Chapter 4 - DIAGRAMMATIC IDEAS

The choreographic object has been here defined as an idea that, because it necessarily pertains to a nexus of movements, is problematic and therefore potential with regard to being expressed differently across domains. This next chapter will start by exploring French philosopher Gilles Deleuze's theory of ideas in order to provide a better understanding of how the choreographic object's topology behaves in between abstraction and expression. This will lead the discussion towards a definition of ideas as propositions, which will allow for better tackling the relationship between choreographic ideas and the processes by which a dancing body learns how to move accordingly. Moreover, this chapter's second Section will look into a concrete study case —Emio Greco and Pieter Scholten's "*Double Skin / Double Mind*" choreographic object —in order to exemplify how a choreographic object is charged with potentials and how these can be resolved into different kinds of expression. Since this one object has been created with the intent of transmitting determinate instances of choreographic knowledge, its transductive character will be approached via the relationship of its topology with the conceptual structure used to express it across domains. This will provide a basis upon which to conceptualize the notion of diagram, to be developed throughout this chapter's third Section. Such development will continue to draw upon Deleuze's philosophy, articulating it with sources that itself draws from: Charles S. Peirce semiotic framework, Michel Foucault's work on the social diagram, and Brian Massumi and Manuel DeLanda's commentaries upon this notion (which are directly related to Deleuze's joint work with Felix Guattari). Dwelling upon the notion of diagram will not only allow for a better understanding of the dynamisms by which ideas come to determine concrete cases of solution with regard to their own problematic structure, but also of how encounters and their results are never only a matter of determination but also a matter of indetermination. This will make the case that, in order for the encounter between dance and technology to be truly creative, it must openly engage with unconscious forces that, despite being inaccessible, are absolutely determinant in regard to the ingression of novelty into the expression of choreographic ideas.

4.1 - From Idea to Proposition

A choreographic object is a technical object. It undergoes invention and concretization. And as much as this process follows heuristic iterations of concretization with feedbacks to abstraction, i.e. to the level of the abstract diagrams from which technical concretization is drawn, the actual resolution of a choreographic object corresponds as well to the resolution of corresponding instances of knowledge. Simple objects, such as *"Dropping Curves"*, require less experimentation than complex ones, such as a choreography assembled from many different objects. Whenever a complex of choreographic objects is assembled, the problems posed to its concretization correspond not only to the sum of its constituent parts, to the different ideas of the assembled objects, but also to a multiplicity of problems that necessarily emerges from the assemblage itself. Which is to say that, not only is the underlying idea of each choreographic object problematic and therefore potential of being expressed anew, but also the relation between different choreographic objects (be this a relation in succession, such as when one dancer improvises and composes with different objects, one after the other, or a relation in simultaneity, such as when different objects are juxtaposed in space by different dancers) is in itself problematic and therefore capable of expressing novel choreographic ideas. Depending on the degree of indetermination of a choreographic object, the resolution of its implicit problems will require more or less experimentation. As such, this is a requirement that directly concerns the resolute knowledge of each choreographic object. In other words, without a process that iteratively experiments with the actual possibilities of the technical system, no possible resolution of the problems posed will come to knowledge. The analogous co-individuation of subject and object in the technical concretization of choreography requires that the epistemological link between them is constituted on the basis of a process that, rather than taking the objects' parametric structures as given, actually invents them (always with and from a difference).

In regard to this relation between problematic ideas and actual experimentation in processes of technical individuation, it is perhaps Gilles Deleuze's theory of ideas (1994, pp. 168–221) that is most guiding. While drawing from Simondon's theory of psychic individuation (though in many cases not explicitly), but with a more explicit take on topology, Deleuze's theory of ideas not only characterizes thought in problematic terms but also proposes that the solutions for the problems posed by ideas

can only be found by means of actual experimentation. For the author, "the Idea is not the element of knowledge but that of an infinite 'learning', which is of a different nature to knowledge. For learning evolves entirely in the comprehension of problems as such, in the apprehension and condensation of singularities and in the composition of ideal events and bodies. Learning to swim or learning a foreign language means composing the singular points of one's own body or one's own language with those of another shape or element, which tears us apart but also propels us into a hitherto unknown and unheard-of world of problems. To what are we dedicated if not to those problems which demand the very transformation of our body and our language? In short, representation and knowledge are modeled entirely upon propositions of consciousness, which designate cases of solution. But those propositions by themselves give a completely inaccurate notion of the instance which engenders them as cases, and which they resolve or conclude. By contrast, the Idea and 'learning' express that extra-propositional or sub-representative problematic instance: the presentation of the unconscious, not the representation of consciousness." (1994, p. 192). As such, technical experimentation involves not only what is possible to concretize but also the preindividual depth of the individuating system. It implicates the continuum of affects engendered intensively between encountering elements. It encompasses both what is proposed to the encounter and what exceeds the possibilities of knowledge by reason of belonging to the very plane of disparition where potentials differentiate. Learning pertains, therefore, to the resolution of problems in potential. It pertains to the resolution of what cannot be known in advance but which notwithstanding can come to constitute novel instances of knowledge. The presentation of the unconscious in the problematic encounters of technical individuation regards therefore an experience that must be lived, processually, rather than represented as a proposition of resolution.

Accordingly, for Deleuze, ideas implicate the sensible by difference rather than by identity. For him, "[a]n Idea is an n-dimensional, continuous, defined multiplicity"[88]

88 A definition in all too close to Bergson's concept of "duration". Already in Section 1.1, Deleuze was a guiding voice for discussing this concept. Which not only attests the direct influence of one's work on the other's, but more broadly the fact that Deleuze, like Bergson, was also concerned with the insights brought about by the fundamental sciences, most notably mathematics and physics. Besides Deleuze's well known take on topology, it is worth noting the one he took on the work of René Thom, the french mathematician who in the sixties formulated the *mathesis* of catastrophe or chaos theory (Deleuze, 1993, p. 16). In this regard, philosopher of science and known commentator of Deleuze's philosophy, Manuel DeLanda remarks that: "In [Difference and Repetition], Deleuze repeatedly makes use of these 'spaces of energetic possibilities' (technically referred to as 'state spaces' or 'phase spaces'), and of the topological forms (or 'singularities') that shape these spaces. [...] Since these ideas reappear in his later work, and since both the concept of 'phase space' and that of 'singularity' belong to mathematics, it is safe to say that a crucial component of Deleuzian thought comes from the philosophy of mathematics. And, indeed, chapter four of Difference and Repetition is a meditation on

(1994, p. 182), a formula which entails that, rather than being a homogeneous unity, an idea necessarily organizes heterogeneous elements in relations of difference. Remarkably, these are intensive differences. Problems internal to the continuous multiplicity where potentials belonging to different orders of magnitude relate to one another in one single field of heterogeneous composition. Technical resolution must implicate a durational experience which relates the past with the present for the sake of relating an idea's virtual potentials with its actual cases of solution. Technical individuation is a perfectly positive process of invention, it knows nothing about negation. In fact, this is clearly a standpoint that disables the possibility of a dialectical negativity, for which an idea, being identical with itself, can negate another self-identical idea. For Deleuze, an idea has neither form nor identity: it is without "sensible form, conceptual signification, nor any assignable function" (Ibid., p. 183). It is a differential variety that is always more-than-itself, a general potential which exceeds representation. Because of this, the idea is potentially problematic. It is the differential field of problematization from which determinate solutions can be drawn. The idea is a necessary condition with regard to technical resolution, a condition that goes together with what is possible to be resolved in each domain of individuation. Experimentation results out of such condition. It is the necessary procedure for individuating instances of knowledge that both attain and not attain the resolution of a given problem. Additionally, the idea's problematic stance implicates in process the extra-propositional and unconscious reality of virtual potentials. This allows for determining solutions that cannot be but singular expressions of unpredictable affects. The need to experiment results as well out of such reality. To access in effect to what, being inaccessible, can notwithstanding contribute to resolute determinations. Both problems and possibilities, affects and effects, are a condition of technical experimentation. On its turn, technical experimentation is the means by which both resolution and the knowledge of how to attain it can come about.

Deleuze further distinguishes ideas from propositions in the following way: "Spatio-temporal relations no doubt retain multiplicity, but lose interiority; concepts of the understanding retain interiority, but lose multiplicity, which they replace by the

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the metaphysics of the differential and integral calculus. On the other hand, given that 'phase spaces' and 'singularities' become physically significant only in relation to material systems which are traversed by a strong flow of energy, Deleuze's philosophy is also intimately related to that branch of physics which deals with material and energetic flows, i.e. with thermodynamics. And, indeed, chapter five of Difference and Repetition is a philosophical critique of nineteenth-century thermodynamics, an attempt to recover from that discipline some of the key concepts needed for a theory of immanent morphogenesis." (2000, p. 35).

identity of an 'I think' or something thought. Internal multiplicity, by contrast, is characteristic of the Idea alone" (1994, p. 183). Which is a distinction that facilitates a better understanding of Stamatia Portanova's assertion that the difference of a dance form is internal to its idea.[89] The idea is different from the concepts of the understanding because these correspond to the subjective side of the transindividual. They result from a process that, even if it does not solve the problems of ideas, individuates subjective instances of knowledge. They "retain interiority, but lose multiplicity" precisely because they attest the self-compatibility of a subject. They attest the state at which there's a minimum exchange of information between the subject and the milieu that the concepts regard. In addition, the idea is different from spatio-temporal relations because these correspond to the objective side of the transindividual. In contrast to the concepts of the understanding, they are the objective side of determinate instances of knowledge. They "retain multiplicity, but lose interiority" because they express the objective reality that the concepts of the understanding regard. The idea pertains neither to the one side nor to the other. Rather, it pertains to the differential variety of problems implicit in the constitution of a transindividual relation. It pertains to the problematic condition underlying both the concepts of the understanding and determinate spatio-temporal relations. It is not an external factor of determination but an immanent force of individuation. In fact, "[i]t is sufficient to understand that the genesis takes place in time not between one actual term, however small, and another actual term, but between the virtual and its actualization – in other words, it goes from the structure to its incarnation, from the conditions of a problem to the cases of solution, from the differential elements and their ideal connections to actual terms and diverse real relations which constitute at each moment the actuality of time." (Deleuze, 1994, p. 163). The idea is a genetic element in regard to solutions.

Noteworthy is the fact that Deleuze's theory of ideas inherits much from Immanuel Kant's philosophy. "Kant likes to say that problematic Ideas are both objective and undetermined" (Ibid., p. 169). From which Deleuze draws both the postulate that problems are "the real object of the Ideas" (Ibid.) and the postulate that ideas are divided in three distinct moments. In their "first objective moment", ideas are "undetermined with regard to their object" (Ibid.). Importantly, for Deleuze, "[t]he undetermined is not a simple imperfection in our knowledge or a lack in the object: it is a perfectly positive, objective structure which acts as a focus or horizon within perception" (Ibid.). Hence, the idea is undetermined with regard to its problems because

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89 See page 112.

its differential variety connects heterogeneous elements in non-localisable relations. In its second moment, the idea becomes "determinable with regard to the objects of experience" (Ibid.). Which is to say that it becomes relative to the possibilities of representation. Its potentials become limited by what has been given to experience. From which it reversely follows that "an object outside experience can be represented only in problematic form" (Ibid.). The third moment of the idea, in which this bears "the ideal of an infinite determination with regard to concepts of the understanding" (Ibid.), corresponds to the resolution of its problems in thought. Here, the idea becomes objective and thus acquires its highest degree of determination. While in a first moment the problems of ideas are undetermined and in a second moment determinable with regard to the objects of experience, in a third moment they acquire a positional status. Problems are posited together with determinate cases of solution. To say that the idea has an infinite capacity of determination with regard to the concepts of the understating thus stands for saying that the cases of solution determinable with thought can be many.

Despite its three moments, the idea is one single whole. It is continuous with itself because it is primarily a differential variety. The unity of the idea's three different moments is the continuity of its topology. As such, the undetermined problems of the idea's first moment are not withdrawn from the cases of solution objectified in its third moment. As Deleuze notes, "[a] problem does not exist, apart from its solutions. Far from disappearing in this overlay, however, it insists and persists in these solutions. A problem is determined at the same time as it is solved, but its determination is not the same as its solution: the two elements differ in kind, the determination amounting to the genesis of the concomitant solution. (In this manner the distribution of singularities belongs entirely to the conditions of the problem, while their specification already refers to solutions constructed under these conditions.) The problem is at once both transcendent and immanent in relation to its solutions. Transcendent, because it consists in a system of ideal liaisons or differential relations between genetic elements. Immanent, because these liaisons or relations are incarnated in the actual relations which do not resemble them and are defined by the field of solution." (1994, p. 163). Whereas the differential distribution of singularities attests the problem's ideal character, its concomitant solution attests the distribution of particular cases, which are but possible cancelations of the problem's implicit disparity. The difference between determinate problems and their cases of solution is one of kind, not only because problematic potentials are general and their specification relative to actual conditions, but also because problems are propositions for a subject to learn how to solve them

accordingly. Individuating cases of solution requires experimenting with possibilities of representation and concretization. It requires an exclusive selection of what might possibly stand both as solution and as problematic expression.

Importantly, says Deleuze, "[a] proposition by itself is particular, and represents a determinate response. A series of propositions can be distributed in such a way that the responses they represent constitute a general solution (as in the case of the values of an algebraic equation). But precisely, propositions, whether general or particular, find their sense only in the subjacent problem which inspires them. Only the Idea or problem is universal. It is not the solution which lends its generality to the problem, but the problem which lends its universality to the solution. It is never enough to solve a problem with the aid of a series of simple cases playing the role of analytic elements: the conditions under which the problem acquires a maximum of comprehension and extension must be determined, conditions capable of communicating to a given case of solution the ideal continuity appropriate to it. Even for a problem which has only a single case of solution, the proposition which designates this case would acquire its sense only within a complex capable of comprehending imaginary situations and integrating an ideal of continuity. To solve a problem is always to give rise to discontinuities on the basis of a continuity which functions as Idea. Once we 'forget' the problem, we have before us no more than an abstract general solution, and since there is no longer anything to support that generality, there is nothing to prevent the solution from fragmenting into the particular propositions which constitute its cases. Once separated from the problem, the propositions fall back into the status of particular propositions whose sole value is designatory. Consciousness then attempts to reconstitute the problem, but by way of the neutralised double of particular propositions (interrogations, doubts, likelihoods, hypotheses) and the empty form of general propositions (equations, theorems, theories)" (1994, p. 162). Which amounts to saying that both the idea's determinability with regard to the objects of experience and its determination with regard to the concepts of the understanding are phases that remain to be given while the idea persists as problematic and unresolved. The phase of the idea that is outside of experience cannot but create the unpredictable. In contrast, the objects of experience and the concepts of the understanding can occur only on the basis of what is giveable. This difference between the first and the other two moments of the idea coincides with the difference between its potentials and possibilities. Would potentials be detached from possibilities, nothing but what is giveable could follow from the idea. If this would be the case, for example, with technical individuation, then nothing but a

reproduction of givens could be concretized, i.e. to be "produced after the fact, as retroactively fabricated in the image of what resembles it" (Ibid., p. 21).[90] In such case, there is no invention. Because for invention to occur, for an idea's potentials to manifest the unpredictable, its problematic structure needs to be active throughout the whole process. The idea's unity must be prehended so that, together with the proposition of its solutions, problems remain potential, differentiating in this way what would be otherwise a reproduction of the same. To solve a problem is to learn how to determine conditions capable of integrating the problem itself in the form of its relative solutions. This requires the necessary trials for not only solving the problem, but to solve it in relation to the idea to which both problem and solution belong. Technical resolution discontinues what nevertheless remains in relation to the idea. It individuates cases of solution that necessarily imply a constitutive difference. This is why it is always a creative act.

From the perspective of Deleuze's theory of ideas, choreographic objects are but ideal systems of individuation. Each choreographic object corresponds to a differential variety with the capacity to problematize the encounter between virtual potentials and actual possibilities. Subsequently, it corresponds as well to the potential of expressing cases of solution in accordance with what the dedicated domains actually allow for. To express choreographic objects is to learn how to posit their constitutive problems in relation to determinate conditions. Different possibilities of expression will necessarily conduce to learning how to posit choreographic problems in different ways. And inasmuch as the problems of ideas are implicated in the cases of solution, different choreographic expressions can only be said to pertain to one same object if they share the same problematic structure. In this sense, in spite of being expressed discontinuously in relation to one another, the different cases of solution of one same problematic choreography belong to the same topological continuity, i.e. they share the same potentials of problematization. From which it follows that the choreographic problem is necessarily propositional. Its capacity to instigate action is as well the capacity of the subject to learn how to posit problems. To express choreographic objects is to experiment with possibilities and concretize given solutions with regard to the problems posed. An aspect that is clearly emphasized in Erin Manning's following

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90 Importantly, for Deleuze, the relation between the possible and the actual is organized in accordance with principles of "identity with regard to concepts, opposition with regard to the determination of concepts, analogy with regard to judgement, and resemblance with regard to objects" (1994, p. 137). According to such principles, the realization of the possible-actual relation cannot but double the images of what is possible with the actualization of determinate cases of solution.

commentary on William Forsythe's choreographic object "*Dropping Curves*": "When Forsythe proposes 'drop a curve' what he means is not 'reconfigure the habit' but 'move through contrast'. If you tend to drop through your side, creating a curve from hip to shoulder, begin there. But go elsewhere with it – let it take you elsewhere. Feel the movement's differential and move with its inflection in the event, letting it move the you you are becoming." (2013, p. 77). Though this is not necessarily what Forsythe himself would say (despite the fact that in the quoted text there's a clear confusion between the two authors' words), what is most important to retain from this passage is the fact that, in this way, propositions are made to be a necessary condition to the transduction of choreographic knowledge. Importantly, Manning's notion of proposition derives from Alfred N. Whitehead's philosophy. For the latter, as for Deleuze,[91] propositions are not added to the solutions, but they are of and with the solutions. They work as intensive catalysts for learning what is yet unknown. A proposition "is a datum for feeling, awaiting a subject feeling it. Its relevance to the actual world by means of its logical subjects makes it a lure for feeling. In fact many subjects may feel it with diverse feelings, and with diverse sorts of feelings" (Whitehead, 1978, p. 259). What becomes a proposition is thus what the subject makes of it. The proposition itself is not given and what it will have become depends on the feeling subject, which also individuates with the feeling. "If [...] the proposition has been admitted into feeling, then the proposition constitutes what the feeling has felt" (Ibid., p. 186). From which it follows that both the subject and the proposition co-individuate to become the dialogical poles of one system of co-determination. Or, if one is to say instead that what individuates is both a subject and an object, then the proposition is the very movement of their co-constitution. The proposition constitutes the feeling subject as much as what is felt. The proposition is an idea in movement. The formal conditions of the idea's propositional movement can, and to a certain extent must, be given. But the proposition itself is not giveable. Though any form can become propositional, it needs a subject to make it so.

It is precisely from this standpoint that it is possible to say, with Manning, that the proposition "drop a curve" does not stand for "reconfiguring a habit" but rather to "moving through contrast". Manning's own reading of Whitehead's notion of proposition is here too elucidative: "The proposition, for Whitehead, works as an inflection that affects how a given occasion comes to expression: propositions elicit

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91 For Deleuze's comments upon Whitehead's philosophy, see his book on "Leibniz and the Baroque", titled "The Fold" (1993).

action in an environment of change. The proposition is a lure. It is a force that cuts into the incipient event to alter its experiential vectorization. The proposition, however, is never added on to an occasion. It is of and with the occasion – its immanent cleaving. This cleaving activates the force of contrast within the occasion, opening the occasion to its difference. Contrast is here understood as the force of difference that activates the dephasing through which the occasion is felt as such." (2013, p. 77). In this guise, Manning further explains that to "[d]rop a curve reaches its propositional potential when contrast is activated such that the becoming-body fields the curving of space-time in a new way, itself co-constituted by this newness. If this happens, what is experienced is the creation of a previously unfelt sensation that now permeates the welling occasion. […] Drop a curve is propositional not when a body has been defined but when the force of movement-moving activates a field of relation that alters the affective and compositional ecology of the larger event of movement-moving." (Manning, 2013, p. 78). The choreographic object becomes propositional when its differential variety is felt by its logical subject. While emerging from the encounter between a dedicated domain and the difference internal to an idea of dance, the proposition participates in the "distribution of the sensible" (Rancière, 2004, 2010) occurring within the individuating system where both the feeling and what the feeling feels co-constitute one another. The proposition of choreography therefore attests the latter's creativity. It attests the fact that the becoming propositional of the choreographic object necessarily divests the reproduction of what is already known, only to increase the potentials for something new to be learnt.

4.2 - Individuating Choreo-Knowledge

When asked to deliver a workshop at the Internationale Tanzwochen Wien in 1998, choreographer and dancer Emio Greco and dramaturgist Pieter C. Scholten (EG|PC) decided to create a structure capable of transmitting their creative method, which they named "*Double Skin / Double Mind*" (DS/DM). After delivering this workshop in different contexts for some years, the two artists felt "the need to understand the logic of the workshop and its structure better" (Delahunta, 2007b, p. 20). In order to do this, the EG|PC dance company, in cooperation with the research group Art Practice and Artistic Development, of the Amsterdam School of the Arts, headed by Marijke Hoogenboom,

developed from 2004 to 2007 the *"Notation Research Project"* (NRP).[92] With this project, the two artists and a multi-disciplinary team of specialists strived for finding a notation system capable of capturing "the inner intention as well as the outer shape of gestures and [dance] phrases" (Delahunta, 2007b, p. 5). Remarkably, this research generated multiple outcomes: a documentary, a DVD-ROM, a book and an interactive installation, all published together under the title *"(Capturing Intention): Documentation, Analysis and Notation Research Based on the Work of Emio Greco/PC"* (CI).[93]

The workshop *DS/DM* was intended to facilitate the transference, from Emio Greco's dancing body to the body of other dancers, of a series of movement principles. As it can be seen in the *DS/DM* documentary,[94] such transference is based on exemplification and reproduction. The dancers watch Greco dancing, listen to his oral instructions and then try to dance in accordance with the same movement principles. To say that a movement principle is reproduced from body to body is not the same as saying that one body mimics another. Rather than formal outcomes, what is here transferred across bodies is a principle of individuation. In dance, movement principles are principles of individuation. To transfer movement principles across bodies is a transductive process.

The movement principles of Greco's characteristic dancing are known to comprise a strong component of internal movement, that is, of bodily movements that occur at orders of magnitude unperceivable to other bodies. Hence, the name of the publication: *"Capturing Intention"*. For intention, here, regards the intensive qualities of bodily movement and the problematic potentials that these pose to the individuation of resolute expressions. And if it can be argued that it is an impossible task to express continuity as such either with film, software or text, it can also be argued that each of the *CI*'s objects attests the systematic tentative of dealing with this one problem: the

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92 This project was followed by the *"Inside Movement Knowledge"* Project (IMK), which occurred between 2008 and 2010. For a detailed account of both projects' history see www.insidemovementknowledge.net.

93 I had the chance to meet part of the *NRP*'s team at the first Annual Arts and Sciences Laboratory of the *"Transmedia Knowledge Base for Performing Arts"* Project (TKB), which took place at the choreographic centre "O Espaço do Tempo" in Montemor-o-Novo, Portugal, between 22 and 28 May 2010. For more on the TKB Project, see http://tkb.fcsh.unl.pt/. By then the *NRP* had already finished, but its outcomes were still being developed in the frame of the *IMK* Project. Since this Laboratory was dedicated to "New models of documentation for contemporary dance", the *NRP/IMK*'s team had there the opportunity to set up the interactive installation *DS/DM* and present their remaining work. This was the only time I accessed the interactive installation's actual set up and experienced its workings.

94 The *DS/DM* documentary can be watched at https://vimeo.com/38974588, or found enclosed in the publication *"(Capturing Intention): Documentation, Analysis and Notation Research Based on the Work of Emio Greco/PC"* (Delahunta, 2007a).

fundamental and apparently unsurmountable difference between qualitative and quantitative multiplicities. Because of this, each of these objects can be said to express, if not a solution, at least an approximation to the problem itself. To transfer principles of intensive movement, either across bodies or from the dancing body to each of the *CI'*s different domains, is tantamount to transduce choreographic problems. First, this regards the fact the intensive body is constitutively problematic and therefore capable of transducing the principles according to which itself moves. Second, it regards the fact that the expressive resolution of such intensive problems necessarily implies problems that are of the domain of expression itself. When the ones do not coincide with the others, i.e. when the problems of the source domain do not coincide with the problems of the target domain (e.g. the transduction of movement principles from the dancing body to the digital domain), not only is the heterogenous multiplicity doubled with a difference, as it is also submitted to conditions of individuation that require different modes of experimentation. In this sense, EG|PC's knowledge of the *DS/DM's* movement principles is much more easily (i.e. without other kinds of problems) transferred to other dancing bodies than to the target domains used to express the *CI'*s objects. Expressing movement principles in these latter domains requires specific modes of experimentation and the resolution of problems that are foreign to the knowledge that comes with the experience of dancing. It should nonetheless be noticed that, of the four *CI'*s objects mentioned above, only the DVD and the Interactive Installation were in fact created with the intent of being autonomous transducers of the *DS/DM'*s movement principles. Which is to say that, even if all the *CI'*s objects resulted primarily from the knowledge that EG|PC had of the *DS/DM* workshop, only these two expressions have individuated from the resolution of problems posed by the encounter between determinate ideas of dance and the domains targeted to express these same ideas. With such resolution, these objects acquired a truly choreographic character. They have become choreographic propositions. With them, it is possible to learn how to dance according to the *DS/DM'*s movement principles, similarly to what happens in a workshop delivered by EG|PC themselves. These two objects are capable of transducing the *DS/DM'*s movement principles into other dancing bodies, facilitating in this way the individuation of a renovated knowledge with regard to the intended dancing. Together with the workshop itself, these two choreographic objects attest once more the actual variability that one same system of choreographic individuation if capable of.

In spite of this, it is here worth following the *NRP'*s development and the fact that its first objective expression was the workshop's video documentary, filmed and

directed by Maite Bermúdez in 2005. Curiously, the structure of the documentary follows the structure of the workshop, as delivered at ImPulsTanz Festival, in August that year. The latter is shown to be divided in five main parts, designated respectively in regard to their succession as: 1) *"Breathing"*; 2) *"Jumping"*; 3) *"Expanding"*; 4) *"Reducing"*; and 5) *"Transfer"*. Whereas the first four of these parts correspond to different principles of movement (or, in other words, movement qualities), the last part is shown to be structured by a dance phrase that is to be filled with (or fuelled by) them. The fact that these successive parts are designated like this shouldn't be understood in any general way whatsoever. Their names are not meant to correspond to the common understanding that they might pertain to in any other particular context. Rather, they are meant to specifically depict the problematic structure of the *DS/DM*'s movement qualities. The fact that there is a tension between the territorialization that signifiers perform over signified multiplicities and the latter's characteristic deterritorialization, is remarked by Scott deLahunta—one of *NRP's* specialists in dance and technology—as having been one of the difficulties faced by EG|PC when naming and describing the workshop's structure. "This difficulty of finding the right words and explanations was, in part, due to the dialectical tension between [the artists] that is inherently a feature of their artistic work [...]. To 'decide' what and how to name or explain these parts of *DS/DM*, was to allow it to become fixed, to make it concrete in terminology. However, as mentioned, the result of this difficult work served the needs of the making of the documentary. It also produced the hierarchy of sections and subsections so that the DVD and Installation versions of *DS/DM* could be created." (2007b, p. 21). Which is to say that the tension between signifieds—the variable experiences and expressions of dance—and signifiers—the words used to name the workshop's movement qualities— was sufficiently problematic to foster the technical individuation of these two choreographic objects. After all, despite their possible reduction to the homogeneous explication of phonetic or graphic signifiers, monemes are but multiplicities of heterogeneous elements.

With no regard with the structures that followed from naming movement principles in this way, the *DS/DM* workshop always had a linguistic dimension. As dancer (of the EG|PC dance company) and researcher Bertha Bermúdez explains, "passing these dances onto others is [normally] done through instruction with the body and words. [As such] the body has to be clear and the words have to be right." (Delahunta, 2007b, p. 6). And it is to this latter requirement that the specification of names attends. If both the DVD and the Interactive Installation are to be capable of

transmitting the DS/DM's dance ideas, their expressions have to be structured in a precise and determinate manner. It could nonetheless be argued that, instead of being given names, the different parts of the workshop could have been given numbers. But in contrast to numbers, what the artists' endeavour to find the right words for each of the workshop's movement qualities attests, is the existing connection between the somatic experience of the moving body and the ways in which language and conceptual knowledge are structured, in and by the body. In this sense, the oral explanation of dance ideas is directly related to the conceptual structures according to which the *DS/DM*'s movement principles are organized. It allows for understanding both the knowledge that the artists have of what they do and how this is structured.

That both the *NRP* and the *IMK* have turned towards cognitive linguistics to think and analyse the conceptual structures implicated in the *DS/DM*'s movement qualities, attests not only these projects' concern with the underlying principles of dancing but also the acknowledgement that the latter are known both somatically and conceptually. Bertha Bermúdez and cognitive linguist Carla Fernandes, two of the researchers here involved, claim to be "interested in searching for the implicit knowledge that is embedded in choreographic processes and the possible ways of presenting or expressing it. In practice this means [to] start from the premise that the translation and transmission of the imagetic thought of a contemporary choreographer into an embodied-type of thought, via the dancers' bodies, is above all metaphoric (cf. Johnson, 1987 on image schemata in the human brain as being prior to awareness)." (2010, p. 29). This metaphorical character of choreographic transductions can be understood both in regard to the dancing body's orientation relatively to the charged ground of its perceptive-affective milieu (i.e. imagetic thought being structured in accordance with this orientation) and in regard to the influence that knowledge has on dancing (i.e. expressive movement being determined by the structures of thought). It regards both the transfer of physical resolutions to the resolution of thought and the transfer of conceptual resolutions to the resolution of dance. After all, "the essence of metaphor is understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson, 1980, p. 5). Notwithstanding, this is not a symmetric process. The process by means of which the resolutions of thought follow from the body's physical orientation is not the same as the one whereby conceptual structures affect the actual organization of dance. On the basis of this asymmetry is the assumption that knowledge is characteristically imagetic. It structures images (or imagines structures) that are neither the body's actual orientation in its milieu nor any of its other possible

expressions. To better understand these processes and the relation between metaphors and the images of thought, it is here worth quoting a long passage from cognitive linguist Mark Johnson's seminal book "The Body in the Mind" (1987). "To illustrate the important and undervalued notion of embodied, imaginative understanding, let us consider two types of imaginative structure [...]: image schemata and metaphorical projections. An image schema is a recurring, dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience.[95] The VERTICALITY schema, for instance, emerges from our tendency to employ an UP-DOWN orientation in picking out meaningful structures of our experience. We grasp this structure of verticality repeatedly in thousands of perceptions and activities we experience every day, such as perceiving a tree, our felt sense of standing upright, the activity of climbing stairs, forming a mental image of a flagpole, measuring our children's heights, and experiencing the level of water rising in the bathtub. The VERTICALITY schema is the abstract structure of these VERTICALITY experiences, images, and perceptions. […] experientially based, imaginative structures of this image schematic sort are integral to meaning and rationality. A second, related type of embodied imaginative structure […] is metaphor, conceived as a pervasive mode of understanding by which we project patterns from one domain of experience in order to structure another domain of a different kind. So conceived, metaphor is not merely a linguistic mode of expression; rather, it is one of the chief cognitive structures by which we are able to have coherent, ordered experiences that we can reason about and make sense of.[96] Through metaphor, we make use of patterns that obtain in our physical experience to organize our more abstract understanding. Understanding via

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95 Elsewhere Johnson writes: "I call these patterns 'image schemata' because they function primarily as abstract structures of images. They are gestalt structures, consisting of parts standing in relations and organized into unified wholes, by means of which our experience manifests discernible order. When we seek to comprehend this order and to reason about it, such bodily based schemata play a central role. For although a given image schema may emerge first as a structure of bodily interactions, it can be figuratively developed and extended as a structure around which meaning is organized at more abstract levels of cognition. This figurative extension and elaboration typically takes the form of metaphorical projection from the realm of physical bodily interactions onto so-called rational processes, such as reflection and the drawing of inferences from premises. […] what are often thought of as abstract meanings and inferential patterns actually do depend on schemata derived from our bodily experience and problem-solving. There are two especially controversial aspects […] concerning the centrality of image schematic structures in the organization of meaning and in the nature of our inferences. The first is their apparently nonpropositional, analog nature. The second is their figurative character, as structures of embodied imagination." (1987, p. xx).

96 Another prominent cognitive linguist, George Lakoff, with whom Johnson wrote the book "Metaphors We Live By" (1980), argues that metaphors can be considered as a mode of thought in their own right because of three fundamental characteristics: "1) The systematicity in the linguistic correspondences; 2) The use of metaphor to govern reasoning and behaviour based on that reasoning; 3) The possibility for understanding novel extensions in terms of the conventional correspondences" (2006, p. 191). From these characteristics follows that metaphors organize the experience of the world in specific ways and that they can be expressed by means other than speech.

metaphorical projection from the concrete to the abstract makes use of physical experience in two ways. First, our bodily movements and interactions in various physical domains of experience are structured (as we saw with image schemata), and that structure can be projected by metaphor onto abstract domains. Second, metaphorical understanding is not merely a matter of arbitrary fanciful projection from anything to anything with no constraints. Concrete bodily experience not only constrains the 'input' to the metaphorical projections but also the nature of the projections themselves, that is, the kinds of mappings that can occur across domains." (Johnson, 1987, p. xv).

From this standpoint, it is possible to understand how dance and speech are both capable of providing access to underlying conceptual structures and implicit instances of knowledge. Since the focus here is the dancing body, both modes of expression can be said to correspond to resolutions that not only implicate movement principles but also the thoughts that with them arise. Insofar as knowledge in general can be addressed on the basis of image schemata, and therefore as being grounded on bodily experiences, both knowing how to dance and knowing how to verbalize this experience necessarily correspond to one same conceptual structure. It follows that it is possible to not only address this relation between expressions and abstractions on the basis of the mappings that occur across domains, but also to use these mappings to further express choreo-knowledge. It is precisely this that both the DVD and the Interactive Installation express. By determining the ideas of dance in the form of concepts, here synthesized by words, and by using these structures to individuate digital expressions, the concretization of these objects has extended the knowledge of the *DS/DM* workshop into domains that, because they are problematic on their own, have allowed for novel resolutions and renovated perspectives on the workshop. As Pieter Scholten remarks, the knowledge of the workshop didn't change "but it has gotten more layers through this research project" (Delahunta, 2007c, p. 21). Such layers correspond both to a glossary that, beyond the names already mentioned, was fabricated with the intent of discontinuing movement qualities into a greater degree of resolution, and to the multimodal contents created to provide different perspectives on the *DS/DM*, as structured by the glossary.

"The *DS/DM's* glossary has been the first attempt by EG|PC to break down the creative process through the use of words. Such a process provided the different

disciplines involved[97] within the research project with a common basis of understanding around the Double Skin/Double Mind workshop." (Fernandes & Bermudez, 2010, p. 31). Not only this, but it allowed to depict the conceptual structure of the workshop to a point that was new even to the artists. As much as the *DS/DM's* glossary comprises a list of interrelated terms—a signifying double of the heterogeneous multiplicity that it represents—, and each of these terms implicates a concept, the glossary can be said to represent the conceptual structure of the workshop. A fact reiterated by the very process of its individuation, since that, in order for the glossary to result as it did, "[d]efinitions and descriptions were constructed through interviews and different transcriptions of the live transmission of the workshop, in some cases complemented by visual demonstrations. Divided in two parts, Inside and Outside, the glossary tried to present the language used by the company (Inside section) versus a more general definition of the same terms gathered from dictionaries (Outside section)" (Ibid.). It is not of interest here to consider the specificities of the lexicon used in the *DS/DM's* glossary. It rather matters to acknowledge that all its terms refer to resolutions of the dancing body. The glossary didn't result from a random depiction of choreographic expressions, but rather from a knowledge that primarily regards the dancing body's capacity to differentiate movement qualities. Rather than being an external factor of determination imposed on the workshop for the expression of resolute forms, the glossary should be understood as a possible expression of the diagram according to which the dancing body develops and undergoes phase-shifts, from one movement quality to the next. It is nonetheless noticeable that, in order to create it, much effort was put into defining the terms in relation to the narrow context of the *DS/DM* workshop, in relation to the broader context of EG|PC's artistic work, and in relation to the even broader context of dance and movement analysis. Here, there are different individuations at stake. There is the individuation of the *DS/DM*'s movement qualities and there is the individuation of the concepts created by the multi-disciplinary team of specialists. Whereas the results of the former correspond to the glossary's structure, the results of the latter correspond to its contents. The one condition that these two individuations share is the *DS/DM*'s dancing body. After all, both take it to be a body capable of moving ideas with the potential to determine conceptual and physical resolutions. By using the glossary for indexing and organizing the different contents of the *DS/DM*'s DVD (as shown in Illustration 2, below) and of the Interactive Installation, it became possible to express digitally not

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97 Dance notation, motion capture, new media design, cognitive neuroscience, cinematography and dance analysis (Delahunta, 2007a).
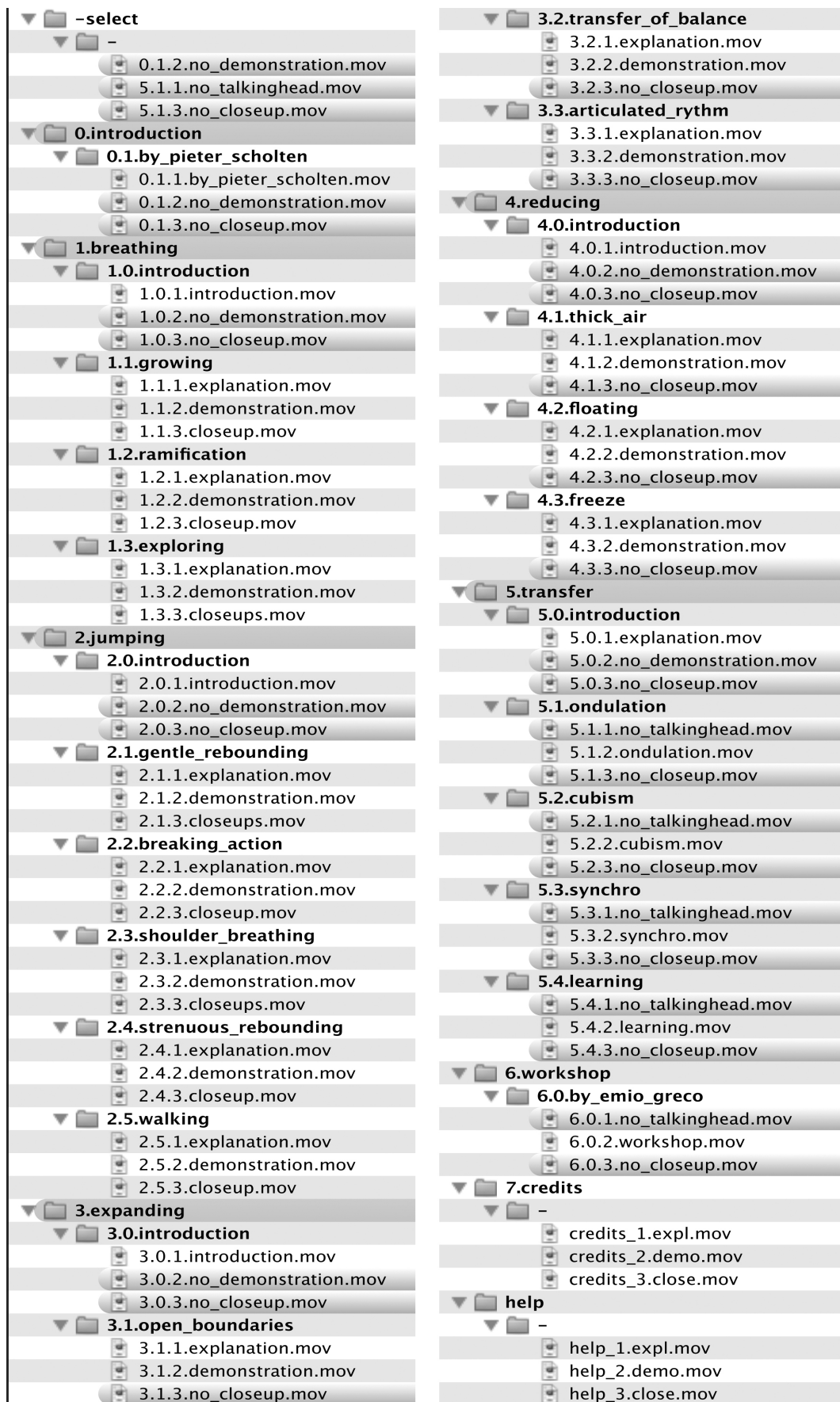
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▼ 📁 –select
  ▼ 📁 –
      📄 0.1.2.no_demonstration.mov
      📄 5.1.1.no_talkinghead.mov
      📄 5.1.3.no_closeup.mov
▼ 📁 0.introduction
  ▼ 📁 0.1.by_pieter_scholten
      📄 0.1.1.by_pieter_scholten.mov
      📄 0.1.2.no_demonstration.mov
      📄 0.1.3.no_closeup.mov
▼ 📁 1.breathing
  ▼ 📁 1.0.introduction
      📄 1.0.1.introduction.mov
      📄 1.0.2.no_demonstration.mov
      📄 1.0.3.no_closeup.mov
  ▼ 📁 1.1.growing
      📄 1.1.1.explanation.mov
      📄 1.1.2.demonstration.mov
      📄 1.1.3.closeup.mov
  ▼ 📁 1.2.ramification
      📄 1.2.1.explanation.mov
      📄 1.2.2.demonstration.mov
      📄 1.2.3.closeup.mov
  ▼ 📁 1.3.exploring
      📄 1.3.1.explanation.mov
      📄 1.3.2.demonstration.mov
      📄 1.3.3.closeups.mov
▼ 📁 2.jumping
  ▼ 📁 2.0.introduction
      📄 2.0.1.introduction.mov
      📄 2.0.2.no_demonstration.mov
      📄 2.0.3.no_closeup.mov
  ▼ 📁 2.1.gentle_rebounding
      📄 2.1.1.explanation.mov
      📄 2.1.2.demonstration.mov
      📄 2.1.3.closeups.mov
  ▼ 📁 2.2.breaking_action
      📄 2.2.1.explanation.mov
      📄 2.2.2.demonstration.mov
      📄 2.2.3.closeup.mov
  ▼ 📁 2.3.shoulder_breathing
      📄 2.3.1.explanation.mov
      📄 2.3.2.demonstration.mov
      📄 2.3.3.closeups.mov
  ▼ 📁 2.4.strenuous_rebounding
      📄 2.4.1.explanation.mov
      📄 2.4.2.demonstration.mov
      📄 2.4.3.closeup.mov
  ▼ 📁 2.5.walking
      📄 2.5.1.explanation.mov
      📄 2.5.2.demonstration.mov
      📄 2.5.3.closeup.mov
▼ 📁 3.expanding
  ▼ 📁 3.0.introduction
      📄 3.0.1.introduction.mov
      📄 3.0.2.no_demonstration.mov
      📄 3.0.3.no_closeup.mov
  ▼ 📁 3.1.open_boundaries
      📄 3.1.1.explanation.mov
      📄 3.1.2.demonstration.mov
      📄 3.1.3.no_closeup.mov

  ▼ 📁 3.2.transfer_of_balance
      📄 3.2.1.explanation.mov
      📄 3.2.2.demonstration.mov
      📄 3.2.3.no_closeup.mov
  ▼ 📁 3.3.articulated_rythm
      📄 3.3.1.explanation.mov
      📄 3.3.2.demonstration.mov
      📄 3.3.3.no_closeup.mov
▼ 📁 4.reducing
  ▼ 📁 4.0.introduction
      📄 4.0.1.introduction.mov
      📄 4.0.2.no_demonstration.mov
      📄 4.0.3.no_closeup.mov
  ▼ 📁 4.1.thick_air
      📄 4.1.1.explanation.mov
      📄 4.1.2.demonstration.mov
      📄 4.1.3.no_closeup.mov
  ▼ 📁 4.2.floating
      📄 4.2.1.explanation.mov
      📄 4.2.2.demonstration.mov
      📄 4.2.3.no_closeup.mov
  ▼ 📁 4.3.freeze
      📄 4.3.1.explanation.mov
      📄 4.3.2.demonstration.mov
      📄 4.3.3.no_closeup.mov
▼ 📁 5.transfer
  ▼ 📁 5.0.introduction
      📄 5.0.1.explanation.mov
      📄 5.0.2.no_demonstration.mov
      📄 5.0.3.no_closeup.mov
  ▼ 📁 5.1.ondulation
      📄 5.1.1.no_talkinghead.mov
      📄 5.1.2.ondulation.mov
      📄 5.1.3.no_closeup.mov
  ▼ 📁 5.2.cubism
      📄 5.2.1.no_talkinghead.mov
      📄 5.2.2.cubism.mov
      📄 5.2.3.no_closeup.mov
  ▼ 📁 5.3.synchro
      📄 5.3.1.no_talkinghead.mov
      📄 5.3.2.synchro.mov
      📄 5.3.3.no_closeup.mov
  ▼ 📁 5.4.learning
      📄 5.4.1.no_talkinghead.mov
      📄 5.4.2.learning.mov
      📄 5.4.3.no_closeup.mov
▼ 📁 6.workshop
  ▼ 📁 6.0.by_emio_greco
      📄 6.0.1.no_talkinghead.mov
      📄 6.0.2.workshop.mov
      📄 6.0.3.no_closeup.mov
▼ 📁 7.credits
  ▼ 📁 –
      📄 credits_1.expl.mov
      📄 credits_2.demo.mov
      📄 credits_3.close.mov
▼ 📁 help
  ▼ 📁 –
      📄 help_1.expl.mov
      📄 help_2.demo.mov
      📄 help_3.close.mov
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Illustration 2: "Double Skin / Double Mind" DVD-ROM's conceptual structure. Sections and subsections as seen from the perspective of the videos' folder and as named after the glossary.

only the workshop's structure but also the diagram of its potentials. Precisely because of this, says Bermúdez, "[t]he structure that is used in the Installation and the DVD contains the core of what *DS/DM* [i.e. *NRP* and *IMK*] has achieved in ten years" (Delahunta, 2007b, p. 21).

Each of the *DS/DM* workshop's sections and subsections is expressed in the DVD and in the Interactive Installation with a variety of contents. For example, the section "*Breathing*" is expressed in the DVD (see Illustration 3, below) with: 1) a written explanation; 2) an oral explanation, i.e. the video recording of a "talking head"; 3) the dancing body's video recording; 4) a close up of the previous; 5) a Labanotation score; 6) a Benesh notation score; and 7) and the "*Gesture Follower*" software. All these contents express the *DS/DM*'s choreographic nexus and define it further by being in relation with one another. This is what the interface designs of the DVD and Interactive Installation allow for: to relate in continuity, i.e. the continuity of the user's experience, the differences between the expressive series.[98] As with the previously
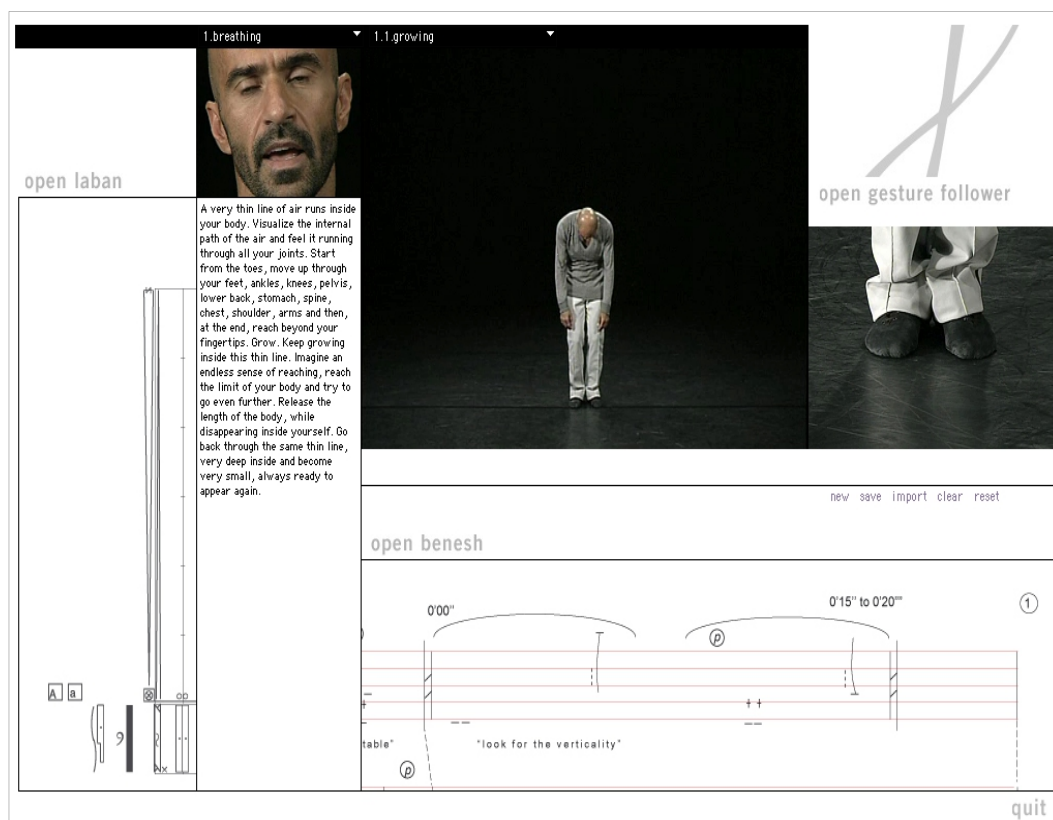
Illustration 3: Interface of the "Double Skin / Double Mind" DVD-ROM, showing one of the workshop's sections (with the dancing body's full figure, oral and written explanations, close ups, notational scores and the "Gesture Follower" software).

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98 The designer of these interfaces is the same who designed William Forsythe's "*Improvisation Technologies*" DVD-ROM, namely, Chris Ziegler.

discussed "*Improvisation Technologies*",[99] the expressive multimodality of these graphic interfaces not only explicits the contents' similarity but also the ways in which they differ. In fact, it is precisely this contrast between the same and the different that offers an insight into the *DS/DM's* invariant functions, that is, into the principles of individuation of the choreographic ideas that these objects simultaneously express and hold in potential.

Importantly, the glossary's structure is the formal condition of the different contents' relation. Both in the DVD and in the Interactive Installation the matters of content are differentiated from and related to one another by means of indexation. For example, all the contents indexed with "*Breathing*" are enclosed within one same set, which is determined not only by the index itself but also by the nexus resulting from the contents' relation. This function of indexation is therefore a function of expression. It constrains the many possible relations between matters of content with determinate ideas. In a sense, such function is the same required for a body to dance in accordance with the *DS/DM's* movement qualities. Only by having in mind the concepts according to which to move, can the dancing body move accordingly. From which it follows that this capacity of the *DS/DM* to structure different domains is a force that, when encountering contents with a variable degree of indetermination, overpowers any incompatible tendency. This is the force of the *DS/DM's* choreographic ideas. Their determination holds in potential the capacity to constrain matters of content, regardless of the domain of individuation. It should nonetheless be noticed that one does not go without the other. If the *DS/DM's* choreographic nexus is to be expressed, the structure of its abstractions needs to be related with actual matters of content. Only by means of their encounter, which is the concretization of cases of solution concomitant with the determination of choreographic ideas, can the latter be expressed and constituted as the actual ground of potential transductions.

4.3 - Between Abstraction and Expression

These terms, matters of content and functions of expression, have been used by Gilles Deleuze and Felix Guattari to depict the workings of what they call the "abstract machine" (1987, pp. 510–514). This concept is intrinsically related to their conception of the notion of "diagram" (Ibid. pp. 141–143), which they borrowed from American

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99 See pages 108-108.

philosopher Charles S. Peirce. For the latter, the diagram is a tool for knowledge-making. To be more correct, Peirce considered diagrams to be a special case of "icons", which he defined as signs with the capacity to generate kinds of knowledge different from the ones implicated in their use. "For a great distinguishing property of the icon is that by the direct observation of it other truths concerning its objects can be discovered than those which suffice to determine its constructions." (1895, p. 2.279). In Peirce's 1903 "*Syllabus*", the diagram is said to be a "hypoicon", a subspecies of the icon. Hypoicons are defined by the fact that they cannot stand out in purely formal terms. As such, all the three species of hypoicons identified by Peirce—"images, diagrams and metaphors"—are operational, rather than formal. They can only be considered with regard to the processes that they comprehend. In this sense, an image is not a pictorial form, but rather a qualitative becoming; a diagram is not a visual scheme, but rather the processes by it depicted; and a metaphor is not the linguistic expression of one thing in terms of another, but rather the abstract projection of determinate structures across domains. Furthermore, the three species of hypoicons are distinguished from one another in the following way: an image is defined in terms of an object's qualities; a diagram is defined in terms of the knowledge that it provides of the object in representation; and a metaphor is defined in terms of the relation that it establishes between objects. (Ibid., p. 2.277).

Peirce also distinguishes icons from "indexes" and "symbols" (1998, pp. 258–299), a distinction that Deleuze and Guattari commented upon, in their famous book "*A Thousand Plateaus*" (1987), in the following way: "The distinction between indexes, icons, and symbols […] are based on signifier-signified relations (contiguity for the index, similitude for the icon, conventional rule for the symbol); this leads [Peirce] to make the 'diagram' a special case of the icon (the icon of relation). Peirce is the true inventor of semiotics. That is why we can borrow his terms, even while changing their connotations. First, indexes, icons, and symbols seem to us to be distinguished by territoriality-deterritorialization relations, not signifier-signified relations. Second, the diagram as a result seems to have a distinct role, irreducible to either the icon or the symbol." (Ibid., p. 531). To say that the diagram is irreducible both to the symbol and to the icon is thus to say that it does not operate by means of similarity or convention. Conversely, it is to say that it rather operates on the basis of a constitutive difference. For Deleuze, the diagram "is the map of relations between forces, a map of destiny, or intensity, which proceeds by primarily non-localizable relations and at every moment passes through every point, or 'rather in every relation from one point to another'"

(1988b, p. 36). The diagram is preindividual and, as such, pre-subjective and pre-objective. To say that it maps relations between forces is to say that it distributes affects throughout the intensive field of relatedness where potentials differ from one another. Rather than depicting tendencies of individuation, the diagram is the very plane where they take place. It is the plane where the differentiation of potentials is engendered with the highest intensities. The diagram is a cause, not an effect. It is "a cause which is realized, integrated and distinguished in its effect. Or rather the immanent cause is realized, integrated and distinguished by its effect. In this way there is a correlation or a mutual presupposition between cause and effect, between abstract machine and concrete assemblages" (Ibid.). From which it follows that, not only is the diagram distinct from indexes, icons and symbols, but also from Peirce's remaining hypoicons, that is, from images and metaphors. In this sense, the diagram is the very plane where both the qualitative becoming of images and the structures of metaphorical projection are engendered. The diagram underpins both imagetic and metaphorical thinking. After all, inasmuch as both images and metaphors rely on the problematic reality of ideas, they rely as well on the diagrammatic structurarion of potentials. Hence, movements of thought are diagrammatically structured.

In regard to the notion of diagram, Deleuze's philosophy owes more to the political philosophy of Michel Foucault than to Peirce's formulations. Whereas Peirce conceives the diagram as an abstract operation related with linguistic expressions, both Foucault and Deleuze acknowledge as well its social and material dimensions. For Foucault (2012a, p. 9), the diagram regards the interplay of social forces of power and resistance, where power is defined in terms of relations between forces. The diagram diagrams these relations. It diagrams relations of power and resistance between forces. It composes a topology of affects where singularities mark the disparition and resolution of dynamic relations between forces. Here too, force is understood as a difference of potentials belonging to different orders of magnitude. Across undetermined potentials and determinate solutions, the diagram engenders the singularities in the vicinity of which the social field tends to change. As such, says Deleuze, "[t]his is a different kind of diagram, a different machine, closer to theatre than to the factory; it involves a different relation between forces. [...] This is because the diagram is highly unstable or liquid, continually churning up matter and functions in a way likely to create change. Lastly, every diagram is intersocial and constantly evolving. It never functions in order to represent a persisting world but produces a new kind of reality, a new model of truth. It is neither the subject of history, nor does it survey history. It makes history by

unmaking preceding realities and significations, constituting hundreds of points of emergence or creativity, unexpected conjunctions or improbable continuums. It doubles history with a sense of continual evolution." (1988, p. 35). The diagram recomposes metastabilities for the becoming of others. In Foucault's writings (2012a), the most famous example of a social diagram is the panopticon, a "dispositif" where determinate matters of content, i.e. prisoners, encounter determinate functions of expression, i.e. laws. The social expression of the panopticon, its life, results from the encounter between the prisoners' bodies and the abstract laws to which they must comply. The panopticon is an idea with a difference. Diagrammatically, it is the plane where the difference between functions of expression and matters of content is intensified, only to bring into expression a disciplined life. From this standpoint, it is possible to better understand why for Foucault, as for Deleuze and Guattari, the diagram is an abstract machine. The diagram corresponds to the differential distribution of potentials underlying any individuation whatsoever. As such, it is virtual. It runs throughout the plane of immanence where the dynamisms of affect between the virtual and the actual occur with the highest intensities. In fact, it is the very topology according to which these dynamisms occur. It is the territory of singularities and bifurcations, intensifications and disparitions, where problems are drawn. In Deleuze's words, "[t]he diagram is no longer an auditory or visual archive, but a map, a cartography that is coextensive with the whole social field. [...] If there are many diagrammatic functions and even matters, it is because every diagram is a spatio-temporal multiplicity" (1988b, p. 34). The diagram is as much a preindividual absolute as the expressive varieties that from it might emerge. Qualities, images, objects and metaphors can all result from it, but not the other way around. Notwithstanding, as it is the case with any affective dynamism between the emergent and the emerged, all these results can condition the diagram's activity.

To understand the diagram as abstract machine is to assume a creative principle of immanence existing at the heart of individuation. In this guise, and in order to do away with hylomorphic logics of creation and conceding matter with creative capacities of its own, Deleuze and Guattari devised a theoretical framework that they designated as "abstract materialism" (1987, pp. 39 – 74). As the name indicates, this is a mode of thought following from the premise that the virtual and the actual cannot be considered independently from one another. It is a theory regarding principles of individuation and their conditions. A theory of the virtual-actual immanence and of these dimensions' dynamic and affective co-implication. Instead of conceiving matter as a reality that can

only partake individuation if informed from the outside, i.e. by an external factor of determination, a theory of abstract materialism affirms matter's immanent morphogenetic capacities and its undetermined potentiality. Only under these conditions can novelty emerge. In contrast, this is also to say that transcendent determinations preclude the emergence of novelty by giving in advance what is possible to occur. Contrary to hylomorphic determinations, matter's diagrammaticality implies autonomous potentials of creativity. It implies its own potentials of abstraction and possibilities of expression. A good example of matter's diagrammaticality is given by philosopher of science and known commentator of Deleuze's philosophy, Manuel DeLanda, when arguing that embryogenetic processes are not fully determined by genetic information. In his words, "the DNA that governs the process does not contain, as it was once believed, a blueprint for the generation of the final form of the organism, an idea that implies an inert matter to which genes give form from the outside. The modern understanding of the processes, on the other hand, pictures genes as teasing out a form out of an active matter, that is, the function of genes and their products is now seen as merely constraining and channeling a variety of material processes, occurring in that far-from-equilibrium, diagrammatic zone, in which form emerges spontaneously." (2000, p. 37). The diagram must be considered from the perspective of this encounter between formal constraints and spontaneous processes of emergence. Like with the panopticon, there is here a function of expression—the genes—and a matter of content —matter's forces. Matter's intensive multiplicities are in this way focused towards the resolution of what, out of this encounter, is given a predominant probability of occurrence. In a sense, the function of expression is responsible for the asymmetric distribution of probabilities, favouring some possibilities in detriment of others. Yet, this does not occur without matter's latent potentials, i.e. without the fact that, for an individuation to occur, a plane of indetermination, differentiation and disparition must be constitutive of matter itself. For "it is only in these far-from-equilibrium conditions that the full variety of immanent topological forms appears (steady state, cyclic or chaotic attractors). It is only in this zone of intensity that difference-driven morphogenesis comes into its own, and that matter becomes an active material agent, one which does not need form to come and impose itself from the outside." (Ibid., p. 37). Here, preindividual potentials diagrammatically verge towards a tendentiously distribution of topological singularities. An activity prior to the conscious determination of ideas. Which is to say, with Deleuze and Guattari, that the diagram "has no way of making a distinction within itself between a plane of expression and a plane of content

because it draws a single plane of consistency, which in turn formalizes contents and expressions according to strata and reterritorializations. The abstract machine in itself is destratified, deterritorialized; it has no form of its own (much less substance) and makes no distinction within itself between content and expression, even though outside itself it presides over that distinction and distributes it in strata, domains, and territories. An abstract machine in itself is not physical or corporeal, any more than it is semiotic; it is diagrammatic (it knows nothing of the distinction between the artificial and the natural either)" (1987, p. 141). It is process in its most acute definition. And if the encounter between matters of content and functions of expression is a necessary condition for positing problems, then the abstract machine is a necessary condition for their resolution. In their encounter, matters of content and functions of expression mutually presuppose one another. They are defined by the individuation that they give rise to.

From this standpoint, it can be posited that the choreographic object can only be said to be a model of potential transition inasmuch as it is capable of acting as a function of expression over matters of content belonging to different domains (i.e. any space imaginable). Not only does this capacity grant choreography with the necessary autonomy for it to be expressed in domains other than the dancing body, but also with the abstract character of formal constraints, i.e. with ideas that, because they have acquired a certain degree of determination, remain unchanged regardless of the domain into which they are transduced. According to this, choreography is primarily defined by the formal abstraction of each of its objects. It is a function of expression disjunct from the means by which it might be expressed. A fact that does not prevent its expressions from depending on specific matters of content. A law of discipline, for example, generates different results depending if it is applied on humans or animals. Likewise, if the *DS/DM* workshop is considered, its conceptual structure constrains the emergence of different expressions depending if the domain is the dancing body or digital media. But insofar as these expressions follow from one same function of expression, a structural similitude can nonetheless be depicted from them. This, of course, depends as well on the degree of indetermination of the matters of content in case: different recurrences of one same idea will be expressed with a variability higher in the case of the dancing body than in the case of digital media. Whereas in the former case such variability derives from the body's constitutive indetermination (of potentials), in the latter case it derives from digital media's constitutive determination (of possibilities). The choreographic diagram is therefore not the choreographic model, but rather what results from the latter's encounter with specific matters of content. It is the abstract machine of

differentiation and disparition activated when determinate functions of expression constrain matters of content charged with potentials. Nonetheless, it can be said that the choreographic model is diagrammatic, for it is the structure which modulates matter's potentials towards resolutions that, rather than being contingent, are constrained by an asymmetric distribution of probabilities.

Technical individuation necessarily results from the encounter between matters of content and functions of expression. The abstract machine is its condition. But its expressions are not diagrammatic as the abstract machine is. Rather, from them, diagrams can be drawn. As philosopher Brian Massumi writes, "[a]ny sign, quality, or statement, as the trace of a process of becoming, can be considered a de facto diagram from which a formal diagram of the operative abstract machine could be developed" (1992, p. 17). Which is to say that, from the analogical individuation of knowledge, determinate icons can be used to represent individuation itself. In contrast to Foucault, Deleuze and Guattari's notion of diagram, the iconic representation of processes can in fact be better understood with Peirce's taxonomy. Since all species of icons are intimately related to one another, such representation is simultaneously diagrammatic, imagetic and metaphorical. As architect Kenneth Knoespel notes, the "diagram should not be separated from metaphor. Similar to metaphor, the diagram never exists by itself but always works by establishing linkages. Since both diagram and metaphor become situated within narrative and may at times even embody or represent such narrative, they are both cognitive vehicles for modeling and exploration." (2002, p. 22).[100] The *DS/DM*'s glossary is one example of this kind of representation, since it expresses with icons the diagrammatic form of the workshop's movement qualities. For these reasons, in spite of being diagrammatic, the abstract machine should be distinguished from the iconic diagrams representing its processes.

The glossary is just one example of the *DS/DM*'s diagrammatic representations. In fact, all objects of the DVD and Interactive Installation represent operations implicit in the content-expression encounter of the workshop's movement qualities. And this is so because each object's expression confuses in its own way different signifying functions. The glossary provides terms with the purpose of indexing contents, but not

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100 Knoespel acknowledges having discussed with George Lakoff the functions of metaphorical thinking in cognitive processes. A discussion "particularly directed by his work with Mark Johnson, *Metaphors We Live By* (1980) and by his recent book with Rafael E. Nunez, *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being* (2000)." (2002, p. 35). More specifically, he notes that "[t]he cognitive setting provided by Lakoff provided a means not only for linking diagram to metaphor but for seeing both diagram and metaphor as vehicles of bodily extension." (Ibid., p. 26).

without implicating as well iconic potentials. The symbols of choreographic notation articulate discontinuities, implicating simultaneously imagetic and metaphorical potentials. The "movement-images"[101] of the dancing body presented with each video also implicate the workshop's conceptual structure. Finally, the written explanations make an explicit use of images and metaphors. This confusion of indexes, symbols and figures (of the dancing body) with icons shouldn't come as a surprise. Insofar as icons correspond to movements of thought, they are implicated in indexical, symbolic and figurative expressions. As such, not only are these expressions cases of solution with regard to the workshop's problems, as they also implicate the diagrammatic potentials of the abstract machine from which they derive. For these reasons, it should be acknowledged that the actual representation of the *DS/DM'*s diagrammatic structure necessarily depends on non-iconic signs.

In relation to the abstract machine, each type of sign works differently. To each sign its function. Insofar as indexes function by contiguity, they can be used to indicate a whole field of relations. Each of the terms of the *DS/DM's* glossary not only indexes a movement principle, but also its subsequent expressions. Indexation works here as a function of remembrance, which can be used both by humans and machines. Once a series of past events has been registered, it can be recalled by means of an index. In this way, remembrance and recollection make of the index the very medium through which what was once given to experience can once again be brought into it. Once a word such as "*Breathing*" is given an indexical function, it can be used both by a team of researchers and by computers to recall what is contiguous to the index. On their turn, symbols work by convention. To know that, in Labanotation, horizontality stands for simultaneity and verticality for succession, is a requirement without which the diagrammatic implications of these symbols cannot be comprehended. Additionally, in the *DS/DM'*s choreographic objects, metaphors and images can be found in each of the written explanations. For example, in the DVD the movement quality "*Breathing*" is described as follows: "A very thin line of air runs inside your body. Visualize the

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101 This term has been poignantly reintroduced by Gilles Deleuze when discussing cinema through the lens of Henri Bergson's philosophy. Simply put, the movement-image regards the fact that, in cinema, it is not a series of figures that describes movement (which would be the case of the infinitesimally divisible space of Zeno's paradoxes), but rather the continuity of movement that describes figures. In Deleuze's words: "Cinema proceeds with photogrammes—that is, with immobile sections—twenty-four images per second (or eighteen at the outset). But it has often been noted that what it gives us is not the photogramme: it is an intermediate image, to which movement is not appended or added; the movement on the contrary belongs to the intermediate image as immediate given. [...] In short, cinema does not give us an image to which movement is added, it immediately gives us a movement-image. It does give us a section, but a section which is mobile, not an immobile section + abstract movement." (1986, p. 3).

internal path of the air and feel it running through all your joints. Start from the toes, move up through your feet, ankles, knees, pelvis, lower back, stomach, spine, chest, shoulder, arms and then, at the end, reach beyond your fingertips. Grow, keep growing inside this thin line. Imagine an endless sense of reaching, reach the limit of your body and try to go even further. Release the length of the body, while disappearing inside yourself. Go back through the same thin line, very deep inside and become very small, always ready to appear again". The imperative tone of this proposition marks the intention for it to act as a transducer of the movement principles from which itself stems. The images and metaphors that it proposes are in this way to be incarnated by the dancing body of the learning subject. They are to be experimented with, a model with which to focus potentials towards resolute expressions. The *DS/DM'*s transduction by means of all these expressions—metaphorical descriptions, choreographic notations, videographic registers and indexical organizations—attests their common potential. They are diagrammatically consistent with one another. Which doesn't mean that they express the same knowledge as the dancing body. The differences between the instances of the ones and the instances of the other remarks the abstract machine's meaningful capacity. Insofar as a content-expression encounter is capable of individuating knowledge, it is a meaningful process.

When commenting upon Deleuze and Guattari's joint project "Capitalism and Schizophrenia", Massumi relates the emergence of meaning with the workings of the abstract machine in the following way: "Meaning is not in the genesis of the thing, nor in the thought of that genesis, nor in the words written or spoken of it. It is in the process leading from one to the other. […] If meaning is a process of translation from one substance to another of a different order and back again, what it moves across is an unbridgeable abyss of fracturing. If meaning is the in-between of content and expression, it is nothing more (nor less) than the being of their "nonrelation." (1992, pp. 15-16). Paradoxically, meaning is in this way related with the indetermination of an individuating system. Rather than being associated with the resolution of problems in potential, it is associated with their very disparition. It is the process of resolution, rather than the resolution itself. Which is also why Simondon postulates that the knowledge of individuation can provide insights with regard to the resulting individuals but not the other way around. Meaning necessarily regards the topological depth of translation's continuity. It regards the continuity of potentials underlying transduction. From which it follows that meaning can be understood as the continuity of relatedness between that which emerges as knowledge and the abstract machine's unconscious reality. The non-

relation of content and expression is precisely this topological depth of the abstract machine. A depth that, because it is preindividual, cannot be known as such. In Deleuze and Guattari's words, it is the very plane of consistency where the highest intensities are engendered. For "the plane of consistency is the abolition of all metaphor; all that consists is Real. These are electrons in person, veritable black holes, actual organites, authentic sign sequences. It's just that they have been uprooted from their strata, destratified, decoded, deterritorialized, and that is what makes their proximity and interpenetration in the plane of consistency possible. A silent dance. The plane of consistency knows nothing of differences in level, orders of magnitude, or distances. It knows nothing of the difference between the artificial and the natural. It knows nothing of the distinction between contents and expressions, or that between forms and formed substances; these things exist only by means of and in relation to the strata." (1987, pp. 69–70). The plane of consistency is the plane of immanence is the abstract machine. It is where all consists and from which all forms derive. It is a preindividual disparity resulting from the communication between matters of content and functions of expression. Such communication can create problems and solutions, but never the knowledge of what, virtually, underpins their determination. One cannot know what is outside of thought.

Equating the abstract machine with the being of the nonrelation between matters of content and functions of expression can be better understood with the following passage from Massumi's own take on the notion of diagram, where he uses the example of carpentry to argue about its duplication in time and space: "What the diagram diagrams is a dynamic interrelation of relations. The dynamism occurs twice: once as genesis in a state of things (tool to wood), and again in ideality (concept to concept). The diagram combines a past (the working of the wood) and the future of that past (the thought of the woodworking), but it skips over its own genesis – the present of the content-expression encounter constitutive of thought (the unthought of thought). Actually, the dynamism occurs twice twice: after being translated into ideality (concept to concept) it is reexternalized in words (phoneme to phoneme; letter to letter) to resume its life among things in a new capacity. The diagram again combines a past (the thought of the woodworking) and the future of that past (pronunciation, publication), skipping over its own genesis, in this case the present of the content-expression encounter constitutive of speaking or writing (the unsaid of communication: afterthought). In each instance, the elided present, like the in-between of tool and wood, is at any rate a

void.[102] In skipping it, the diagram reduplicates the process it diagrams. The diagram is false, in that it contracts a multiplicity of levels and matters into its own homogeneous substance. But it is true, in that it envelops in that substance the same affect, and because it reproduces the in-betweenness of the affect in the fracturing of its own genesis. The expression of meaning is true in its falseness to itself, and false in its trueness to its content. Translation is repetition with a difference. If meaning is becoming, it is a becoming-other. It is the alienation of the same in the different, and the sameness of the different in its alienation from itself. The (non)relation is a separation-connection." (1992, p. 16).

Deleuze and Guattari had another designation for this separation-connection of the content-expression encounter. They called it a "double articulation" (1987, pp. 40–41, 54–59), a term borrowed from the work of French linguist André Martinet (1984), who formulated this concept to account for the linguistic relation between a first articulation—the articulation between meaningful units (i.e. monemes)—and a second articulation—the articulation between meaningless units (i.e. phonemes and graphemes).[103] This articulatory regime of correspondences served the consolidation of a structural linguistics and allowed for semiology to assert the inexhaustibility of languages as systems that can combine phonemes and graphemes with monemes in multiple ways. This multiplicity of structural languages' double articulation is none other than the one of the diagram. It separates and articulates monemes from and with one another, as it does with the relationship between phonemes and graphemes. Further, it connects monemes with phonemes and graphemes for the very expression of content. This connection is not without randomness. It brings the two orders of language to a point of affectivity that, in itself, cannot be expressed. It is the unspeakable core of meaning, at the heart of its generative process. With this double dynamism of meaning —from event to concept and from concept to language—it becomes clear how, in the *DS/DM*, the same diagram generates movement qualities, their knowledge and corresponding linguistic expressions. In this regard, what Massumi's assertion perhaps clarifies the most is the diagram's dynamism of self-elusion amidst the processes that it

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102 This conforms with what Thomas Lamarre identifies as being "the neutral point of the event (absolute origin) of individuation that simultaneously sets off individuation and arises in it" (2012, p. 40). See page 60.

103 Jacques Derrida famously made the case that it is not articulation that results out of language, but precisely the other way around. "It is once again the power of substituting one organ for another" he writes, "of articulating space and time, sight and voice, hand and spirit, it is this faculty of supplementarity which is the true 'origin'—or nonorigin—of languages: articulation in general as articulation of nature and convention, of nature and all its others." (1976, p. 241). For Derrida's own reading of Martinet's concept of double articulation, see Derrida, 1976, p. 228.

generates. The diagram diagrams the interrelation of relations, but on the condition that it remains inaccessible. Conversely, any diagrammatic expression can be considered a map of what the diagram diagrams. In fact, to say that the diagram diagrams is to say that, rather than corresponding to expressive mappings, it corresponds to the content-expression encounters of thought and language. The constitution of thought by the diagrammatic encounter of content and expression conforms with Simondon's theory of psychic individuation. It corresponds to the resolution of problematic states in the affective reality of a self-reflecting organism. As such, it corresponds to the movements of thought by means of which knowledge is determined. On its turn, the content-expression encounter constitutive of linguistic expression corresponds to language's double articulation, as just presented. The diagram's topological continuity assures the different encounters' relation. It assures the implication of diagrammatic potentials across movements of thought and linguistic expressions. Nevertheless, to say that in this process the diagramming occurs twice twice is the same as saying that in each encounter the diagram's problematic potentials are resolved differently. When transferring the *DS/DM*'s conceptual structure into the digital domain, there necessarily occur resolutions with regard to the content-expression encounter of thought and resolutions with regard to the content-expression encounter of language. To say that knowledge can derive from the formation of novel instances of language is to say that this does not occur without a parallel individuation of thought. Only in this way is it possible to learn with technical individuation, that is, to learn not only about what is expressed but also about how it is expressed. Only in this way is it possible to experiment and learn how to faithfully express a determinate idea, regarding the many potentials of its diagrammatic structure. One cannot learn how to speak or write if not through actual experimentation. A process the potentials of which are also of error. When expressions do not conform to the intended idea, there also individuates the knowledge of how to not do it. Experimentation and learning: two poles of technical individuation that necessarily resonate with one another.

From this standpoint, the diagram can be related with Deleuze's three moments of the idea. It can be said to be unconscious, i.e. undetermined with regard to its problems; it can be said to be sensible, i.e. determinable with regards to the objects of experience; and it can be said to be intelligible, i.e. determinate with regard to the concepts of the understanding. The first diagrammatic moment corresponds to the fracture of the content-expression encounter. It is the abstract machine's very plane of composition. The second diagrammatic moment corresponds to the association between

problems in potential and the possibilities of representation. It is the mapping of contrasts between the unknown and what has already come to knowledge. The third diagrammatic moment corresponds to the objective determination of cases of solution, which can be both immaterial and material. In either case, it is always a conceptual structure, either a diagram of speculation or a diagram of confirmation. All these moments are diagrammatic not only because they are related to one another by means of the abstract machine's topological continuity, but also because they are structured in relation to this same topology's singular problems.

Here implied is the assumption that objects can have no correlate expression. Structures can be thought without being expressed, and still be objective. Mermaids, unicorns and pure mathematical objects are abstract objects. But by a principle of immanence between abstractions and expressions, such objects are necessarily related with materials grounds. They are the partial effect of metaphorical projections. Unicorns are imagined to stand upright and mermaids to swim horizontally. Imagination proceeds on the basis of material experiences: the concrete body of an imagining mind. Image schemata and bodily tropisms, co-individuating together from the plane of composition where no distinction can be made between content and expression. From this, much can be imagined, even if with no concrete correlation. Such abstractions are, notwithstanding, potentially expressible. Unicorns and mermaids can be drawn and spoken, a process which necessarily requires learning and experimentation. Such requirement follows not only from the idea's potentials of infinite determination with regard to the concepts of the understanding, but also from the multiplicity of expressive possibilities. The idea of a unicorn can be expressed with water-colours on paper, with sand at the beach, or with computer graphics, all being different cases of solution for one same problem of expression. Even the impossibility of expressing the same idea in the same way twice entails the necessity of technical experimentation. If one experiments drawing a unicorn but instead gets a horse, other experiments need to follow until what is expressed conforms to what is imagined. Infinite cases of solution can be drawn, but also infinite expressions can disconform to determinate ideas. Many are the possibilities and the potentials of individuation.

The expressive variability of diagrammatic objects has been pertinently argued by Knoespel when addressing the diagram's creative potentials. For him, "*diagramma*[104]

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104 *Diagramma* is the Greek word for diagram. Knoespel explains that "[t]he root verb of *diagramma* means not simply something which is marked out by lines, a figure, form, or plan, but also carries a secondary connotation of marking or crossing out. In contemporary Greek the verb *diagrapho*, noun *diagraphe,* means to write someone off." (2002, pp. 20–21).

embodies a practice of figuring, defiguring, refiguring, and prefiguring. What is interesting is that the diagram participates in a geneology of figures that moves from the wax tablet to the computer screen. From a phenomenological vantage point, the Greek setting of diagram suggests that any figure that is drawn is accompanied by an expectancy that it will be redrawn. Within such a dynamic framework, such expectancy must also be accompanied by an understanding of the ways in which diagram can shift in status. Here diagram may be thought of as a relay. While a diagram may have been used visually to reinforce an idea one moment, the next it may provide a means for seeing something never seen before. Because diagrams mark a gesture or momentum toward definition, they function as vehicles that employ and invite elaboration through narrative." (2002, p. 21). Diagrammatic relaying regards not only a capacity of such objects to foster the individuation of cases of solution but also a capacity to repeat with a difference their own constitutive topology, in continuity. Diagrams are therefore capable of creating expressive nexuses across different cases of solution. Their expressions are iterations of their potential structure. In its most basic expression, diagrammatic iterability corresponds to language's expressive variability. Singular expressions for singular encounters. To say that the relaying of an object's diagram can "shift its status" (Ibid.) means that the knowledge by it provided can be constituted anew. The individuation of knowledge that comes with a diagram's objective expression attests its participation in transducing what it represents. Which is not to say that such expressions are by themselves capable of informational exchange. It is rather to say that, insofar as they partake of technical individuation, they are correlated with the conceptual structures that they represent. After all, an objective diagram is but one possible case of solution for an idea's problems. It emerges with knowledge as much as knowledge can also emerge from it. It is a vehicle of technical transduction because it can condition learning. As media theorist and artist Sher Doruff notices, "one of many ways that transduction is actualized is through the diagrammatic contours of conceptual space in which diverse realities are connected, coupled and erased" (2006, p. 92). From this perspective, even the most simple representation of an abstract schema conserves with itself the necessary potentials to become different from itself and, with this movement, individuate novel instants of knowledge. This, of course, is an operation based on the condition of an intrinsic difference. And what is perhaps most evident in regard to this difference is the fact that, as much as individuation comprises a preindividual share, there is always more to it than what can be known. The concepts of the understanding can only regard what is somewhat determinate in individuation. Not

only has this to do with the limits of experience, i.e. with what a body can in fact access, but also with the fact that, because of being by definition undetermined, potentials cannot be known as such.

If there is the case of what cannot be empirically known, there is also the case of what can come to be known only by means of abstraction. In this latter case, metaphorical projections are used to abstract knowledge from the body's concrete experiences. Even what cannot be directly experienced can come to be known, indirectly. This is, for example, the case with mathematical reductions of matter and energy, which allow for non-empirical instances of knowledge to be attained. But insofar as mathematical abstractionism proceeds by a speculative type of reasoning, it can only be said to constitute knowledge that is proper to technical invention, if this is to some degree consistent with what can be empirically experienced. The limits of technics are therefore coincident with the limits of the body, be these concrete or abstract. This does not mean however that the body's limits are the limits of technics. Mathematical abstractions can generate knowledge that goes beyond the possibilities of technical experience. And the former can only condition the latter if correlated in any way to what can be actually experienced by the technical subject.

The limits of technical invention are tantamount to the limits of the phenomenological and eidetic reductions of phenomenology, as first proposed by German philosopher Edmund Husserl (1960, 2013). Whereas, here, *eidos* refers to what cannot be removed from a thing or, in other words, to the thing's fundamental capacity to endure self-coincidently, the phenomenological refers to the coincidence between the thing's objectivity and its subjective presence. Which is to say that eidetic reductions constitute a knowledge independent from subjective experiences and that phenomenological reductions imply the constitution of what Husserl calls "objects of intentionality", i.e. objects that depend upon subjective experience. This, of course, is somewhat opposed to Simondon's theory of analogical knowledge, not only because of all the most evident reasons, but first and foremost because of the fundamental fact that, whereas Simondon grounds his theories in a critique of essentialism, Husserl seems to not do away with the notion of essence (which is the only legitimate reason for the pursue of eidetic reductions). Notwithstanding this brief note of comparison, it is not the intent here to discuss Husserl's reductions at length.[105] It is enough to note that the limits of knowledge are given both by what is possible in intentionality and by what can be

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105 Further considerations on Husserl's reductions can be found in Section 6.3.

abstracted from intentionality itself. Either knowledge is taken to be experiential and thus dependent on its conditions of possibility, or it is taken to be mathematical and thus abstractable from concrete experience. With this, and in what regards the pursue of eidetic knowledge, it is easy to understand why mathematics have become so pervasive in modern science. The sole fact that mathematics are designated as fundamental sciences points towards the very assumption of a fundament of things, i.e. of an essential kernel constituting the invariable and self-coincident identity of things. And despite possible criticisms upon the conceptual fundaments of eidetic reductionism, what is perhaps most striking and informing in regard to the relation between abstract and concrete diagrams is the fact that it is both possible to know, through mathematical abstraction, objects that are beyond any possibility of concrete experience, and possible to experience things that cannot be known in abstraction. In contrast, it can also be said that there are many experiential events, i.e. objects of intentionality, that coincide with what is possible to be abstracted from experience. For example, computational models can simulate processes, yielding results similar to their referents. In order to do so, they must share the same possibility space (DeLanda, 2011, pp. 17–21).

A process's possibility space is its topology. It is the state space where the many potentials and possibilities of occurrence are distributed according to a function of probability. In any content-expression encounter there is a distribution of probabilities regarding the affective relation between matters and functions. The topological definition of each encounter is also singular because of this: to each encounter, its singular distribution of probabilities. The diagrammatic identity of the *DS/DM* is assured by the probability that it has of relating different contents to one another in specific ways. Its possibility space is determined by the way in which expressive functions constrain the contents of its expression. If other diagrams are considered, different problems will be posed to their expression. This, of course, regards the fact that each content-expression encounter not only unfolds in accordance with the topological distribution of its probabilities, but also in accordance with an individuation of thought that is necessarily determined by such structure. And if it can be argued that each topological structure is invariable in the way that it constrains its own choreographic expressions, it can also be argued that what comes to be known with each choreographic idea is necessarily singular. Since a problem's resolution cannot unfold but in accordance with the singularity of each encounter, any co-individuating thought will be equally singular.

From this standpoint, there are a couple of aspects that can be further

problematized. First, it seems necessary to look into the resolution of different problems in the expression of choreographic ideas by digital means. In this respect, the two case studies till now discussed have allowed for the understanding that choreographic objects are diagrammatic, but not for the understanding that they are algorithmic. Of course the resumption that these objects endured into the digital domain already attests such character. Nevertheless, the digital domain seems to be capable of confirming the algorithmic capacity of choreography by reason of its own workings. Since the digital domain functions on the basis of algorithmic programming, it can be that an object's possibility space, instead of being expressed just as one case of solution (as it is with the "*Improvisation Technologies*" and with the *DS/DM*, as till now discussed), can be expressed as a series of solutions, all related to one another by one same algorithmic function of expression. The difference between this and the previous examples regards the fact that, here, the matters of content are the same. As such, what digital programming offers as a possibility of expression is the very algorithmic computation of choreographic ideas. Between such possibility and the digital expression of the previous examples what differs is the automatic degree of computation. Choreographic ideas can in this way be programmed into the digital domain so that such algorithms compute a multiplicity of expressions. In order to pursue such confirmation, this study's next Chapter will look upon a series of digital choreographies, which have expressed determinate ideas by means of algorithmic computation. The parametric automation of choreographic ideas will make the case that its topological structure is not only diagrammatic, but also algorithmic. A case that shouldn't be understood in the sense that a choreographic idea is algorithmic because it is digitally programmable, but rather in the other way around: the choreographic idea is digitally programmable because it already is, in itself, algorithmic. After all, an algorithm is but a determinate structure of potentials. Second, it will be also necessary to tackle the question of novelty from the perspective of digital choreography. This regards not only the overarching problem (that this study has been dealing with from the beginning) of technogenesis in the encounter between dance and technology, but also the more specific problem of a digital sort of potentiality. In other words, in regard to the algorithmic computation of choreographic ideas, it matters to ask: are there, in the digital domain itself, the necessary potentials for novel instances of choreographic knowledge to be expressed? And, if so, how are these potentials to be thought if, in any case, it is arguable that the digital domain is based upon possibilities rather than potentials, i.e. on binary sets rather than continuous multiplicities? In regard to the encounter between dance and technology, such questions

are pertinent not only to pursue a better understanding of how this encounter is to individuate a technogenetic body, but also to broaden the scope of the creative modes that itself is capable of. This, of course, regards the understanding that thought individuates in ways that are as different as the modes of relation between the topology of ideas and the material constraints of each domain. Such variety of thoughts entails the hypothesis that the creative potentials of digital programs are as well thoughtful potentials. As such, it is also the hypothesis that, if this is to occur, computation must be open to what it cannot compute, in the same way that any movement of thought is open to what it cannot know—the unconscious. Such questions and hypotheses will be pursued throughout Chapter 6 and, hopefully, result in propositions for teasing creativity and individuating novel instances of choreographic knowledge.