

CHAPTER 3.5

NEXUS AT THE LIMITS OF POSSIBILITY: A FEW REMARKS ON THE DOCUMENTATION OF MULTIPLICITIES VIA THE CURIOUS CASE OF *THE EMERGENCE ROOM #2 BERLIN*

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Conditions of emergence

In 2011, I was invited by Katrin Deufert and Thomas Plischke (aka deufert&plischke) to take part in the second edition of the *Emergence Room*¹ (*ER*). As the artists themselves write about it:

The mission of the Emergence Room is to create the Emergence Room. Emergence is the way complex systems and patterns arise out of a multiplicity of relatively simple interactions. [...] The Emergence Room is a space to face arachnophobia by spinning, weaving, knitting, stitching together. Everybody that enters the Emergence Room is co-responsible for its creation. Everybody can contribute. The Emergence Room is a space of silence and proliferation.

My own contribution to this edition of the *ER* involved creating a document of it; that is, creating a site of memory capable of re-enacting

¹ “The Emergence Room #2 Berlin happened from August 18 – September 2, 2011 in Berlin as a collaboration between deufert&plischke, the Inter-University Center for Dance HZT, the Advancing Performing Arts Project (apap), and the Tanzfabrik Berlin. It included contributions by Anat Eisenberg, Diego Gil, Juan Gabriel Harcha, An Kaler, Ana Laura Lozza, Carlos Oliveira, Felix Ott and Philipp Stich, and lectures by Prof. Dr Barbara Baert, Marcus Steinweg and deufert&plischke.” Retrieved 12/09/2011 from www.deufertandplischke.net. More information on the *ER* can be found at www.deufertandplischke.net/2014-04-02-15-38-53/the-emergence-room.

this installation's characteristic emergence of patterns.

As it took place in the courtyard of the Uferstudios² in Berlin, the *ER*'s spatial setup consisted of four caravans arranged in a circle, creating in this way a fifth inner space capable of hosting temporary events such as lectures, exhibitions, meetings and performances. Inside the caravans visitors could encounter a variety of artefacts, not only collected and created by deufert&plischke, but also created by other artists who were invited to contribute with whatever they found adequate. The main ideas around which all these contributions revolved are synthesized in the myth of Arachne, "the female artist who unveiled hegemonic power in representation, the woman that was punished for her artwork and transformed into a spider."³

From this myth, the actions of "spinning, weaving, knitting and stitching" were retrieved as modes of collective production. Visitors were invited to use the available tools for performing such actions and, in this way, to leave traces of their participation at the *ER*'s site. Each person's marks became embedded in a web of inscriptions left by others, from which they acquired a situated value. As such, authorship was not a factor of valuation, even more because, from the moment of their inscription in a context of collective participation, all traces were somewhat anonymous. There was thus a seamless register of traces (from artists and visitors) in a space which proposed "that one can touch things, move in the space, leave notes, document what is there." The fundamental character of this reticulation, more than being functional, consisted in how traces resonated with one another, either through expression or through the ideas conveyed. With such openness, the *ER* revealed itself as a site where experience could unfold in unpredictable ways, as a complex of "environments that facilitate, produce and demand a dense complexity of inter- and cross-connectivity, of processes and partaking."⁴

As such, the *ER* posed the following problem: if emergence is its main characteristic, how does one create the necessary conditions for the iteration of such process in the form of a document? That is, how can one allow for the emergence of unpredictable patterns in a finite system of reference? In order to essay a resolution for this problem, its parameters were related to one another in the following way: a) Once retained in a stable support, the memory of what happened comprised no more than a finite number of elements (i.e. sounds, videos, photos, texts). b) This discrete multiplicity imposed a situation where patterns could emerge only up to a limit: that of a combinatorial object. c) Hence, the multiple

² www.uferstudios.com

³ Retrieved 12/09/2011, from www.deufertandplischke.net.

⁴ Ibid.

combinations of the documental set's elements could express a nexus proper to the *ER* only within the limits of possibility.

The following pages explore the knowledge involved in the experimental creation of a document capable of working as a virtual *ER*. First, Alfred N. Whitehead's theory of extension will be expounded in order to frame not only how the emergence of a nexus comes about, but also how this is an event that moves through actual contingencies (for more on this philosopher's theory of extension, see Whitehead 1978: 283–293). This approach to extension is here as necessary as the notion of “nexus,” not only because the latter defines the consistency of what comes to be, but also because it is in extension that the many elements of a document can converge towards one another and create something new (with its proper nexus).

Second, it will be shown how, by following the Whiteheadian postulate that each emergent unity corresponds to a multiplicity of concrescent parts, the document took the possibilities of contact between its different elements as the necessary condition for the emergence of a nexus. In other words, rather than being considered as a univocal perspective on the installation, the document's unity was multiplied by the different possible combinations of all its constituent elements, from which resulted not only the possibility of expressing multiple nexuses but also the potential to restructure the abstract imagination of nexuses. In this way, the potentials of emergence were limited by possibility, determining that any one emergent nexus could only express a sense proper to the *ER*.

Moreover, it will be described how the possibilities of contact between the *ER*'s multiplicity of registers were composed. It will be shown how the emergence of unpredictable patterns was fostered and, if granted the case, resolved. Finally, some considerations will be made as to how an emergent nexus is both abstract and concrete by reason of the immanence between its expressions and its potentials.

The emergence of a nexus

Nexus is a term characteristic to *process philosophy*.⁵ For Alfred N.

⁵ Process philosophy is a longstanding tradition in philosophical thought that can be traced back to Heraclitus of Ephesus. It postulates ontogenesis over ontology. It is the conceptual site of a reconciliation between subjectivity and objectivity that speculates the transience of the world, as this is constituted by its most fundamental character: experience. Rather than being composed by immutable substances, the world is said to unfold as events of experience that, with regards to the virtual-actual dynamisms in it taking place, are both mental and physical. That

Whitehead, one of the main proponents of this philosophical lineage,

a nexus is a set of actual entities in the unity of the relatedness constituted by their prehensions of each other, or – what is the same thing conversely expressed – constituted by their objectifications in each other. [In other words, it is any] particular fact of togetherness among actual entities [...]. (1978: 20)

This togetherness should be understood as a spatiotemporal pattern that, instead of being solely dependent on the recognition of some external observer, is rather what, in the process of emergence, comes to constitute the consistency of what emerges. Thus, a nexus is composed by the combination of divergent series of actual entities that, in coming together, create the unity of a novel entity. In this process, in which “the many become one, and are increased by one,”⁶ the nexus of the emergent order corresponds to the schema of extension with which the multiple series come to constitute singular patterns of continuity. It is the logical result of a serial convergence.

The serial ordering of actual entities should not be understood as being determined by external factors. Rather, it follows from the fact that the characteristics of an actual entity can be transmitted to and inherited by other actual entities; i.e., that genetic chains can be established between them. As such, whenever an actual entity is prehended as an objective datum for the constitution of another entity, a genetic relation is formed. The very conditions of actuality which allow for an entity to be constituted imply that the ones preceding it act as the data from which the emergent

is, for process philosophers the world simultaneously abstracts and concretizes its own experience.

⁶ This formula, asserted by Whitehead, depicts the “concrecence” of each creative event. The author explains it in the following way: “The term ‘one’ does not stand for ‘the integral number one,’ which is a complex special notion. It stands for the general idea underlying alike the indefinite articles ‘a or an,’ and the definite article ‘the,’ and the demonstratives ‘this or that,’ and the relatives ‘which or what or how.’ It stands for the singularity of an entity. The term ‘many’ presupposes the term ‘one,’ and the term ‘one’ presupposes the term ‘many.’ The term ‘many’ conveys the notion of ‘disjunctive diversity’; this notion is an essential element in the concept of ‘being.’ There are many ‘beings’ in disjunctive diversity. [...] The ultimate metaphysical principle is the advance from disjunction to conjunction, creating a novel entity other than the entities given in disjunction. The novel entity is at once the togetherness of the ‘many’ which it finds, and also it is one among the disjunctive ‘many’ which it leaves; it is a novel entity, disjunctively among the many entities which it synthesizes” (ibid.: 21).

order inherits its characteristics. And since different series can only be distinguished from one another in extension, any series is only so (i.e., a series) by already being part of a nexus. While participating in the *concrecence*⁷ of a novel fact of unity, the different series do not necessarily become indistinct from one another. For it is precisely because their differences remain when in contact with one another, that a fact of unity emerges. The nexus of an actual entity thus attests to the relationships of extension established between a multiplicity of series (the topology of which assures the continuity of their differences).

That a nexus can be considered from the viewpoint of its unity or from the viewpoint of the distances held between its constituent series is far from being a paradox. The extensive continuity between actual entities marks the contacts with which the series to which they belong intensify their mutual differences. It forms a structure of remarkable points – zones of tension – which assures the continuity of the differences between the series. As such, a nexus is characterized by the rhythmic intensification of differences with which the series of actual occasions become the multiple parts of one whole. The differential topology of a nexus effectuates the implication and the explication of the series, in relation to one another. It punctuates their continuity by bringing them into contact with one another, while preserving their mutual differences. A nexus is thus not established by any particular coherence of such thing as a code (as semiotic approximations would have it), but is rather a dynamic structure of differences which holds the series together in extension. It is an ecology of prehensions where the potential of creativity remains available.

For Whitehead, it is by prehending one another that the actual entities

⁷ “‘Concrecence’ is the name for the process in which the universe of many things acquires an individual unity in a determinate relegation of each item of the ‘many’ to its subordination in the constitution of the novel tone. [...] Each instance of concrecence is itself the novel individual ‘thing’ in question. There are not ‘the concrecence’ and ‘the novel thing’: when we analyse the novel thing we find nothing but the concrecence. ‘Actuality’ means nothing else than this ultimate entry into the concrete, in abstraction from which there is mere nonentity. [...] Thus a set of all actual occasions is by the nature of things a standpoint for another concrecence which elicits a concrete unity from those many actual occasions. Thus we can never survey the actual world except from the standpoint of an immediate concrecence which is falsifying the presupposed completion. The creativity in virtue of which any relative complete actual world is, by the nature of things, the datum for a new concrecence is termed ‘transition.’ Thus, by reason of transition, ‘the actual world’ is always a relative term, and refers to that basis of presupposed actual occasions which is a datum for the novel concrecence” (ibid.: 66).

come to be in contact with one another. A prehension registers the affect that occurs when one entity enters the world of another. An object is prehended by a subject, simultaneously to their reciprocal concrescence as the singular terms of a real affective connection. But also a thought prehends another thought, as the arrow in flight prehends the target that it comes to hit. Through prehensions, actual entities come to relate with one another in extension, forming relations “of whole to part, and of overlapping so as to possess common parts, and of contact, and of other relationships derived from these primary relationships” (ibid.). Here, continuity ceases to be an exclusive characteristic of the virtual (as the Bergsonian subjective experience of duration would have it, condemning the actual to be discontinuous), to become that which is proper of extension itself. Therefore, instead of being conceived as a datum which pre-exists the relations in which it might come to partake, any actual entity should be rather considered in terms of the “extensive continuum” that it already forms with other entities.

In any given concrescence, what is given as data for emergence may be included or excluded from the emergent order. This exclusive limitation of alternatives effectuates a binarism between what Whitehead designates as positive prehension (i.e. inclusion) and negative prehension (i.e. exclusion). For this reason, the emergence of an actual occasion is said to correspond to an evaluative selection of data. Its process either keeps or discards what is given, positively or negatively prehending actual entities from one another. “This element of ‘exclusive limitation’ [is] essential for the synthetic unity of an actual entity” (ibid.: 45). It is the reason why any actual entity can never be any other than that singular one.

The contact between different series of actual entities is brought forth by a continuous potential of relatedness. While undetermined, this potential corresponds to a pure ideality that, notwithstanding, has an absolute character of determination: that of a pattern of occurrence that connects distinct regions of space-time by acts of prehension. As such, ideality is distinguished from the variety of expressions that the actual entities themselves convey because of the simple fact that, from the virtuality of ideas to the actuality of expressions, emergence necessarily moves through contingency. The distinction made here is, therefore, between potentials that are absolute in their indetermination (what Whitehead calls “pure potentials” and which he defines as “the bundle of possibilities, mutually consistent or alternative, provided by the multiplicity of eternal objects” [ibid.: 65]) and the contingency with which they become conditioned in emergence. For Whitehead, such contingency corresponds to “real potentials, [...] relative to some actual entity, taken as

a standpoint whereby the actual world is defined” (ibid.). These potentials, which determine how actual entities become objective data for the emergence of other entities, are here called possibilities.

In process, both the pure potentials of ideal patterns and the possibilities of actuality determine the schema according to which a nexus emerges. This schema, characterized by an “indefinite divisibility and [an] unbounded extension”, is continuous in extension. For it is in an “extensive continuum” that the actual entitiesprehend one another (via the affective order of what is not yet determined) and realize the ideality of patterns (ibid.: 66). It follows that ideas pre-exist the actual occasions to which they enter as the regularity of past occasions. They are of the world’s becoming, non-subjective and non-objective. As patterns of occurrence, they abstract the qualities of expression not in a hylomorphic kind of way, but rather as actual tendencies (i.e. as creative potential).

Take colour, for example. The ideality of a quality, such as blue, before any actualization, is neither this nor that expression of blue, but rather the general idea, or pure abstraction, which encompasses all possible expressions of blue. Conversely, each actual blue cannot but be this or that one blue, that is, its one singular expression. An idea can thus be realized in infinite ways, according to the spatio-temporal conditions of its actualization. Whereas its general potentials remain invariable, its relative expressions vary from one another. It can therefore be said that there is a character of indetermination to ideas that, despite the variability of their expressions, remains constant in creative processes. Taken as permanent patterns of occurrence (or “eternal objects,” to use Whitehead’s term), ideas are a potential of creative expression that exists in actuality, immanently. They abstract the extensive unity of a nexus with the ideality of patterns that, nonetheless, exist with it.

In actuality

In order to capture the emergent character of the *ER*, its actual expressions were digitized to form a multimedia dataset. Each subset of this dataset (i.e. groups of photos, videos, texts and sounds) was defined according to the *ER*’s actual entities’ relatedness. Such structuration posed the following problem: if, in the *ER*, one actual entity could partake in multiple series (i.e. different sets), then in which way is its potential of contact to be accounted for when displaying a document of relations? In order to tackle this question, the dataset’s different elements were indexed semantically to serve as currency for the workings of combinatorial algorithms. This resulted in a digital multimedia database that can be

hosted by any local computer or remote server and which can be accessed via common web browsers.⁸

In the installation itself, not only did the series express genetic relations between their constituent elements, but also elements belonging to different series prehended one another. A non-linearity of prehensions was in place, realizing deufert&plischke's following description of the *ER*:

Nothing is detached in the space, everything mutually involves everything else, much like in a complex Mobile, where the movement of one element causes all others to move also.⁹

Examples of series found in the installation are: a) a group of photo-stills from a movie stuck on a wall; and b) a map of words written on a white paperboard and linked to one another via a red thread (see figure 1, below). Actual entities belonging to these series canprehend one another in a variety of ways, each realizing a nexus proper to their relation. For example, the picture of a spider in one of the movie's stills and names in the word map such as "Arachne", "Spinner" (Spinnerin), "Net" (Netz) and "Thread" (Faden),prehend one another positively on the conditional basis of an idea which they share: that the animal spider weaves threads (as Arachne, the spinner, did), despite the fact that this activity is not explicitly indicated in any of the series' actual entities.

As such, the prehensions that served as reference for the digital *ER*'s actual relations, being exclusively positive, were distinguished according to whether they were material prehensions (in which actual entities partook in the same mode of expression) and conceptual prehensions (in which actual entities related to one another by means of common abstractions). This is not to say that prehensions should be considered in this way with regard to the processes of creativity that they generally convey. Each of these two types of prehension can always be found in the other. They are inextricable from one another to the point of having been proffered by Whitehead to correspond to the "mental and physical poles" of process (i.e. the ideality of patterns being immanent in their expression). The distinction here regards the prevalence of one of these modes of prehension relative to the other. For example, the conceptual prehension of two entities that are abstracted by one common idea, such as "weaving threads," is distinguished from the material prehension of two entities that share one same mode of expression, such as "being stills from one same movie."

⁸ The digital *ER* can be accessed at www.emergenceroomdoc.net. The viewing of this database is recommended for a better comprehension of the present paper.

⁹ Retrieved 12/09/2011, from www.deufertandplischke.net.



Figure 1. From the top left, clockwise: 1) Stills from the movie *Incredible Shrinking Man* stuck on a wall; 2) Still with spider (detail from previous); 3) Word-map and connecting threads; 4) Words (detail from previous).

In order to index the digitized data, a multimedia database management system was created with the assistance of the Korsakow¹⁰ software package. Though this software is primarily devised for interactive storytelling, the fact that it supports the different types of data retained from the *ER* allowed for creating relations of contact between them and, with this, different series with potential nexuses. In fact, in the lexicon of this software, the relations between actual entities are designated as “points of contact”¹¹ (POC), for it is through them that the dataset’s extensive continuity is formed. Notwithstanding, for the case in question, POC will refer instead to the possibility of contact between different entities – a notion that discloses how, in the extensive structuration of the digital *ER*, the effective contact between its constituent elements results from the exclusive limitation of given possibilities. In order to clarify this process, the workings of the Korsakow software need to be expounded.

First and foremost, the result of a Korsakow project is a multimedia nexus where series are formed from the possibilities of contact between

¹⁰ “The Korsakow System is a software application [that] allows users without programming expertise to create nonlinear, database-driven narratives.” Retrieved 20/09/2011, from <http://korsakow.org/learn/faq/>. For more on the Korsakow software see www.korsakow.com.

¹¹ See “What is a POC?” at <http://korsakow.org/learn/faq/#poc>.

the dataset's actual entities. In order to do this, the software facilitates the attribution of keywords and other rules to the dataset's actual entities. Importantly, the keywords can be used to index the entities' "inlets and outlets." When a keyword such as "web" is used to index one entity's outlet, the software looks for any other entity that has its inlet indexed with the same keyword. As such, "[a] POC is not merely a link. It is the possibility of a link."¹² Depending on the existence of inlets to connect with outlets, by means of a correspondence between their keywords, possibilities of contact between different entities are created or not. Notably, for each actual entity in the dataset of the digital *ER*, inlets and outlets are indexed with the same keywords, from which results a reciprocity between the actual entities' possibilities of contact.

From the direction that each possibility of contact gives to the relation between two actual entities follows the faculty of navigating the dataset. Navigation occurs in steps, from one entity to another, following each possibility of a contact's outlet-inlet direction. Hence, here, navigation corresponds to the iterative selection of alternatives (from the possibilities of contact existing at any given moment). The more inlets the outlets of an entity connect to, the more possibilities of contact exist in a step. But, as much as a step corresponds to an exclusive limitation of possibilities of contact, each act of selection can only effectuate one link. For this reason, the limits of the possibilities of contact between actual entities are the limits of the database's navigability.

In the digital *ER*, for a dataset of 221 actual entities, only 22 keywords were used. The latter were defined according to the two types of prehension mentioned above. Not only the formal sameness of actual expressions was noted, but also ideas connecting different entities were used as a reference mark of the most frequent and consistent acts of positive prehension (e.g. the keyword "web" resulted from the fact that the image of a spider's web was a recurrent element in actual entities belonging to different series). The topology of the *ER* was thus simulated as a structure of remarkable points, synthesized in the variety of twenty-two semantic markers. This is not to say that the possibilities of navigation in the dataset are then reduced to this number. Rather, its limits are determined by the possibilities of contact created with the actual entities' indexation (notably, around 201,000 possibilities of contact). This

¹² Retrieved 20/09/2011, from www.korsakow.org. Moreover, it is worth noting that this mode of relating data is distinct from the semantic indexation of contents allowed by common "Content Management Services" (CMS), such as Wordpress and Drupal, precisely because of the difference between the inlets and outlets of the database's actual entities, even if they are indexed with the same keyword.

indexation followed the organizing criterion of the mapped prehensions, meaning that relations of both formal and conceptual sameness between different entities were noted by indexing them with the same keyword (e.g. not only were all images of a spider's web indexed with the keyword "web", but all entities associated with the idea of a web were likewise indexed).

The fact that the Korsakow software allows for each actual entity to be indexed with several different keywords is the reason why the possibilities of contact between the *ER*'s actual entities are far more numerous than the keywords used (on average, each dataset's actual entity was indexed with two to three different keywords). It follows that, from the multiple combinations of different possibilities of contact, a myriad of unforeseen series can be expressed. No longer are they only related as they were in the installation of reference, the *ER*'s actual entities can be digitally related to one another in ways that are "possibilistic to the limit."¹³ In other words, each of the database's actual entities can participate in a multiplicity of series, which not only results from the possibilities of contact given by indexation, but also from the possibilities of contact that follow from the iterative selection of available alternatives. Within the dataset's limits of possibility, each actual entity can partake in whatever series selected by means of navigation.

The specificity of each selected series is hardly predictable. Though the number of series that can be possibly expressed is finite, the different ways in which actual entities can be combined are too many¹⁴ for what emerges to be foreseen. Entities belonging to one series can enter into relations with entities of other series, and these with entities of yet other series, and so on to the point at which further contacts are impossible. In this sense, and despite the fact that the series formed with each experience of navigation emerge from possibility only, the ideas that their emergence brings to the fore complete the nexus of their extension with abstractions that, being potentially novel, remain connected to the *ER*.

The database's structuration does not only depend on the distribution of keywords throughout the actual entities' inlets and outlets. Other

¹³ This expression is used by philosopher Brian Massumi to describe digital media. In his words: "Digitization is a numeric way of arraying alternative states so that they can be sequenced into a set of alternative routines. [...] 'To array alternative states for sequencing into alternative routines.' What better definition of the combinatoric of the possible? The medium of the digital is possibility, not virtuality, and not even potential. It doesn't bother approximating potential, as does probability. Digital coding per se is possibilistic to the limit" (2002: 137).

¹⁴ The exact number is around $178123734e+748$.

constraints were set to condition each entity's possibilities of contact. In what regards the overall experience of the digital *ER*, the most important constraint is the limitation of the number of times that an actual entity can be available for contact. Having been set to one, this limit determines that once selected, any one entity in the dataset ceases to be available for further contacts. The result is the irreversibility of the database's navigation, which with each step excludes one of its entities from further possibilities of contact. Thus, the navigation characteristically moves from the set of initial possibilities to no possibility of contact left to be selected.

A second constraint, necessarily attributed to each of the database's entities, is the interface. To each entity corresponds an interface that displays it. Each interface is only displayed when its respective entity is selected. With Korsakow, interfaces can be composed in order to figure a variety of elements. Though different interfaces have been created for the digital *ER*, the only elements included in them were the actual entities and their previews. A preview is the expression, on the interface, of a possibility of contact. It is a link, in the form of a thumbnail, to an entity in contact with the one in display. In the digital *ER*'s interfaces, selected entities and previews are distinguished, in most cases, by the size of their displays (i.e. selected entities are larger than previews). Of utmost importance for the experience of the digital *ER* is that, for the most part, the navigation allowed a smaller number of previews to be displayed than the selected entity's total possibilities of contact. At each step of the navigation, the latter number is reduced to the former by a random selection of available alternatives. The software's algorithms search for the entities in contact with the selected one and display alongside it the first ones to be found. Importantly, the probability of each entity's selection in this process is the same for all given alternatives.

With these constraints, the digital *ER*'s navigation is defined by a progressive exclusion of all possible series given at start, to the point of coming to form one final successive order of actual entities. The progressive selection of alternatives necessarily moves through local limits (i.e. the possibilities of contact allowed by each entity's interface), only to come to the point of finding the global limit of the dataset's combinatorics. Of what will have come to emerge (i.e. the final series), no previous image can be given. The unity of its nexus can only be imagined, in retrospect. As such, the prehension of this unity corresponds to the creation of a second or higher order of relations, that is, of an order of relations between relations.

The constitution of higher orders of relation abstracts the contact hold between actual entities, to imagine it otherwise. It follows from the fact

that for a genetic line to be formed, at least three entities need to be in contact. A first relation of contact needs to be followed by a second one, so that a third virtual relation can emerge. Act of selection follows act of selection; navigation proceeds by serializing relations of contact, enabling in this way the emergence of a virtual order of relations. This latter order is as constitutive of the selected series' nexus as the relations of actual contact. In fact, here, a nexus cannot be conceived without these two dimensions of experience. It is simultaneously abstract and concrete. It is actual with regard to the serial ordering of actual entities, and abstract with regard to the imagination of relations that follows from the first actual order. The selected series' nexus is actually determined and potentially undetermined.

With the increment of entities by means of navigation, more relations between relations can be established and higher orders of incorporeal resonance become possible. These higher orders of relation form the schema of relatedness that attributes to the emergent nexus its rhythmic character, that is, its topology. This corresponds to saying that, in the selected series, any constituent element can potentially get in contact with any other. Abstractly, the selected series' nexus allows the actual entities to prehend one another in novel and unpredictable ways.

The installation's emergent character is in this way reformulated in the digital domain with a combinatorics of possible prehensions, which is amplified by an immanent potential of conceptual prehension. Any novel prehension resulting from navigation attests to the unity of the multiplicity of actual entities. For prehension is an event that, inasmuch as it brings different entities into relation with one another, creates a nexus that cannot be other than consistent with itself.

Nexus at the limits of possibility

The digital *ER*'s limits of possibility are given by the intersection of the following constraints: a) the differential indexation of the dataset's entities; b) the reduction of the number of a given entity's possibilities of contact to the number of preview windows included in its interface (by means of a random selection of alternatives); c) the exclusive limitation, in each occasion of selection, of the given set of alternatives (realizing in this way only one possibility of contact); and d) the one-by-one reduction of possibilities of contact by means of a step-by-step navigation which ends when further contacts are impossible. Starting with the multiplicity of possible series, which is given as an initial condition for the experience of the digital *ER*, the intersection of these constraints realizes one of the

possible combinations of alternatives in one succession of selective acts.

It can then be said that the limits of possibility of the digital *ER*, rather than being impeditive obstructions, guide the initial multiplicity of possible series towards the emergence of a concrete unity. They focus the initial multiplicity towards the emergence of a nexus. They impede the multiplicity's dispersion by limiting the possibilities of contact between its constituent elements and, by doing so, direct it towards the emergence of a consistency otherwise impossible.

The nexus that emerges with the selected series should be understood precisely as Whitehead defines it, meaning that in an act of prehension (i.e. a step in the navigation of the database), an entity's possibilities of contact are either included or excluded from its identity as an element of the series. According to this, in the digital *ER*, an act of positive prehension regards either a material or a conceptual association between the actual entities' identity. It creates a unity between the entities, while conserving their differences. It associates self-identical entities with one another, not only to relate their similitude, but also to relate their differences. For a nexus consists precisely in the continuous differentiation of a multiplicity of series. And inasmuch as the digital *ER*'s navigation can only result in one selected series of actual entities, its emergent nexus necessarily depends on the abstraction of its realized contacts.

Hence, there are, on the one hand, possibilities of nexus embedded from the start in the database's actual structure (from which the selected series' nexus inherits some of its characteristics) and there are, on the other hand, potentials of nexus that exceed any possibility whatsoever. Of what is given by possibility, it can be said that it comprises both predictable and unpredictable patterns. Predictable because they repeat patterns of relation already known (notably, from the referent). And unpredictable because they result from combinations of actual entities that, though given by possibility, cannot be truly anticipated (due to the numerous possibilities of contact existing in the database). Of what is potential, it can be said that it occurs by means of navigation, that is, with the subjective experience of the digital *ER*. Potentiality exceeds the database's possibilities with the capacity of prehending, conceptually, what has not been yet thought. Notwithstanding, whatever the thought that might emerge from it, the resolution of undetermined potentials towards a nexus' emergence will necessarily be conditioned by the selected possibilities. Both possibility and potentiality thus contribute to the emergence of the selected series' nexus, which (precisely because of this) is simultaneously concrete and abstract.

Potentiality exists with possibility. And as much as the latter is here

transformed by means of navigation, so is the former. And this is not to say that they are transformed equally: whereas the possibilities of contact become exhausted, the potential relations between the actual entities of the selected series do not. Potentiality is not a quantitative order. It does not decrease as possibility does here. It rather changes qualitatively with the quantitative variation of possibilities in navigation. It follows that the potentials of the database's initial conditions are not the same as those of the selected series. They change with the progression of selective acts and with the narrowing down of possibilities. By reason of its "genetic imprint," the selected series' nexus cannot but belong to the *ER*. But by reason of the restructuration of potentials that occurs with navigation, this is necessarily an emergent nexus, that is, a nexus with characteristics that cannot be fully anticipated.

The potentials of the selected series are conditioned by actuality and, in this sense, limited. But what is at stake with such limitation is the fact that, as much as constraints focus multiplicities towards emergence, the actuality of a series directs the indetermination of its own potentials towards the production of new relations. These relations, emerging here with navigation, do not add actuality to the ones already in place. Rather, they add abstraction. That is, conceptual prehensions can effectuate the potentials of a given series even after all possibilities of contact have been exhausted. They can abstract actual relations and attest to the infinity of potentials existing within the finitude of actuality. Hence, only by means of abstraction can what is possible come to realize its full potential.

In conclusion, it can be said that the digital *ER*'s nexus is mutable. It changes with navigation, but only up to the limits of the database's possibilities. Notwithstanding, the potentials of its experience can abstract the finite limits of its actuality with an infinity of immanent ideas. The nexus' rhythmic character results both from variations in actuality (i.e. the restructuration of possibilities that follows from each act of selection) and from variations in abstraction (i.e. the ideas associated with the variations of actuality). And though actual variations change the potentials of abstraction, abstraction itself can vary without any change in actuality. The reason for this lies in the fact that, though material and conceptual prehensions are immanent in one another, their relation is not linear. Whereas actual possibilities are limited, abstraction is potentially unlimited. On the one hand, many conceptual prehensions can occur together with one material prehension. On the other hand, abstractions can connect different expressions. The consistency of a nexus is thus invariable in actuality and variable in abstraction. From this it follows that after navigation, the abstractions that actuality can potentially convey not

only expand the series' nexus but also double its unity. As the continuity of differentiation between actual entities, a nexus assures the abstract resonance of its multiple orders of relation in immanence with the limits of its possibilities.

References

- Massumi, Brian. 2002. *Parables for the Virtual: Movement, Affect, Sensation*. Durham, NC: Duke University Press.
- Whitehead, Alfred N. 1978. *Process and Reality: An Essay in Cosmology: Gifford Lectures delivered in the University of Edinburgh during the session 1927-28*. New York: The Free Press.