I know that this picture is my image of the *sun*? – I *call* it an image of the sun. I *use* it as an image of the *sun*», WITTGENSTEIN 1956, § 129.

for me, we can ask: What change are you alluding to?»[58]. This brings to mind «the Sahara» as imagined by Francis Bacon and clearly explained by Deleuze: «When we have a changing aspect the case is altered»[59] and the experience of seeing in its globality can be considered «the dawning of an aspect»[60]. The biggest obstacle to understanding Wittgenstein comes with reading him as if you were simply reading a philosopher. Wittgenstein encounters philosophy as an engineer, drawn to Russell and his *Principia mathematica* because he needed to document the calculations necessary for designing a propeller. He refers to "form", "relation", "structure", "model" with the mentality and formation of an expert in mechanics. Philosophy here «is not a body of doctrine, but an activity»[61] and it is in this sense that we must read Wittgenstein's insistence on the *logic of representation* rather than on the depictive relation (or similarity to reality). It is not the referral from the signans to the signatum that counts, but constitutively, «the logical form of representation, that is, the form of reality"[62]. And it is significant that the meaning of "logical form" is clarified not in terms of the verbal proposition but, when Wittgenstein attempts to examine the chromatic dimension up close, as a phenomenological issue[63]: «Among the colours: Kinship and Contrast (And that is logic)»[64]. He gives an example of a black and white photograph in which it is possible to tell that the boy is blond from the tone of grey; not because "you can see" the blonde but because the different tones function within a system of reciprocal positions[65].It might seem that, with this long *excursus* on the diagram, from Peirce to Wittgenstein, we have strayed from our starting hypothesis that the diagram is a kind of text, an interweaving of

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58 WITTGENSTEIN 1953, 195.
59 WITTGENSTEIN 1953, 195.
60 WITTGENSTEIN 1953.
61 WITTGENSTEIN 1922 [1921], 4.112.
62 WITTGENSTEIN 1922 [1921], 2.18.
63 «There is indeed no such thing as phenomenology, but there are phenomenological problems», WITTGENSTEIN 1977 [1950], III-248, ff., 49e.
64 WITTGENSTEIN 1977 [1950], § 46.
65 WITTGENSTEIN 1977 [1950], § 63-65.

relations, that it is non-verbal, and that it translates images. And yet, Wittgenstein, for whom there is no logical form without relations, has bought us back to it: «We see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail [...]. And the strength of the thread does not reside in the fact that some one fibre runs through its whole length, but in the overlapping of many fibres»[66]. Now we will look at the gestures inscribed in diagrams.

4. Gestures in Diagrams

In order to be tracked, the images of thought need a logic of representation that is actualised through the form of diagrams, forms of non-verbal texts (interweaving of relations) whose main characteristic is that they are performative, that they cannot be separated from their use, bound, as they are, to possibilities of fact. However, to say that they are texts, topological grids, structures of spatial positions of difference and similarity, is simply not enough. If the aim is that they are used, diagrams must above all else be effective, have strength. But how?

4.1. A Question of Strategy
It is necessary that, as with Peirce's example of maps of battle territory[67] the general (or whoever is producing the diagrams) «develops strategies of action by following the different possibilities of movement that have been sketched out: If we move from point x to y, then this specific relative position will happen, and it will be proper to do z or go to w»[68]. The way of considering and constructing a diagram cannot be separated from how we view it. And it is through these intelligible relations made perceptible by the diagram, as Peirce

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66   WITTGENSTEIN 1953, §§ 66-67.
67   PEIRCE CS 4530 in PEIRCE 1994.
68   PAOLUCCI 2017, 77.

explains with his *Existential Graphs*, that it is possible to discover new relations that had previously only been virtual. Thus, the diagram is a mediating representation, both intellectual and sensitive, where we can use our powers of visual processing to see the relations, gaps, and possible pathways we might otherwise miss. Each diagram offers «a moving picture of the action of the mind in thought»[69] that manifests the faculty of imagination involving bodily interaction on concrete supports. In particular, Peirce's treatment of diagrams appears in line with the experimental use of diagrams to relate and find similarities between geometric and chemical structures, according to the issues of his teacher, Josiah Cooke[70]. Using this kind of sign in war or in scientific experiments gives us a clear vision of its specificity. Furthermore, in order to be iconic not of the facts, but of the habits and forms of life in which we are involved, a diagram «is never exerted singularly, but demands a shared and publicly recognized practice»[71]. When analysing diagrams, the level of pertinence[72] to be considered is that of strategy, where forces and mimetic re-enactments give tone and figure to the meaning people attribute to ideas, to the point that a gesture here «is not 'someone's gesture'; to the contrary, everyone is entrusted to the event of the gesture»[73]. «Gestural diagrams», such as in sign languages, do not exist, as opposed to oral diagrams, visual diagrams, tactile diagrams or olfactory ones. Gestures, hypothesising that the syncretism of the senses is the norm rather than focusing on the sensory channel involved, are always implied in the production of diagrams, particularly if we think of the «etymology of the word gesture» which comes from the Latin *gerere*, *agere* – to bring forth, to execute, to show, to behave»[74]. When textualised, woven into the collection of signifiers that have already been produced or into various social practices, the diagrammatical gestures trigger behaviours and

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69 Peirce MS 296, 6, in PEIRCE 1857-1914.
70 AMBROSIO AND CAMPBELL 2017, 102.
71 FABBRICHESI 2017, 55.
72 FONTANILLE 2008; DONDERO 2020.
73 SINI 1996, 21.
74 FABBRICHESI 2017, 54.

enable reciprocal adjustments between different individuals and groups. Consider the diagram model that is perhaps the most complex and effective of them all: Foucault's *Panopticon*[75], which organises the experience of criminality into an expressive form that uses the functions of control and marginalisation to transform behaviour[76]. A form of content, delinquency, is translated into a dispositive, prison, that incorporates into its physicality not only the dynamics of the gaze, but also those gestures that indicate deontic modalities, of having to do and not-doing, to be and not to be.

4.2. Proairesis: Forces and Sensations

In short, a diagram does not represent something or inform, but is a system of forces that sits within the field of proairetic practices, or "event-actions". The choices of programmes or values are made at an enunciatory level, in space, in time, and feature abstract actors in which rhythm, tensions and directions dominate, even within an iconic figurativity.
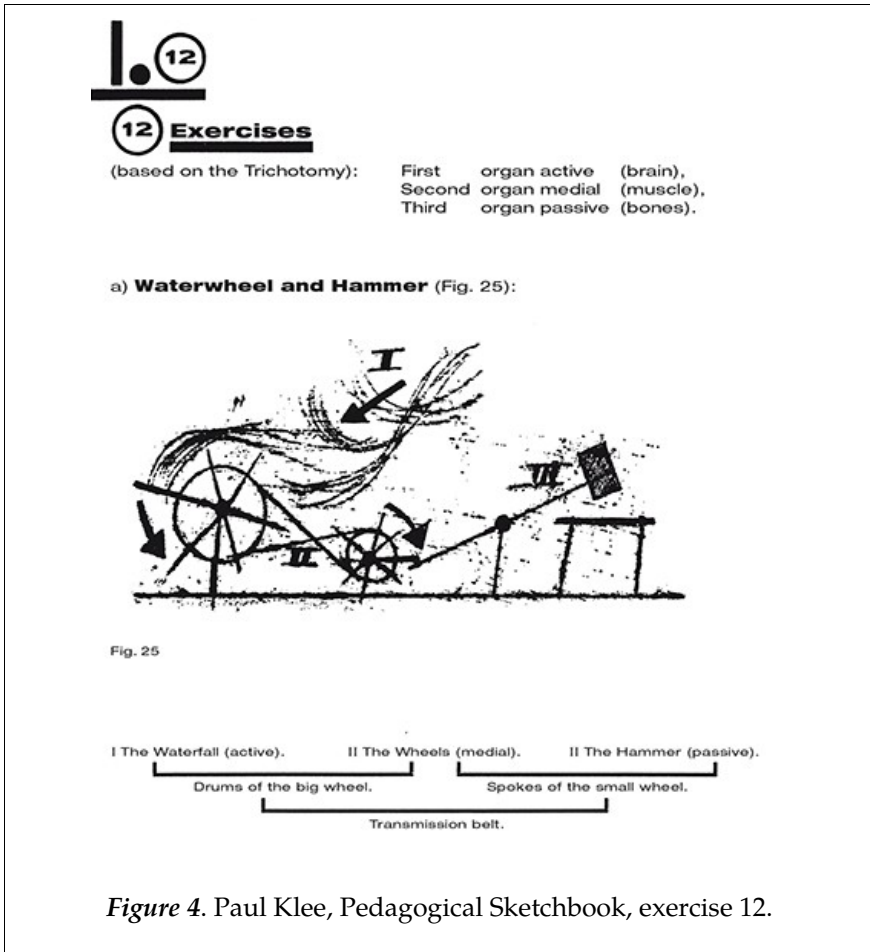
The *Pedagogical Sketchbook* by Paul Klee is an eye-opening example of diagrammatic gestures, uncoupled from an individual and anthropomorphic example and entirely managed in the third person by lines, arrows, forms of movement[77]. As such, in the text on the function of the nervous system (Fig. 4), the allegory of the hydraulic hammer is an interpretant of emerging forces and their transmission throughout the human body. The brain stimuli are assumed to have the repetitive rhythm of waves of water in a mill, which activate the blades of the waterwheels, a metaphor for the muscles, causing the passive action of the hammer, which represents the bones.

Arrows and roman numerals, all of which are enunciative, point and rest in the zones of inflection and transformation, encouraging a practice based on the intensity of the impetus, on gravity, on the thrust

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75 FOUCAULT 1977 [1975].
76 DELEUZE 1986.
77 KLEE 1953 [1925].

12 Exercises

(based on the Trichotomy): First   organ active   (brain),
Second organ medial   (muscle),
Third   organ passive (bones).

a) **Waterwheel and Hammer** (Fig. 25):

Fig. 25

I The Waterfall (active).   II The Wheels (medial).   II The Hammer (passive).

Drums of the big wheel.   Spokes of the small wheel.

Transmission belt.

Figure 4. Paul Klee, Pedagogical Sketchbook, exercise 12.

from top to bottom and then vice-versa. Hydrodynamic and therefore mechanical energy found in the world translates sensory-motor, somatic energies. In the diagram, the singular points from the outside, exteroceptive, produced by their being impregnated by water, express the electrical impulses and minor interoceptive catastrophes of the internal nervous system. Internal/external, interoceptive/exteroceptive are, in this example, distinct, and the hydraulic hammer is an allegory, an expanded visual metaphor, for the functions of invisible bodies. The case study in the following

paragraph will show the diagram of the "fold"[78], in which the world and people participate with one another.

5. Maria Lai, "To Tie Oneself to the Mountain" (1981)

Forty years from its creation, *To Tie Oneself to the Mountain* offers an enlightening insight into the sign statute of the diagram. On the one hand, its use of weaving confirms what has been said thus far on diagrams; on the other, it resists the classical definition of this kind of sign, and by making the role of gestures clear, it forces us to take a better look at ourselves.

5.1. The Happening of the Diagram: «A Monument to the Living»
To Tie Oneself to the Mountain, an exploration of the land by artist Maria Lai involving the inhabitants of her native village, Ulassai, nestled between the Ogliastra mountains in Sardinia, is internationally considered to be the first work of relational art[79]. For one day, on September 8th 1981, Ulassai became an enormous loom, with Lai and the other people of the town weaving together doors, streets and houses using sky-blue ribbons that provided a spatial visualisation of existing social relationships, «Like when you are scared and you squeeze one another's hands»[80].

   In the 1970s, Maria Lai, the only woman in 1939 to study sculpture with Arturo Martini at Venice's Accademia di Belle Arti di Venezia, began to embroider the stories of her land as told to her by her grandmother (who repaired sheets) in her *Telai*, h e r *Libri cuciti* (literally, sewn books), her *Scritture* and her *Geografie*. Soon, the world of female domesticity invaded the landscape, with site-specific pieces and environmental installations, of which *To Tie Oneself to the Mountain* is emblematic. In 1979 the mayor of Ulassai commissioned the artist to create a monument dedicated to the fallen soldiers. Lai

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78   DELEUZE 1993 [1988].
79   BOURRIAUD 2002.
80   LAI 2011, 177.

refused the commission, making a counter-proposal to create «a monument to the living» rather than one to the dead, and asking that the money set aside for the war memorial be used instead for the restoration of the old public wash house. It took many months of negotiations to find a common thread connecting both the council administration and the townspeople, who were initially hostile to the idea of an ephemeral work of art that would not stand the test of time, and which would have demonstrated «the reciprocal sentiments of a population used to managing their passions, rancour and animosity with reserve»[81]. It was agreed, at the artist's suggestion, that the townspeople would be able to decide the rules to follow when tying themselves with the ribbons.

The operation lasted three days. The first day was spent in the piazza, the town's inhabitants cut up 13 enormous pieces of denim, donated by the town's only fabric seller, into 26 km of ribbon that was 15cm thick (Fig. 5).

Figure 5. Maria Lai, *To Tie Oneself to the Mountain* (1981). Photograph by Romano Cannas, Il nastro di Ulassai.

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81 PORRU 2014.

On the second day, the ribbon was rolled into large balls (Fig. 6) and distributed. On the third day, an explosive bang marked the beginning

Figure 6. Piero Berengo Gardin, Maria Lai, *To Tie Oneself to the Mountain* (1981).

of the game, signalling to the adults, children and the elderly to start passing the ribbon to one another, from one balcony to another, then tying and fixing it (Fig. 7).

Figure 7. Maria Lai, *To Tie Oneself to the Mountain* (1981). Photograph by Tonino Casula, *Legare e collegare*.

Within an hour, the diagram of Ulassai – a tapestry of gestures, some planned, some improvised – began to take shape (Fig. 8).

Figure 8. Maria Lai, *To Tie Oneself to the Mountain* (1981). Photograph by Romano Cannas, *Il nastro di Ulassai*.

A group of climbers completed the ascent of Monte Gedili's rock face, until a blue arch rose above the rooftops, triggering shouts, clapping, car horns, songs and dances that lasted until well into the night (Fig. 9). Angelo Persichilli, first chair flute with the Orchestra Nazionale di Santa Cecilia, accompanied the ribbon as it wound through the streets, while Piero Berengo Gardin and Tonino Casula documented the event with photography and a short film (*Legare e collegare*) respectively. Lai added blue ink to some of Berengo Gardin's photos to draw attention to the shapes made by the ribbon (Fig. 10). These photos, the two short films and a number of para-texts on the preparatory phases of the work of art, make up the *corpus* of our analysis.

To Tie Oneself to the Mountain was initially considered by the national art circuits to be a folkloric celebration for which emigrant workers

Figure 9. Maria Lai, *To Tie Oneself to the Mountain* (1981). Photograph by Tonino Casula, *Legare e collegare*.
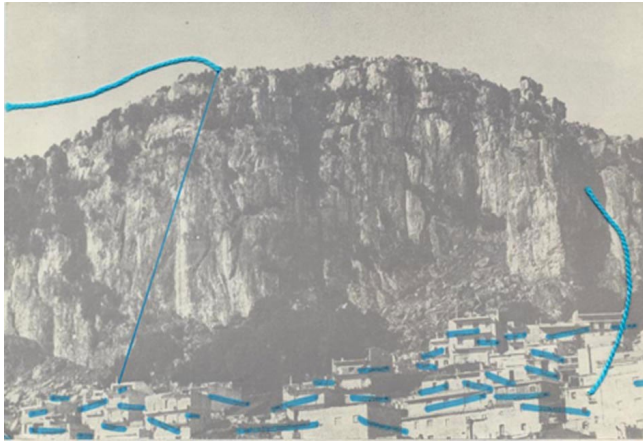

Figure 10. Piero Berengo Gardin, *Maria Lai, To Tie Oneself to the Mountain* (1981).

had returned to Ulassai[82]. Even after the experiments of the Gruppo Gutai and Fluxus, the critics were still struggling to see past the romantic stereotype of solitary creativity and the work of art as something that wasn't produced by an individual, or at most a couple (Gilbert & George; Christo and Jeanne-Claude...). From this perspective, *To Tie Oneself to the Mountain,* is revolutionary, as it occurs on the periphery of an empire, in a place where barely anyone knows the names of great artists, and is the result of a community of citizens who have had to come to an agreement on how to proceed.

5.2. The Local Rule of the balentìa and a «Proper Code»

It should be pointed out that *To Tie Oneself to the Mountain* comes from a praxis of collective enunciation that was simply inspired by Maria Lai. Ulassai is a difficult land, both geographically, with its incessant floods, landslides and other natural disasters, and anthropologically. Binding yourself to another here does not have the same meaning it might have elsewhere. And it would trivialise the axiological gesture of this "urban loom" created by many hands, if it did not invoke the rules of behaviour that govern here.

   We are referring to the phenomenon of the *balentìa*, from the Sardininan that something *balet* ("is worthy") because it manages to live and survive in a poor, bitter, hard and violent environment. The concept, which was initially positive, designating 'worth' in terms of self-assuredness and sense of honour, mutated into a sentiment of social discomfort, due in no small part to frequent changes in *meris* a n d *barones* (masters and barons), according to which wrongs and abuses are not taken lying down but repaid in kind: livestock robbery, kidnapping, embezzlement. The "*Barbaricino* code" that takes hold in the agro-pastoral world, alongside unwritten community rules on revenge as a reliable source of justice[83], legitimises the actions of the *balente*, who never seems to be doing anything exceptional or "new" because he embodies the social model of value: «he embodies the

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82   See the RAI news report by Romano Cannas *Il nastro di Ulassai* (1981).
83   PIGLIARU 1959.

rule»[84]. This code, with the thematic role of the *balente*, increases mistrust and envy towards superiors, diffidence and rancour among equals, and impedes peaceful co-habitation. Families are even presented as «'nations' at 'war' with one another»[85]. The *balentìa* remains in the background of Maria Lai's work, referred to by the artist in several para-texts where she recounts the difficulties of the endeavour: «In Ulassai cordial relationships are rare, the general rule is to keep your distance […] The people told stories of the evil eye and thefts, of drama and tension, of the fact that connecting with others could compromise the dignity of an entire family»[86].

As a result, a compromise was reached during the development phase so that everyone would be free to decide who to bind themselves with. And with this, a «proper code» was created[87]: when passing someone who had decided to live at a distance due to an offense (Fig. 11), the ribbon goes by taut and straight out of respect for the parties, making the boundary; where relations are cordial, a knot is made (Fig. 12); where there is a loving bond a bow is made and the ribbon is wrapped with decorated bread known as *su pani pintau* (Fig. 13), traditionally used in ceremonies. The documentaries reveal the diagram in motion, not only with gestures of unravelling, cutting, rolling, distributing, climbing, fixing and knotting the fabric, but also of the preparation, cooking and decoration of the bread. The photos immortalise particular moments in the work and its final design.

While knots and bows in the landscape form folds of us-world and world-us subjectivity, constituting single points according to the modalities of wanting and knowing, *versus* the taut ribbons of not-having to, the enunciating instance of the work remains the

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84 Sedda 2019, 258, our translation.

85 Pira 1978.

86 Lai 2006, 29. This is the distance of disamistade ("*inimicizia*", in Sardinian), in a well-known song by Fabrizio de André from the album *Anime salve* (1996): «[...] Che ci fanno queste figlie / A ricamare a cucire / Queste macchie di lutto / Rinunciate all'amore / Fra di loro si nasconde / Una speranza smarrita / Che il nemico la vuole / Che la vuol restituita. / E una fretta di mani sorprese / A toccare le mani / Che dev'esserci un modo di vivere / Senza dolore [...]».

87 Usai 2011.

Figure 11. Piero Berengo Gardin, *Maria Lai, To Tie Oneself to the Mountain* (1981).

impersonal "one", even in linguistic terms when it comes to the title: to tie "oneself" to the mountain, *Legar-"si" alla montagna*. It is a bold stance. It would seem that the gestures in the diagram leave the *status quo* of interpersonal relationships intact; it spatialises them without transforming them. The intervention, however, regards the system as a whole. The diagrammatic test of *To Tie Oneself To the Mountain* actualises an image, one of structural relations between people and families, and between them and the mountain, that rejects and overturns that of the "*Barbaricino* code". It inserts a logic of bonds into

Figure 12. Piero Berengo Gardin, *Maria Lai, To Tie Oneself to the Mountain* (1981).

Figure 13. Damiano Rossi, *Il pane di Ulassai* (2012).

the framework of Sardinian history, bonds made of affects and gifts that undermine and weaken the dominant logic, in which the action of binding bring to mind only scenes of kidnapping and dispossession.

5.3. The Ghost of a Legend. *Sa Rutta de is'antigus*

But the sky-blue ribbon of the *happening* is not only symbolic of the synchronic relationships between Ulassai's inhabitants. And the attachment to the mountain does not refer solely to the semantic axis of nature/culture. A legend carved into the town's imagination, called *Sa Rutta de is'antigus*, or "The Grotto of the Ancients", binds the past and present, and makes Mount Gedili an inescapable place of life and death. The legend seems to originate from a series of events «that actually happened»[88]. In 1861,[89] a crag broke away from the mountain and crushed a house in the highest part of the town. Three little girls died, but another, who happened to be holding a sky-blue ribbon at the time, managed to save herself. The townspeople saw that event as a divine miracle and committed it to popular memory, in the form of a legend that was passed down through the generations. In the artist's own words:

> It is said that a girl (the most vulnerable of creatures) was sent to the mountain (the most menacing of places) to take bread for the shepherds (the least convincing pretext). Upon reaching the mountain, scared by the sound of thunder, she finds the flock and the shepherds sheltered from the storm in a cave. As they are watching the accumulating rain carrying stones, they see a celestial ribbon pass by, carried by the wind. For the shepherds this image is a fleeting surprise which they may take to be lightning, but nothing of greater importance to them at that moment than the danger they are in. The girl,

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88 PORRU 2014.

89 What a coincidence all this takes place in the "topical" year of the proclamation of the Kingdom of Italy. There is a clear difference here between the indistinct atemporality of fairy tales and the ancient time of the legend, whose roots lie in identifiable historical dates and which is the tool of a shared desire for growth and social change.

instead, is dazed, out of the shelter and moving to safety, as
the cave collapses on both the flock and the shepherds inside[90].

The alternative to the "*Barbaricino* code" as offered by the *happening* is
impregnated by a memory that is both the glue of that community and
the essence of possibility for their salvation. In the ribbons moved by
the wind the inhabitants who created *To Tie Oneself to the Mountain* see
the ghost of a positive model for living together. But the deviation, the
jump with regards to both the *balente* of the Sardinian behavioural
code and the legend of the little girl is that, in this work of art, it is the
interweaving and not the single thread that brings salvation. The
eccentric gestures of a child who *believes* more in a supernatural event
than in the danger posed by water bringing down rocks, and of the
balente who «can play on the cusp of overflowing because his escape
route is recognised and recognisable […] he leaves the circle in a
current that justifies him»[91], are the gestures of individuals. Instead, in
To Tie Oneself to the Mountain, it is an entire town that "deviates" from
the norm, and that proposes a *su zustu* cultural code that is preferable
both to that of the Barbaricino, and to the «'law' of *sa Zustissia*»[92]. The
«object's revolt», the one of the Sardinian people[93], happens, in the
community in Ulassai at least, thanks to this transformation.

The legend had already systematically dismantled the figure of the
balente. The child is «the most vulnerable of creatures», and she goes to
the mountain not as a bandit but, in Lai's version, to play, whilst
taking bread to the shepherds is «the least convincing pretext». She is a
human being who is scared and yes, she leaves the «circle», the grotto
that should protect her, but because she is attracted by something that
amazes her. A «sky-blue ribbon», which to everyone else is «a fleeting

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90 Lᴀɪ 2006, 25-26.
91 Sᴇᴅᴅᴀ 2019, 259, our translation.
92 Sᴇᴅᴅᴀ 2019, 144, our translation. A term with negative connotations used by modern
    Sardinians (though not in the Middle Ages, when they had their own sovereignty) to
    refer to the law of the Italian State, and with it, the magistrature and the police force.
    Sᴇᴅᴅᴀ 2019, 144, note 4.
93 Pɪʀᴀ 1978.

surprise», but by which she allows herself to be enchanted and transported, suspending the expected necessity of the moment and, as a result, saving her life. Through inversion and transformation, as in the best narrative variants, *To Tie Oneself to the Mountain* continues along the path indicated by the legend, turning the *balente*'s schema of actions and values on its head for the entire community of Ulassai, that defines itself as an anti-destinant and collective, impersonal subject of a different form of life. An integral totality made up of interhuman bonds between partitive totalities, and between these and the non-human mountain. Also in the diagram is «a hendiadys of stone and art»[94] such that the bread knotted into mid-air commutes the falling rocks of the landslide (Fig. 14). Semi-symbolically,

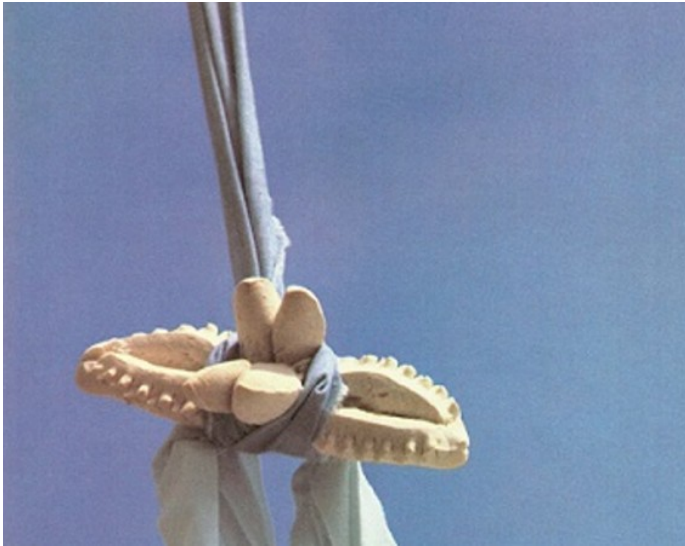upwards : downwards :: salvation : perdition.

Figure 14. Piero Berengo Gardin, *Maria Lai, To Tie Oneself to the Mountain* (1981).

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94 Di Castro, Lai, 2006.

This was also a wish expressed by Maria Lai's teacher, Arturo Martini, that the sculptor makes «the stone breathe, like bread that rises, as they are real images of the world»[95].

6. Diagrams Where We Would Never Expect To Find Them

In conclusion, what kind of diagram is *To Tie Oneself to the Mountain*? And, conversely, what does the diagram teach us more generally that we were unable to note before? In Greimas' semiotics, the scientific research has a heuristic vocation, and textual analysis remains essential as a *Gedankenexperiment* that leads us to discover something new each time[96].

First and foremost, we must clarify that the gestures inscribed in a diagram can be the result of a plural enunciating instance, with subjects that are not necessarily human[97] and that are both in conflict and consenting. Then, we must remember that it is not a given that these subjects are synchronic and belong to the same mode of existence[98]. A diagram, as we have seen, can actualise gestures by alluding to others that remain virtual and in the background. Thus, the diagrammatic gestures of *To Tie Oneself to the Mountain* are constructed by resemantising the legend of *Sa Rutta de is'antigus* on both a diachronic and paradigmatic level on one hand, and through the logic of bonds found in the "Barbaricillo Code" on the other. Here, the hypothesis that the diagram is a text with a pragmatic efficacy, capable of activating or mutating people's behaviour, is bolstered when it is framed as a systematically transformative work of art, such as that by Maria Lai. Ephemeral is perhaps the wrong term to use when referring to such creations, which contrast with permanence not

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95 DI CASTRO, Lai, 2006, 45.
96 MIGLIORE 2021.
97 LATOUR 2005.
98 FONTANILLE AND ZILBERBERG 1998.

because they are vacuous or fleeting, but because, much like the blue ribbon from the legend, they want to astound. Assembled and then disassembled, they force both those who create them, and their spectators, to carry out acts of concentration, registration and reproduction. From here comes the question, whether in diagrams such as these artistic skills help to develop a "photographic memory".

Beyond the cultural and political density of the case we have examined, emerges the power that lies in the gesture of weaving in physical spaces, in public places. It is unlikely for those who study diagrams to realise today how much their use has trans-migrated from specific fields and for individuals, to dynamics and proxemics that involve groups and collectives. It is no longer simply a case of Wittgenstein's manometer, Peter Eisenman's designs or the *Panopticon*, but of weaving (take Yona Friedman and Tomás Saraceno) within reach of people that make different forms of life possibilities of fact. *Appo intesu sonu 'e telarzu, e sa bidda no pariat prus morta – I heard the loom clatter and the village no longer seemed dead*[99].

References

AMBROSIO, C. & CAMPBELL, C. 2017. «The Chemistry of Relations: Peirce, Perspicuous Representations, and Experiments with Diagrams». In A.K. Hull & R. Atkins (eds.), 86-106.

ARNHEIM, R. 1962. *Picasso's Guernica. Genesis of a Painting*. Berkeley-Los Angeles: University of California Press.

BACON, F. 1975. *Interviews with Francis Bacon*, D. Sylvester (ed.). London: Thames and Hudson.

BADIR, S. 2014. *Épistémologie sémiotique. La théorie du langage de Louis*

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99 CAMBOSU 1954. «Ho sentito un batter di telaio, e il villaggio non mi sembrava più morto».

Hjelmslev. Paris: Honoré Champion.

BELLUCCI, F. & PAOLUCCI, C. 2015, «Peirce e l'iconismo». *Versus*, n. 120, 3-15.

BIRROZZI, C. & PUGLIESE, M. (eds.). 2007. *L' arte pubblica nello spazio urbano*. Milano: Bruno Mondadori.

BONDÌ, A. 2017. «La plasticité au cœur de la sémiose: la machine sémiolinguistique de L. Hjelmslev», in A. Zinna, L. Cigana (eds.). *Louis Hjelmslev (1899-1965). Le forme del linguaggio e del pensiero*. Toulouse: Éditions CAMS/o, Collection Actes, 203-225.

BOURRIAUD, N. 2002. *Relational Aesthetics*. Dijon: Les Presses du Réel.

CAMBOSU, S. 1954. *Miele amaro*. Firenze: Vallecchi.

DAMISCH, H. 1996 [1992]. *The Judgment of Paris*. Chicago: University of Chicago Press.

DELEDALLE G. 1979. *Théorie et pratique du signe*. Paris: Payot.

DELEUZE, G. *Foucault*. 1988 [1986]. Minneapolis: University of Minnesota Press.

– 1993 [1988]. *The Fold: Leibniz and the Baroque*. Minneapolis: University of Minnesota Press.

– 2003 [1981]. *Francis Bacon: The Logic of Sensation*. London: Continuum.

– 2005 [1985]. *Cinema 2: The Time Image*. London & New York: The Athlone Press.

DELEUZE, G. & GUATTARI, F. 1977 [1972]. *Anti-Oedipus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press.

– 1987 [1980]. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press.

– 1991 [1994]. *What is Philosophy?* New York: Columbia University Press.

DI CASTRO, M. & LAI, M. 2006. *La pietra e la paura*, Cagliari: AD-Arte Duchamp.

DONDERO, Maria G. 2020. *The Language of Images. The Forms and the Forces*. Berlin: Springer.

DUFFY, S. 2006. *The logic of expression; quality, quantity, and intensity in Spinoza, Hegel and Deleuze*. Aldershot, Hampshire: Ashgate.

EISENMAN, P. 1999. *Diagram Diaries*. New York: Universe Publishing.

FABBRI, P. 1997. «Come Deleuze ci fa segno. Da Hjelmslev a Peirce». In S. Vaccaro (ed.), *Il secolo deleuziano*. Milano: Mimesis, 111-124.

– 1998. «L'oscuro principe spinozista: Deleuze, Hjelmslev, Bacon». *Discipline Filosofiche*, anno VIII, n. 1. Firenze: Vallecchi, 212-221 - 2014. «Diagrammi in filosofia: G. Deleuze e la semiotica pura». *Carte Semiotiche Annali*, 2, 27-34.

– 2018. «I monumenti sono ritornelli». Now in T. Migliore (ed.) *Paolo Fabbri. Vedere ad arte. Iconico e icastico*. Milano: Mimesis, 85-96.

FABBRICHESI, R. 2000. *I corpi del significato. Lingua, scrittura e conoscenza in Leibniz e Wittgenstein*. Milano: Jaca Book.

– 2014. *Peirce e Wittgenstein: un incontro. Immagine, prassi, credenza*. Milan: Mimesis.

– 2017. «The Iconic Ground of Gestures. Peirce, Wittgenstein, and Foucault». In A.K. Hull & R. Atkins (eds.) 2017, 54-60.

FONTANILLE, J. 2008. *Pratiques Sémiotiques*. Paris: PUF.

FONTANILLE, J. & ZILBERBERG, C. 1998. *Tension et signification*. Liège: Mardaga.

FOUCAULT, M. 1977 [1975], *Discipline and Punish: The Birth of the Prison*. New York: Pantheon Books

GIARDINO, V. 2013. «Towards a diagrammatic classification». *The Knowledge Engineering Review*, 28 (3), 237-248.

HJELMSLEV, L. 1953 [1943]. *Prolegomena to a Theory of Language*. Baltimore: Indiana University.

HOFFMANN, M. 2011. «Cognitive conditions of diagrammatic reasoning». *Semiotica*, 186(1/4), 189-212.

HULL, K.A. & and ATKINS, R. (eds.). 2017. *Peirce on Perception and Reasoning. From Icons to Logic.* New York and London: Routledge.

KLEE, P. 1953 [1925]. *Pedagogical Sketchbook*, S. Moholy-Nagy (ed.). London: Faber & Faber.

LAI, M. 2004. *Sguardo, opera, pensiero. L'arte visiva strumento di pensiero*. Cagliari: AD-Arte Duchamp.

– 2006. *Ulassai, da Legarsi alla Montagna alla Stazione dell'arte*. Cagliari: AD-Arte Duchamp.

– 2011. «La Stazione dell'arte a Ulàssai in Sardegna e le radici di una comunità». In M.C. Cristofano and C. Palazzetti, *Il museo verso una nuova identità. Musei e comunità. Strategie comunicative e pratiche educative*, vol. I. Roma: Gangemi: 177-181.

LAI, M. & SCIACCA, R. 2008. *Legarsi alla montagna*. Cagliari: AD.

LATOUR, B. 2005. *Reassembling the Social. An Introduction to Actor-Network Theory*. Oxford: Oxford University Press.

LOTMAN, Ju. M. 1985. *La semiosfera*. Venezia: Marsilio.

MAGNANI, L. 2011. «External diagrammatization and iconic brain co-evolution». *Semiotica*, 186, 213-238.

MARRONE, G. 2021. *Introduction to Semiotics of Text*. Berlin: De Gruyter.

MENNA, F. 1982. «Tela celeste. Nastro celeste». In Lai 2006, 33-35.

MIGLIORE, T. 2018. *Sensi del visibile. Immagine, testo, opera*. Milano: Mimesis.

– 2021. «The Semiotic Method». In Actas del 14. Congreso Mundial de Semiótica IASS-AIS, Buenos Aires, 2019, *Trajectorias*, volumen 8, Conferencias Plenarias, O. Steinberg, O. Traversa & G. Cingolani (eds.). Buenos Aires: Libros de Crítica. Área Transdepartamental de Crítica de Artes, 185-198.

MITCHELL, W.J.T, 2005. *What Do Pictures Want? The Lives and Loves of Images.* Chicago: University of Chicago Press.

MOKTEFI, A. & SHIN, S.-J. 2012. «A History of Logic Diagrams». In D. GABBAY, F. J. PELLETIER & J. WOODS (ed.) *Logic: A History of its Central Concepts*. Amsterdam: North-Holland.

MONTANARI, F. 2015. «La lettura deleuziana di Peirce. Fra presunte distorsioni e nuove interpretazioni: per una teoria delle immagini». *RIFL. Rivista Italiana di Filosofia del Linguaggio*, 70-80.

PAOLUCCI, C. 2010. *Strutturalismo e interpretazione*. Milano: Bompiani.

– 2011. «The 'External Mind': Semiotics, Pragmatism, Extended Mind and Distributed Cognition». *VS-Versus*, 112:3, 69–96.

– 2017. «Semiotics, Schemata, Diagrams, and Graphs. A New Form of Diagrammatic Kantism by Peirce». In A.K. HULL & R. ATKINS (eds.) 2017, 117-33.

– 2020. *Persona. Soggettività nel linguaggio e semiotica dell'enunciazione*.

Milano: Bompiani.

PEIRCE, Ch. S. 1857-1914. *The Charles S. Peirce Manuscripts*. Cambridge: Houghton Library at Harvard University

– 1978. *Écrits sur le signe*. G. Deledalle (ed.). Paris: Seuil.

– 1994. *Collected papers of Charles Sanders Peirce*, J. Deely (ed.), vols. I-VIII, Electronic Edition.

PIGLIARU, A. 1959. *La vendetta barbaricina come ordinamento giuridico*. Milano: Giuffré.

PIRA, M. 1978. *La rivolta dell'oggetto. Antropologia della Sardegna*. Milano: Giuffrè Edizioni.

PIREDDU, A. 2018. «Il ritorno a casa. Maria Lai a Ulassai, 1981». *Firenze Architettura*, 2, 20-27.

PONTIGGIA, E. 2017. *Maria Lai. Art and connection.* Nuoro: Ilisso.

PONTIGGIA, E. (ed.) 2018. *Maria Lai. Il filo e l'infinito*. Livorno: Sillabe.

PORRU, V. 2014. *Maria Lai, un filo d'arte per tutti*. Logus Mondi Interattivi.

SEDDA, F. 2012. *Imperfette traduzioni. Semiopolitica delle culture*: Roma: Carocci.

– 2019. *Tradurre la tradizione. Sardegna: su ballu, i corpi, la cultura*. Milano: Mimesis.

SINI, C. 1996. *Gli abiti, le pratiche, i saperi*. Milan: Jaca Book.

STJERNFELT, F. 2007. *Diagrammatology. An Investigation on the Borderlines of Phenomenology, Ontology, and Semiotics*. Berlin: Springer.

THOM, R. 2006. *Morfologia del semiotico*. P. Fabbri (ed.). Roma: Meltemi.

USAI, M.P. 2011. «Legarsi alla montagna ovvero il dono di un'eterna bambina». *Mediterraneaonline.eu*, rivista di cultura mediterranea, 1 February.

VENN, J. 1894. *Symbolic Logic*. 2nd ed. London: Macmillan.

WITTGENSTEIN, L. 1922 [1921]. *Tractatus logico-philosophicus*. London: Kegan Paul, Trench, Trubner & Co.

– 1953. *Philosophical Investigations*. G.E.M. Anscombe (ed.). Oxford: Basil Blackwell.

– 1956. *Remarks on the Foundations of Mathematics*. G.H. von Wright, Rush Rhees & G.E.M Anscombe (eds.). Oxford: Blackwell.

–   1977 [1950]. *Remarks on Colour*. G. E. M. Anscombe (ed.). Oxford: Basil Blackwell.
–   1984 [1914-16]. *Notebooks*. G.H. von Wright & G.E.M Anscombe (eds.). Second edition. Chicago: University of Chicago Press.