

Chapter Four

Modes of Creative Thought: Catalytic Interplay, Composition and the Affective Interval

Art as an autonomous process of bringing an enveloping self-variation into its own truly singular expression is a catalytic fusion. Catalysis involves resituating variation - a very different proposition from contextualizing things. Klee calls this "composition" in contradistinction to "construction." Composition is less a critical thought project than an integrally experienced emergence. It's a creative event [...] It's the openness of closed form, form continually running into and out of other dimensions of existence. Although the relational whole does not appear outside an actual, situated expression of it, it is not reducible to its situation. It is too confoundingly fuzzy, too impossibly overfull with mutually conveying dimensions of experience emerging into and out of each other, too self-varifyingly plastic to be actual. Neither reducible to or separable from any given situation: nonlocality. The nonlocal relationality, the integrality of the creative event is virtual. Only the terms of the relation are actual. (Massumi, 2002,174-175)

In this chapter we'll conclude the thread of creative thought that we dissected into three domains - philosophy, science and art. We have narrowed the artistic discipline to live, improvised performance with new media technologies but that description broadens when the art produced is situated as "composition," specifically group composition. Massumi's description of art as catalytic fusion is so apt for describing KeyWorx performances that we are tempted to begin and end there. But there is a history to be explored in the performing arts that complicates and indeed corroborates the elegant fuzziness of the creative event; the nonlocal relationality, which is a double entendre in KeyWorx-style performances that exponentialize the absence of locality.

THE ARTS ANGLE: *Sensational Spontaneity*

Percept/Affect - Plane of Composition

"Composition, composition is the sole definition of art. Composition is aesthetic, and what is not composed is not a work of art. However, technical composition, the work of the material that often calls on science (mathematics, physics, chemistry, anatomy), is not to be confused with aesthetic composition, which is the work of sensation." (Deleuze & Guattari, What is Philosophy?, 1994, 191-2)

Sweeping theories and grand narratives, common in science and philosophy are in shorter supply in the arts. In particular, there is no acknowledged general theory of improvisation; only a long-standing debate regarding the compositional attitude of choice, chance and spontaneity.¹ Specific perspectives on improvisational methods can be found but, as a form, it persistently resists representation. As a form it is irreducible to its content. Massumi's insight on art as a catalytic fusion, an integrally experienced emergence, takes on a heightened and more potent significance when situated in the multiplicity of collective composition. If the process of making is "too impossibly overfull" to be actual, if it resides in nonlocal virtual dimensionality, then how can we hope to distinguish the distributed, synchronous, collaborative effort of networked composition? It certainly compounds the intensity of the catalytic event, of the experience of composition, exponentially. Nonlocal relationality, in this instance, is literal. The actual relations are the protagonists themselves, humans and computers and the transductive artifacts of their interactions. This is the contemporary, posthuman collective; so pervasive as to be unremarkable. Bruno Latour has claimed that:

If anything, the modern collective is one in which the relations of humans and nonhumans are so intimate, the transactions so many, the mediations so convoluted that there is no plausible sense in which artifact, corporate body, and subject can be distinguished. (1999)

When a sub-collective of artists forms to create a dynamic artifact, often in collusion with their public, indeed, there is no distinguishing the terms of the actualized relations. What is given is nonlocal, or translocal, relationality. What is perceived is pure interplay. The interstitial in-between. The affective interval of internal resonance. The proprioceptive interval. The temporal transduction of domains that is felt in the incorporeal space of the distributed body.

Those that participate in an improvisatory compositional method generally do so because of an insistence on unpredictable interaction and output that is other than product-oriented. There is an interdisciplinary cachet to improvisation that is rebellious, interventionist, anti-capitalist (in its power distribution) and anti-conservative (with respect to documentation and not sensation²). There is a reflexive purity of the genre to its practice - a real time, self-referential flow that cuts and splices prefigured connotations, displaces the semiotics of expression and ruptures all teleological inclinations. It is often, though not always, depending on its protocols, a non-hierarchical, de-centered living system of emergent behaviors and properties. Its dynamic cannot be captured. It can only be a felt relation immanent to the incorporeal body; affect as a synesthetic, distributed

dimension.

There are several pertinent questions and relations that need to be established before granulating the ontogenesis of composition. What is the relationship between improvisation and play? Is the computer a toy in the processual gameplay as well as an actor? Does play necessarily incorporate intuition? Does composition? Is there a distinct, playful hybrid between the two? To what extent is the process indeterminant? What is the role of choice (free will)? Can we attempt a theory at all? In *Thinking in Jazz*, Paul Berliner asserts that one can only explore improvisation through its practice: "For there is no general or widely held theory of improvisation and I would have thought it self-evident that improvisation has no existence outside of its practice" (1994, x).³ Martin Soules has claimed in his essay "Improvising Character: Jazz, the Actor, and Protocols of Improvisation" that: "The complex negotiation of identity within a performance context - whether the art be music, acting, writing, or the performance of self in everyday life (Goffman, 1959) - pits individual freedoms against the constraints and opportunities of society. (2001,1). This simultaneous, nonlinear fracture and connection between self-identity and society, the individual and the collective extends the "center of indetermination", that complex virtual assemblage of affect and sensation to a shared field of potential. Soules' pitting of individual freedoms against societal constraints surely exposes a liberal humanist tendency in a terrain that better lends itself to the articulation of collective individuation. We will bump into that counter-tendency when we add machines to the intersubjective mix. The digital envelope does not describe the virtual, the 'matter' of the living organism does. The digital, we will recall, is associated with the quantifiable, with the actual. The analog is the stuff of the virtual. But, undeniably, with the technologically enabled digital meld of temporal dimensions and variable speeds that complement human-human interaction, there is certainly a transform from individual to transindividual, from self-identity to collective individuation. It is here that the concept of technicity joins the relational contingency of our story.

Technicity, as theorized by Gilbert Simondon refers to a transductive dimension of technical objects that are not 'objects' at all but ontogenetic processes that move from the abstract to the concrete, from the virtual to the actual (Mackenzie, 2003, 16).

And what is a transductive dimension?

A transductive approach promises a more nuanced grasp of how living and non-living processes differentiate and develop. It understands the emergence of a mode of unity without presuming underlying substance or identity. Every transduction is

an individuation in process. (Mackenzie, 2002, 147)

Presupposition 1: In the catalysis of translocal composition in the co-operative dimension of a distributed, augmented reality multiplicity in which the improvising players are physically distant, the temporal intersection of intuitive composing is autopoietically self-intuited in the affectively defined spacing of the body.

Presupposition 2: Both Massumi and Hansen, after Bergson/Deleuze, return affection to the space of the body. For Massumi it is a topological, incorporeal space, for Hansen it is a proprioceptive interval. Through processual interplay between performers it is also distributed, shared. The 'space' of affectivity must be in-corporeal, indeterminate and proprioceptive.

Presupposition 3: collective improvisational interplay in KeyWorx is, optimally, intuitively transductive, virtual and indeterminate

These presuppositions are based on the intuition that KeyWorx practice provides a model for exploring compositional process that are collectively individuated; distributed. It confounds the presence/absence paradigm with the pattern/randomness paradigm that Katherine Hayles articulated in *How We Became Posthuman*. It directly addresses the rhythmic, indeterminate dance on the edge of chaos in compositional practice. The theoretical underpinnings for the third hypothesis - that multiplayer improvisation in KeyWorx is intuitive/transductive - have been established through the description of modes of thought from philosophy and science that, in their respective ways, postulate an element of creativity and freedom in intuition, in microidentity breakdowns and in the cognitive interval between brain stimulus and consciousness. How are these creative intervals acknowledged within the global perspective of the arts, and more to the point, within the technicity of the performative new media arts? Group compositional process is our genre of enquiry, bridging improvisation/composition practice in music (specifically jazz), dance, theater, games and Live Art. Soules has concluded "that improvisation for performance involves a voluntary discipline when individuals come together to devise rules for their play, in an open-ended arrangement allowing individual expression within the ensemble of players. (2001, 6). Before looking at improvisation in performing arts practice we'll look a little closer at the notion of collaborative 'play'.

Play Theory - From Boyd to Agamben

The field of play and game theory has taken on new, vital and nearly hysterical momentum in the beginning of the 21st century, as gaming culture, particularly in the United States and

Western Europe, has grown exponentially, eclipsing other forms of pushed entertainment. Online games that offer everything from puzzles to zero sum shoot-em-ups to collective, social construction strategies are being played and absorbed in record numbers. Game theory is only tangentially discussed in this thesis as a means of arriving at a quotidian example of the methodological role of intuition. But the nature of play and its emphasis on spontaneity and collective sensibility (sensation) is compatible with collaborative, compositional methods in the performing arts. We will look to play as an attractor in the process of collective composition to discover the dynamic constituents of interplay.

An unusual suspect in play theory literature is Neva L. Boyd, a sociologist who developed a Theory of Play during the 1920's at Hull House in Chicago. She was, apparently, influenced by Bergson and Jacques Copeau who revived improvisation as a technique of self-reflexive awareness for actors calling it "the *art* of improvisation and the illusion of spontaneity" (Soules, 2001) ⁴ A co-founder with Andre Gide and Antonin Artaud of the *Nouvelle Revue Francaise*, was looking for a non-gesticulatory form of acting that used the whole body; what became known as "corporeal mime". He eliminated "the proscenium, the footlights, the scenery and the furniture of traditional European theater" and sought a language that came from the "the center of being" (Schwartz, 1992, 99). His elicitation of spontaneity as "illusionary" is prophetic given the data from neuroscience a century later, recalling Libet's conclusion that consciousness backdates the event, as an "illusion", so the experience feels to be temporally simultaneous. (Libet, 1979) and the more recent work of Haggard, et al and Eagleman and Holcombe (2002) that find that "timing judgments are always made retrospectively."

Boyd was not a prolific writer, preferring fieldwork. She is not often cited as a mover and shaker in games theory history, but her influence has had many long-term consequences, a butterfly effect. Though she never credited the influence of Bergson in her work, the language she uses to describe *play* is clearly derivative in her use of the distinction between "differences in kind and differences in degree." Since Bergson was a cult figure in turn of the century Europe and popular with the emerging pragmatist branch of philosophy and sociology in America. Boyd must have been familiar with his Intuitive method:

Playing a game is psychologically *different in degree but not different in kind* from dramatic acting. The ability to create a situation imaginatively and to play a role in it is a tremendous experience, a sort of vacation from one's everyday self and the routine of everyday living. We observe that this psychological freedom creates a condition in which *strain* and *conflict* are dissolved and *potentialities* released in the spontaneous⁵ efforts to meet the demands of the situation (Neva L. Boyd, *Play a Unique Discipline*. My emphasis)⁶

All forms of play activities are the products of Spontaneity. Play behavior is essentially spontaneous, psychophysical and psychosocial. Play behavior requires stimuli and this comes largely in the response to the play behavior of others, or at least to their sympathetic attention. (Neva L. Boyd, *The Theory of Play*)

Though Boyd's work is now referenced as recreational therapy, she is a precursor to research on the experience of improvisation, relevant to the social and cognitive sciences, as well as the arts and philosophy. She had a significant influence on Viola Spolin who worked with her at Hull House. Spolin's early work on improvisation theory for the theater through game structures continues to be seminal to the art.⁷ With its perceived reliance on Intuition as the thoughtful mode of creativity, it takes a similar view as KeyWorx, to collaborative, processual composition and draws on Copeau's ideas about "spontaneity" as practice:

The intuitive can only respond in immediacy - right now. It comes bearing its gifts in the moment of spontaneity, the moment when we are freed to relate and act, involving ourselves in the moving, changing world around us. Through spontaneity we are reformed into ourselves [...] Spontaneity is the moment of personal freedom when we are faced with a reality and see it, explore it and act accordingly. (Spolin, 1999, 4)

For Spolin the participating player-actors must mutually accept the rules of play. Once accepted the improvisation becomes one of solving the problems posed by the game. This is reflective of Bergson's intuitive method that emphasizes the posing of true problems as essential to creating the new. Spolin says "The energy released to solve the problem, being restricted by the rules of the game and bound by group decision, creates an explosion - or spontaneity - and as is the nature of explosions, everything is torn apart, rearranged, unblocked. The ear alerts the feet, and the eye throws the ball" (1963, 6). The intuitive physicality of the body; synesthetically mixing modalities. The energy explosion, the emergent potential of the event, is physically felt - it is a sensation of the body, a felt-thought; the "physical is known, and through it we may find our way to the unknown, *the intuitive*" (1963, 7 My emphasis).

The embodied playfulness of Boyd and Spolin, though bound by the constraints of the game, let loose an "explosion" of unpredictability. One feels indeterminacy to be integral to their scheme. For Johan Huizinga, a Dutch contemporary of Boyd, play is a cultural imperative; it's social significance, vital. Though Huizinga thought that play "is in fact freedom", his overarching determinism colored its limits. In *Homo Ludens: A Study of the*

Play Element in Culture, Huizinga claimed play to be “older than culture”, cutting a deep distinction between play and “ordinary life”. Play as “ludic function” is a form of ritual. For Huizinga all culture was rooted in play and its effects were described by the aesthetics of his day with terms such as tension, poise, variation, contrast, solution and resolution.

play [...] creates order, is order. Into an imperfect world and into the confusion of life it brings a temporary, a limited perfection [...] The profound affinity between play and order is perhaps the reason why play, as we noted in passing, seems to lie to such a large extent in the field of aesthetics. Play has a tendency to be beautiful. It may be that this aesthetic factor is identical with the impulse to *create* orderly form, which animates play in all its aspects. (1938, 10)

In the early years of the twentieth century we see a continental divide, straddled by Jacques Copeau, in which play is alternatively represented by the aesthetics of order and the aesthetics of near chaos, of out-of-control. We will see this divide surface mid-century in the debate over aléatoric and indeterminate music composition. We will see it, strikingly, in the conclusions of Deleuze and Guattari. Huizinga sets out three essential qualities of play but it is the quality of the limitations of time and space that resonate with this study. Though play has a beginning and an end, while it progresses “all is movement, change, alternation, succession, association, separation.” (Ibid, 9) In a turn prefiguring Deleuze in his use of the term “refrain” to mark a space (territorialize, deterritorialize, reterritorialize) by a comforting repetition, by a middle passage:

In this faculty of repetition lies one of the most essential qualities of play. It holds good not only in play as a whole but also of its inner structure. In nearly all the higher forms of play the elements of repetition and alternation (as in the *refrain*), are like the warp and woof of a fabric. (Ibid, 10)

Well-known for his theories of play, anthropologist Victor Turner’s notion of ritual and “normative communitas” a time when “individuals come together and devise rules for themselves” (1986, 44) are useful markers for an understanding of the social ecology of play and its protocols; inter-authored composition and its degrees of freedom. For Turner, “Play does not fit in anywhere in particular; it is transient and is recalcitrant to localization, to placement, to fixation--a joker in the neuroanthropological act [...] a liminal or liminoid mode, essentially interstitial, betwixt-and-between all standard taxonomic modes, essentially 'elusive'. (1986, 167). Again, that reference to an enigmatic in-between; that virtual interstitial gap that is so felt, so there and not there; so incorporeally material. Turner has also argued that we mix what we have at hand, (indicative function) with what could be—(subjunctive, or provisional function) when we play (1982, 28) and has suggested

that the limbic system acts as a sensitizing interface to these playful functions (1983, 167) as has Edward Hall:

"Seated in the old mammalian brain, improvisation is a process originating in play in mammals [...] With these new types of animals, a new brain evolved, a horseshoe shaped structure called the limbic system [...] the center of emotions, parenting, social organization and play. (*Improvisation as an Acquired, Multilevel Process*, 1992, *Ethnomusicology* 36.2, 224)

These ideas are further extended by Deleuze and Guattai by exteriorizing the brain and thought "as contacts between specific planes and an infinite universe, which is totally interconnected—not mystically, but materially" (Murphie, 2005). This exteriorizing of thought becomes proximal to ideas of collective consciousness and shared affectivity through distributed composition. For D&G they extend well beyond the mammalian brain.

Though a superficial gloss on play/game theory and its relation to power structures and intuition, there is an essential thread here for understanding the tapestry of connected interaction when it moves from the local to the translocal, from the individual to the transindividual. When the protocols of play are subtended by the protocols of the network. Consider Alex Galloway's explanation that "Protocol is a language that regulates flow, directs netspace, codes relationships, and connects lifeforms. It is the etiquette for autonomous agents." (2004, 11) These coded protocols then that enable interoperation between computers, underlie another set that figure in the process of group improvisation. Martin Soules writes:

Protocols--"long-established codes" determining "precedence and precisely correct procedure"--may at first seem antithetical to popular notions of improvised creativity. However, interdisciplinary research into the nature of improvisation shows that *it typically occurs either within, or in close relation to, voluntary constraints* (25, My emphasis).

The coded interplay between human players and their machines is well-trod ground. Opening that field of discourse to 'real time' collective participation is still a relatively obscure topic in terms of practical examples and case studies. It is best documented in online gaming rituals and play. Arian Mackenzie has linked Giorgio Agamben's concept of the 'whatever' to "a collective belonging-together" which doesn't presume any substantial unity (2002, 147) as implied in Bergson and Deleuze. Mackenzie renegotiates Agamben's transit from ontology to ethics as one from bodies to images in computer games. He says that "these images are located in time; the time lost in play and conceived neither

objectively nor as a predicate of human subjects or cultures” (148). The collective singularity engendered by computer games and by extension, KeyWorx-like compositional models is what Simondon calls the *transindividual*. Mackenzie, after Agamben analyses play in computer games, not from a vantage point of deconstructed coding and narrativity but from the lenses of temporality and corporeality. His approach is resonant with the direction taken in this project in privileging the non-linear, intuitive passage of time.

There is a powerful double nexus between play and temporality [...] the history of games shows that play emerges from ritual and ritual is deeply interwoven with time and history in the social formations it belongs to [...] Play and games as desacralized ritual [...] play entails a loss of ordered time, or a breakdown of the time of the sacred. *Play transforms structures into events.* (Mackenzie, 2002,150 My emphasis)

Event singularities are descriptions of the ‘whatever’ body of Agamben, the ‘transindividual’ of Simondon, the haecceity of Deleuze/Guattari, the pure relationality of Massumi. It is the non-specific, pre-individual, not-yet-identity. That “Indeterminacy and deep contingency consist in a reserve of pre-individuation, or a constitutional openness that triggers becomings, invention and indeed play itself “ (Ibid, 153). Play as event-dimension. But collective play as a cultural transduction necessarily oscillates between event and structure, between the synchronic (structures) and the diachronic (events), between qualitative duration and quantitative clock-time. Play, in KeyWorx or webjams in which multiple durations, human and machine, intersect through the lapse and lag of processed in-formation, sometimes event, sometimes structure. Adrian Mackenzie has suggested:

It remains to be thought however, what manner of singularity can inhabit the staging of coincidences between events and structures. If there is play (in the sense that Agamben describes as the manipulation of the human temporality materialized in objects) in computer games, then it is play that somehow must diverge from the economic transformation of events and structures [...] The question then is thus, How can there be play when the structures involved are already explicitly organized as buffers for indeterminacy? (2002, 168)

One answer may simply be in the open architecture of distributed compositional applications. When we speak of play in a technologized context in which the play object or ‘toy’ is arguably, the computer, the coding of the game complicates any indeterminate potential as its limits are fixed by that same code. In KeyWorx and webjams, though they may share many of the same parameters and limits of multi-player online games, differ in a specific way. The object of play is never the computer which functions, more precisely, as a non-human player with a distributed toolbox, but rather the media which is processed. And, importantly, this media is generated and incorporated into the system by the player/artists. It is only of the system when it is enfolded and subsequently unfolded through collective processing -

gesturally realized algorithms. The objects 'become' as they are interacted with - become part-objects or quasi-objects in the language of Serres and Latour.

Examples of Improvisation

Jazzing and Jamming - Connected Networks

A music critic, Charles Fox, once said of jazz that "the unexpected suddenly becomes transformed into the inevitable" (Collier, 1975, 87). It's an ambiguous koan-like expression open to a wealth of interpretations. If one sets the deterministic taste aside, it has the feel of tapping into continuity, but what makes it particularly interesting is that it comes from a passive participant, a spectator. One of the prevailing characteristics of jazz or improv or jamming is that the activity of interaction, the performativity, is between the players and the intuitive connectedness between them. It's the ability to access, together, the multiple dimensions of duration, through intuition. To ride the movement of bifurcating continuity, select without intellectualizing, tap into the world "glue"⁸ of affect. The intensity of these interactions, when the players/actors/artists are in a shared "zone", is an experience they have trouble describing. But all who have experienced it, know it when it happens, when they enter the "zone of indetermination" which is that in-formed, in-corporeal space of the body. Spectators can know it too but only through intuition. Only through tapping the passage of their own duration and the others around them. Bergson describes sitting by the edge of a stream and being simultaneously aware of the passing currents, of a birds flight overhead, of the beating of his heart, of a train's whistle. To repeat again in mantra-like refrain the description of Deleuze:

Intuition is not itself duration but rather *'the movement by which we emerge from our own duration'* and *'make use of our own duration to affirm [...] and recognize the existence of other durations'*... (1998, 38. My emphasis)

For Ornette Coleman, the protocols of improvising were geared towards the players in the recording of *Free Jazz*: "The most important thing...was for us to play together, all at the same time, without getting in each other's way, and also to have enough room for each player to ad lib alone - and to follow this idea for the duration of the album." (Soules, 2001) John Chernoff, in his ethnomethodological study of jazz origins *African Rhythm and African Sensibility: Aesthetics and Social Action in African Musical Idioms*, claims that style is "another word for the perception of relationships, a dynamic aesthetic attitude which focuses the music on the occasion"⁹ This relational perspective of aesthetics is what we're after here. Rule-sets and protocols are important in providing structure for style to emerge but the vital element is the social interaction, the trust and sense of responsibility to the

composing group that realizes the potential into artifact. Recalling Massumi's definition of the "event" as "pure relationality, the interval of change, the in-itself of transformation." (2002, 58)

Jamming is synonymous term for group improvisation. It's the new vernacular; a prevalent form of play in music, dance, vj/dj'ing and acting. Although the history and methods of jazz improvisation are a rich archive for conjuring examples, it's most prudent to cut to the chase; to look at examples of online collaboration and jamming that interface with computers. I've chosen a few possibilities that complement Keyworx practice:

1. The HUB - a San Francisco based group of musicians and sound artists who have performed with computers since the mid-seventies, developing distinctive methodologies along the way. They are, arguably, the first group to create methodologies for networked improvisation. Chris Brown and John Bischoff (USA) write in their historical compilation of texts:

There was a distinctly improvisational character to many of these as the music was always different in its detail. Mathematical theories of melody, experimental tuning systems, artificial intelligence algorithms, improvisational instrument design, and interactive performance were a few of the areas explored in these solo works. More often than not, the composer designed real-time controls so that a human player could adjust the musical behavior of the algorithm in performance. *These "openings" in the algorithm became important features when adapting the solo within the network band context—they were natural points where incoming data from other players could be applied.* The solos, played simultaneously in the group setting, became interacting "subcompositions, each sending and receiving data pertinent to its musical functioning. (*Indigenous to the Net: Early Network Music Bands in the San Francisco Bay Area, 1970-2002, My emphasis*)

With the HUB, music improvisation was networked and, intrinsic to the genre, computational - a mix of human and machine intervention. Algorithms can be "opened" and modified by players and by other generative algorithms. There is a mix of individual composition contribution, the constraints of social convention, and the recursivity of the algorithmic. Bischoff and Brown have written about their motivations in an article called *Hub Aesthetics*. I quote a long passage here because it set a precedent in 1987, for a style of collaborative composition that is prevalent in KeyWorx performers. Distance is a variable component, it is not the *raison d'être* of the composition.

The NYC debut of the Hub was a success, and provided a notoriety for the group that

launched a 10 year career. But the beginning of the band was a commission for a musical stunt, which became both a blessing and a curse. The idea of having musicians play with each other from distant locations was then, and has been ever since, of considerable interest to promoters, publicists, and audience. Kyle Gann's review title "musica telephonica" emphasized the idea of the *physical disconnect*, the capability of creating music without being physically present, "phoning it in". But the band itself was always far more interested in the aspects of *performer interactivity, algorithmic complexity, and the web of mutual influence that the network provided*. The network was a way for computer musicians to create a new kind of musical ensemble that allowed them to interact in ways that were unique to their medium. We were interested in the sound of idiosyncratic, personal computer music instruments that could influence, and be influenced by each other. The Hub became a way to *extend compositional ideas* from the solo electronic performer to an ensemble, creating a new form of chamber music. (The fact that the chamber could be expanded in distance was not entirely irrelevant, but never really the point). It was also a mission to point the development of computer music away from the paradigm of dominance to one of *creative anarchy*.¹⁰ (1987, My emphasis)

That performance took place in 1987. For the next ten years The Hub resisted efforts to encourage them to use newer Internet protocols and jam at a distance from one another. They said in 1997: "Since that event we have continued to receive requests for concerts to be performed remotely, that is, without all of us being physically in the same space, but have always declined, in part because we really prefer to be in the space where we can hear each other's sound directly and to see each other and communicate live." Then they accepted an offer to perform translocally, the piece was called *Points of Presence*:

Our six-member group is divided, two-each between three locations - at ISA/ASU in Tempe, California Institute of the Arts in Valencia, and the Center for Contemporary Music (CCM) at Mills College in Oakland. Each member of the group plays a computer at each of these sites by sending control data over the internet that starts, changes, and stops sounds on their own software instruments. We call the machines we control at distant sites "remote-renderers", and the ones we sit next to are "local-renderers".¹¹

By their account, this project was a failure. They disbanded after a ten year run, because of it. Not because of complications with the latency of the arriving data, often a hurdle in networked synchronization (which interesting was between 100 and 300 ms), but because with all the ensuing and unfolding technical problems between operating systems, CPU speeds, etc, they were unable to problem-solve and immediately cope in the way they were

accustomed - in the same space, together. So that "The technology had defeated the music. And after the concert, one by one, the Hub members turned in their resignations from the band."

In a kind of karmic twist, the Hub disbanded in frustration at the same time the KeyWorx project received its initial funding, optimistic of building a technology that would enable synchronous, collaborative composition at a distance. Technical problem-solving simultaneous with performing has plagued, and still frustrates performers. In many ways, instability, both technical and performative is co-extensive with the genre. One might make the assumption that bug-free performances are of a higher creative quality but I think that assumption would be impossible to backup as seasoned improvisers work with what is at hand. The new laptop generation of performers who have opted for this nerve-wracking medium however, like the joystick generation described by Steven Johnson that " ... have developed another skill that almost looks like patience: they are more tolerant of being out of control, more tolerant of that exploratory phase where the rules don't all make sense, and where few goals have been clearly defined" (*Emergence*, 2001, 177). KeyWorx, Max/MSP/Jitter, pd, SuperCollider, etc performers have developed that patience to the point where failure is a begrudgingly accepted feature of the genre. A shoulder shrug and a reboot.

Music jamming in all its genres is a known and vital activity to the art. It keeps formal structures from ossifying, injecting the unpredictable through the constraints of tradition. Dance improvisation works in a similar vein. It heightens the sensitivity to the situatedness of the movement; to the environment and movement of others. To transductive morphology or the ontogenetic modulation between players. Jamming with computers as instruments could be similarly construed, additionally opening to another space of sensitivity, the virtual (in the new media sense of the word) shared space of the network. But the computer is more than instrumental. The complexity of its technicity, integrated in the collective individuating of the making process, give it generative qualities beyond that of the saxophone or the paintbrush. It is itself an individuated player in the consistency (to use Deleuze's term) of the performance.

2. [SHARE] - a New York based artist collective

Since 2001, a group of techno-artists in New York City, committed to sustaining a collaborative, collective improvisation and jamming culture, started up [Share], a weekly assemblage where artists of all stripes can participate in a spontaneously constructed performance. Their credo states:

[Share] begins every Sunday at 5pm with the open jam. An open-mixer system for

video and audio lets participants patch their equipment into the multi-channel, multi-room sound system and multi-screen video system. Artists are encouraged to bring any portable audio and video gear and take a turn sharing, join in an open jam, or form impromptu collaborations.

These are artists of the generation that are comfortable with the unstable, with out-of-control. They are also at ease with, as their name implies, sharing. You will rarely find among this group an argument over copyright or ownership of material, much less concepts. It's a jam. The form of the content is the form of expression. In technologies such as KeyWorx especially, where all media files are distributed to every player in the session via a peer-2-peer file transfer protocol - your media is my media and all media is malleable. Is changeable. Preciousness of content is not an option. The preciousness of individual expression is also blurred. Sometimes beyond recognition.

Helen Varley Jamieson has said in a Rhizome blurb of the weekly webcast events at [Share]: "Like jazz, this is probably most fun for those who are actually doing it." Marvin Carlson has written as much of performance on a metascale when he says that:

[A]ll performance involves a consciousness of doubleness, through which the actual execution of an action is placed in mental comparison with a potential, an ideal, or a remembered original model of that action. Normally this comparison is made by an observer of the action [...] *Performance is always performance for someone, some audience that recognizes and validates it as performance even when [...] that audience is the self.* (*Performance: A Critical Introduction*, 1996, 5-6. My emphasis).

And here is the crux. For whom is this genre of performance performed for? Where can the flow of communication be traced? Is it produced primarily for the articulated sensations of the performers? For passively observing spectators? For participant spectators? What is, who is, a participant spectator?

Local audiences often leave translocal events scratching their heads; sometimes angry because they feel as though they've been ignored; that the concepts and their execution are an impenetrable closed system between the performers to which they are denied access. Yet for many new media artists, the role of a participant spectator is not only acknowledged but irreducible through the interactive realization of the work. "We - Collectivities, Mutualities, Participations" as Irit Rogoff has called them (Rogoff, 2004).

Here, we're focused on the experience of processual composition. What is involved in the process of production? How are concepts formed, decisions made, aesthetics shared,

during a multimedia, translocal jam? This IS between the artists in the first place. They must rely on intuition and the transduction of different energy fields, or fail to achieve a shared "zone of indetermination." If the audience has no entrance to changing the dynamic through the technology (though they often do) then, as has been the case across time and cultures for spectators, they participate in the event by their situatedness within it. Performance is a hyper-ecology. The souped up, overfull readiness potential of the event. Bifurcating dimensions. Even in a "failure", as with the last Hub performance and a million others like it that take place every day, everywhere, in what Goffman has called the "presentation of the self in everyday life" (1959), there is palpable potential.

In a recent New York Times article, *Clash, Then Synthesis: Joys of a Laptop Jam*, Joanna Jainchill has quoted a longtime KeyWorx artist, Daniel Vatsky, who is one of the artists featured in the Interfacing Case Study in the next chapter and regularly participates at [Share]: "I wasn't performing before I came here [...] It's a really unique place because even if you're just starting out you can come and play with live musicians. It's important you're not just putting on a track you already know. You're constantly being thrown a curveball." (The New York Times, Thursday, July 10, 2003)

3. decentred | distributed -webjam improvisation group out of Norwich, UK.

In March, 2004, decentred|distributed improvisation began hosting live networked webjams. Presently there are over 30 participating artists in their community. Their website contains an archive of performance material. Below are excerpts from an interview between the coordinators Liam Wells and Tom Simmons with interviewer Simon Waters. Their views on distributed improvisation and networked performance are so simpatico with KeyWorx artists that it's important to quote this interview in depth. The philosophy underscoring the decentred aesthetic touches on all of the elements we have foregrounded that shape distributed, translocal composition: in-betweenness of media, decentered giving up of control, interdisciplinary participants, intuitive process, shared aesthetics:

SW It wasn't the technical side of things that I was getting at really, it was the idea of a network implying some sort of shared aesthetic and the idea of an individual residency being about an imposed curatorial vision. I understand the rationale behind it, because it may partly be a response to the original WebJams and a response to the dissatisfactions that you felt with previous working practices.

LW There are problems with negotiated aesthetic output because it's not something that people have a lot of practice at. *One rapid way of dealing with that might be to allow somebody to impose a temporally formal shaping to what goes on.*

TS We see the project existing in two states, firstly in a kind of automated state with a *system existing in the background*, which we set the parameters for in advance. Between us we collectively define the limits of the system, purposely making them frayed. We envisage moments when that system will be pulled in particular directions towards a discipline or practice before moving back into an automated state.

SW You mentioned working in a post-medium condition, and you've used the term 'in-betweens' or 'in-betweening' for some of what you're doing, is that something that you both have a shared take on?

LW I think the 'in-betweenness' is the point that we met in. Both of our individual practices evolved *around notions of being between two states or being between media*.

SW The people who are involved are from increasingly hybrid backgrounds. In a sense you're symptomatic of a particular generation of people. You have this aim to work in a post medium condition or an 'in-between' situation, but you're determined to very strong extents by your formal backgrounds and training. *Increasingly, there's a generation of people who are more genuinely hybrid than you, how do you go about evaluating what it is that they do?*

LW Hmm, quality control,

SW Well, its not really control. I'm interested in the evaluative mechanisms you have, it might be that they're instinctive ones. I think that's perfectly legitimate.

LW I think you've hit it on the head really, *it's intuitive in the way everything is selected at some point*. Whether we're selecting the performers or putting together an apparatus. Ultimately everything is selected when it goes out to the public interface. We have other levels of control, negotiating different access points to the same project. It's a situation where something that's happening at one end of the performance in one venue is very different to what's actually happening in the other venues or in what the audience is experiencing.

SW Yes, but that's part of the point ...

TS *Part of this process is concerned with giving up control ... the idea of decentering something is about moving it outside of your jurisdiction, about seeing what happens when you have to negotiate events which emerge in that context [...]*

SW Can you elaborate a little about what you mean by decentred improvisation? I mean you're obviously talking about decentred improvisation in the senses of distributed activity, but is there something else behind it?

TS *There's something ideological or political underneath, moving ...*

SW Away from medium centers?

TS Yes. **SW** And established bodies of knowledge ...

TS Trying to move into this cooperative space where the meeting points, *the collisions and the attachments of one thing to another, are not restricted by fixed ideas of what an improvisation might be.*

LW I think it's key that this is angled towards a very public space. I think that starts to create a distance from the closed doors of the institution or the specific media.

TS Part of the organic growth of the project can be attributed to this cooperative mechanism; on any level of organisation *I think decentred is cooperative and negotiable.*

LW Part of the potential of redesigning the interface as we have done is to feed back responses between ourselves during the project.

TS We're keen to experiment with a non-governed network. We've been discussing rejecting a permanent site of storage. Temporally buffering data to be continuously directed towards, rejected from and re-directed to any number of servers, so data is never consciously organized by us at any point in a performance. ¹² (Italics my emphasis)

Composition as Explanation: Gertrude Stein

It is understood by this time that everything is the same except composition and time, composition and the time of the composition and the time in the composition (Composition as Explanation, Gertrude Stein)

Upon reflection it would seem that much of what has been labeled early twentieth century modernist thought, is closer to post-postmodernism in its insight and sensibilities. Bergson, Whitehead and James and many artists who were influenced by process thinking are relevant once again in the recursive feedback loop of culture. One artist of that era that is an outstanding example of practicing theory as Intuitive method, in a beguiling co-extensivity of form of content and form of expression is Gertrude Stein. I could argue that she indeed was a postmodern performance artist, or would be called that today, (Doruff, 2000) but that belies the point. Stein explored Time. She spent her entire career, from her early research with her mentor William James, at Harvard, to her salon infamy in a 1920's Paris bursting with invention, obsessed with the spatio-temporal hyphen. A personal friend of Whitehead and familiar with Bergson's popular discourse, she enfolded repetition and duration into composition. Her writing is a living example of Bergson's intersection with duration through intuition and Deleuzian difference through repetition. She is *of* the flow and has, eloquently, contributed to its theory. It's intriguing how Stein has remained marginal, if not altogether absent, from poststructural thought. Could it be that even Deleuze, coming a generation after Stein, didn't understand how she tapped his plane of

immanence and embodied his plane of composition so thoroughly as to jeopardize it? To mix to an unerring degree the artistic composing with the philosophers concept?

A disciple to no one, an autodidact rebel, it's clear to see traces of James and Bergson in her acceptance and rejection of certain postulates. She rejects memory and any limit to perception, which she indulges in as practice. But her art as discourse reads as composing Intuition. She seeks to enter duration through intuition. All the objects of reality are back-formed from that experience. She anticipates both Derrida's *differánce* and Deleuze's *refrain*, rhythm and the movement-image:

The pursuit of intuitive as opposed to apparent life required getting at the rhythm of a personality. Her rhythms are based on what appear to be repetitions, but she insisted, "I never repeat." What she meant was that with each seeming repetition "the emphasis is different just as the cinema has each time a slightly different thing to make it all be moving." She discards memory: "We in this period have not living in remembering, we have living in moving being." In Stein's aesthetic, chronological time is superseded as words are mobilized to reach an inner focus. (Loy, Mina, *Gertrude Stein*)

Nomadic movement, dynamic memory, the primacy of passage, freedom in mobility. The incorporeal materialism of affect, the body in transition with itself. She was tuned in to the strange loop, the möbius strip of inside/outside, the phase space of potential. Her rhythms tap the space in-between the beats,

"Composition is not there, it is going to be there and we are here. This is some time ago for us naturally." (Composition as Explanation, Gertrude Stein)

Tying in the lengthy discussion attached to the intuition of the half-second interval; what could either be the pregnant, bifurcating emergence of choice (philosophy's turn) or the impinging attraction of causality (science's turn) is an open question. Stein has said of composition "There is almost not an interval." Her meaning, presumably, that it is continuous, but not quite. A virtual "there," making it a spatiotemporal, composited lived experience; something which only intuition can enter and divide. "Is there a there there?" In that interval of pure relationality, of the pure event - is there a there there? Composition and intuition are co-extensive, are tendencies, just like perception and memory. Stein melded her past and future into an extended, "continuous present", as she called it. Like Bergson's past, which is continually additive, changed by the accumulation of present experience, never ever retrievable as a fixed recollection, it is the repetitive rhythm of difference and nuance.

Do we turn to memory? We note that its primary function is to evoke all those past perceptions which are analogous to the present perception, to recall to us what preceded and followed them, and so to suggest to us that decision which is the most useful. But this is not all. By allowing us to grasp in a single intuition multiple moments of duration, it frees us from the movement of the flow of things, that is to say, from the rhythm of necessity. (Bergson, 1991)

It is the linguistic inverse with a compatible rendering of Massumi's future-past, the recursive loop between past and future that eliminates the present in the event. The immediate proximity of before and after." (Massumi, 2002,58)

This is the thing that is at present most troubling and if there is the time that is at present the most troublesome the time-sense that is at present the most troubling is the thing that makes the present the most troubling. *There is at present there is distribution, by this I mean expression and time*, and in this way at present composition is time that is the reason that at present the time-sense is troubling that is the reason why at present the time-sense in the composition is the composition that is making what there is in composition.
And afterwards. (Stein, Composition as Explanation)

Composition as Process: Chance and Indeterminacy

What if there are twelve tones in a row? What row? This seeing of cause and effect is not emphasized but instead one makes an identification with what is here and now. He
40" then spoke of two qualities. Unimpededness and Interpenetration.
The relationship of things happening at the same time is spontaneous and irrepressible.
50" It is you yourself in the form you have that instant taken.
To stop and figure it out takes
time.¹³ (John Cage)

There was an aesthetic war of words between European and American composers in the 1950's through the 1970's regarding the description and integrity of "chance" composition. The Europeans, with Boulez as primary spokesperson, labeled their compositions that experimented with chance operations as *aléatoric*, from the French word *aléa*, for chance, risk, dice, and danger. The *aléatoric* has an implicit rule-set strategy in its rendered meaning. The definitive differences between "chance", "*aléatoric*", "improvisatory" and "indeterminate" were and are more divisive, in many ways, than clarifying. The transcontinental battle of style in the mid-twentieth century is steeped in cultural tradition, or lack there-of, and provides an historical diving board for jumping into the issue of aesthetic control that underlies the debate, fifty years ago and today. This longish quote from American composer William Hellerman is a personal clarification of the distinctions between the European *aléatory* and improvisation:

It seems to me there is a fundamental difference between *aléatoric* and improvisational music. Improvisation is concerned with the realization in real time of defined goals. *Aléatory*, by its very nature, does not recognize the existence of goals. Both differ from the traditional "classic music" by leaving open to the performer the choice of the specific materials to be used in the piece. They are often lumped together for this reason, and, also, because they are both thought to be "free." Actually freedom is not really the issue. *Improvisation at its highest, seeks meaning through spontaneity. Aléatory declares meaning to be spontaneity.* Both of these are very restrictive states. (Everett, Tom, 1971. "Questions and Answers," *Composer 2*, no 4, 82 In Cope, 1976, 149 My emphasis)

Aléatoric composition, from the European perspective may have had elements of spontaneity in its method but it was, above all, about controlling that spontaneity. It did not choose to relinquish the "composer" from the "composition".

John Cage was one of the first artists to use the term *indeterminacy* to describe a compositional process. It was a term with variously rendered transdisciplinary meanings along the lines of "indistinct," "unpredictable," "uncertain," "having inexact limits," etc., in mathematics, philosophy, biology, jurisprudence and physics. For Cage, *indeterminacy* in music alluded to a form of performative, compositional practice which for him was decidedly *not* improvisational but rather a framework for the performer to take responsibility and decision-making. He was firm on that point in the 1950's and felt that improvisational techniques relied on memory and taste and known patterns in such a way as to restrict the revelation of something new. He strictly delineated between compositions that used chance operations and compositions that were indeterminate. One of his most

infamous works, *4'33*, is drawn from chance operations using the I Ching. It consists of three movements of structured silence. It is not an example of indeterminacy at all. Curiously, Cage attributes a grim machinistic flavor to the degree of control in chance composition. He equates it with a de-humanization:

This is a lecture on music which is indeterminate with regard to its performance. The Intersection 3 by Morton Feldman is an example. *The Music of Changes is not an example*. In the *Music of Changes*, structure, which is the division of the whole into parts; method, which is the note-to-note procedure; form, which is the expressive content, the morphology of the continuity; and materials, the sounds and silences of the composition, are all determined. Though no two performances of the Music of Changes will be identical [...] no two performances will resemble one another closely. Though chance operations brought about the determination of the composition, these operations are not available in its performance [. . .] *The Music of Changes* is an object more inhuman than human [...] The fact that these things that constitute it, though only sounds, have come together to control a human being, the performer, gives the work the alarming quality of a Frankenstein monster. (*Silence*, 1961, 36 My emphasis)

Cage has also said by way of clarification that "Bringing about indeterminacy is bringing about a situation in which things would happen that are not under my control. Chance operations can guide me to a specific result, like the *Music of Changes*. An example of indeterminacy is any one of the pieces in a series called *Variations* which resemble cameras that don't tell you what picture to take but enable you to take a picture..." (Campana, 1985, 109)¹⁴ Even the graphic notations that Cage published in his provocatively non-hierarchical collection of graphical music scores, *Notations*, are not given to improvisational performance but rather indeterminate performance.

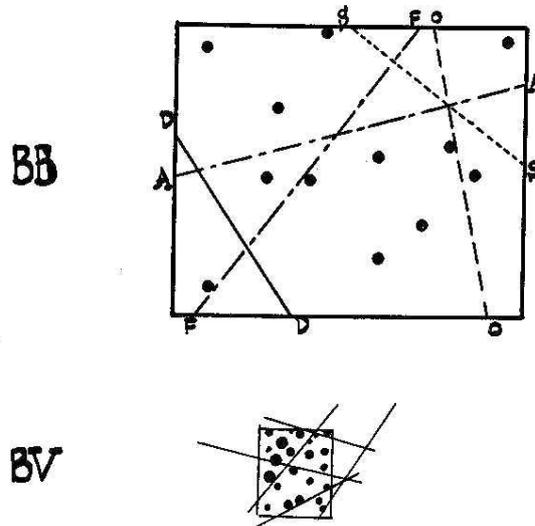


Figure 1: An example score: Notations BB and BV, Solo for Piano. © C.F. Peters New York 1958

The willing suspension of control is indeterminacy in practice. It is a concept that catalysed the divide between Euro/American avante-garde composition in the mid- 20th century. Control. European composers, in what is certainly a generalization, wanted to retain it; to invent through construction. For a certain American faction (Cage and Feldman in particular), the act of composing was precisely about relinquishing control. Although Cage played it both ways in that a large body of his work explored chance operations as described in the above remark, he, arguably, felt indeterminacy to be the more persuasive approach. We'll pursue this:

Indeterminacy implies art as process. No beginning, no middle, no end: that is, no longer will "objects" of music exist in that sense, but each new performance, each new circumstance, will create a continually variable process of ideas [...] *If art be process, then indeterminacy is the only viable way to proceed* [...] Indeterminacy philosophy must lie in a concept of disassociating man's significance as a creator, emphasizing the possibilities of man as creative performer/listener... (Cope, 1976, 169 My emphasis)

Indeterminacy in mid 20th century music composition had two vectors: composer indeterminacy (indeterminate with respect to composition, determinate with respect to performer) and performer indeterminacy (determinate with respect to composition but indeterminate with respect to performance). Cope has said of the performer indeterminacy that it "owes much of its development to the idea of "event."¹⁵ (Ibid, 174)

That is, that the unity of the singular event and its field of potential has more significance than the procedural or linear construction of elements. It is the nonlinear causality of *eventualizing*.¹⁶ This development places an historical role on the practice of contemporary indeterminate, collaborative composition that views itself as event-based rather than narratological or dramaturgical. There is of course a third type of composition that emerged in music in the 1950's which is indeterminate for both composer and performer. There is no score and there are no fixed materials. There is generally, no beginning or ending - only constraints from the composer and the situatedness of the performance. An early somewhat dramatic example might be Nam June Paik's first performance of *Homage to John Cage* (1959) in which he leapt from the stage to Cage's seat and slashed his shirt "cut off his necktie at the knot, poured a bottle of shampoo over his head, and then rushed out of the room" (Tompkins, 1965, 134) telephoning the audience later that the piece was finished. (Cope, 1976, 181).¹⁷ Contemporary jamming techniques, that use "found" text, images and sound from bots or sniffers or spyware applications that troll the Internet in search of material during the performance are recent examples of this form indeterminacy in performance.

Cage softened in the 70's to the idea of improvisation and coined the term "structural improvisation" which provided a means of situating performers so that they would be in unfamiliar territory and unable to rely upon style or memory or taste. It places structure in the fluid context of systems theory; mapping a relation of structure to emergence or the indeterminate:

"What delights me in this thing [...] is that the performer, the improviser, and the listener too are discovering the nature of the structure [...] Improvisation [...] that is to say not thinking, not using chance operations, just letting the sound be, in the space, in order that the space can be differentiated from the next space which won't have that sound in it." (Feisst, 2002)¹⁸

Across the Atlantic, composers such as Boulez, Lutoslawski and Evangelisti were irritated with the American model of indeterminacy. That irritation was focused on what they viewed as an abandonment of decisiveness, of choice-making. This was not composition. They did concur with Cage in their suspicion of improvisation, particularly 'free' improvisation. They preferred "controlled chance". Control is in this instance, choice. For the composers on both sides of the pond in the formative years of chance operations, there was little inclination to extract the composer from the composition, whether aléatoric or indeterminate. Ownership of the concept was never questioned, no matter how distributed the process of creation was. The slow yet steady infiltration of systems, chaos and complexity theory into arts practice are changing things. Non-hierarchical, decentered

approaches to the contingent processes of making experiment with the extraction of the choreographer from the choreography, the director from the play, the composer from the composition.

There is an interesting corollary here with Bergson's exercise of free will as creative and with the degree of choice in that lapse of 0.3 sec (or ± 47 ms if we anticipate a causal relation) that is described as the interval of the new or the "now" on a micro-level. On a micro-level - If there is no choice is there creativity? On a macro-level - If there is no controlling authority (director, composer, choreographer) is it art? Persistent, nagging and heated questions. How to structure improvisation to assist the indeterminate? How and when to set limit-controls on unpredictability? Can an aesthetic emerge from chance? Does choice (control) precede chance or are they co-extensive dimensions?

Choreographer/improviser Katie Duck (USA/NL) has said that

My special interest in improvisation is that my esthetic is 'chance'. It is what I love to see in a piece of work, it is what I find beautiful. The paradox here is that I do not want to communicate 'choice' as an esthetic. I want to communicate 'chance' as an esthetic. But, I cannot have 'chance' without 'choice'. (Interview, Tangent).

In the world of contemporary dance, improvisation as a concept and form can be observed in the work of Katie Duck and her itinerant group of dancers and musicians, Magpie. Duck has been researching chance and choice in choreography throughout her long career as an improviser. Drawing inspiration from John Cage, Jimmy Hendrix, Derek Bailey and Steve Paxton, Duck has developed a distinctive improvisatory style that emphasizes the 'exit' in group improvisatory performance. It is a strategy of subtraction, not unlike the Bergsonian concept of the continuous flux of images that the body filters to make of sense of sense. It echoes Libet's veto or inhibition, as the force of free will, of empowered choice in the split second now. But choice is a tool for Duck. It facilitates problematizing, which prepares intuition. It's a tool for scaffolding for the observable presence of chance. This is the aesthetic of a Magpie performance.

It is 'not' interesting, for me, that improvisation allows for the artists to make choices. I find that to be the problem of improvisation, not the solution! It is interesting for me that the artists can create a space for something to happen. That means not doing all of the choices.¹⁹ (Duck, *Interview*, Tangent)

Exploring the limits of choice, subtracting from the excess of presence, in-corporating in a strange loop of insided outside, the internal interval with the external world is *affectivity*.

The felt thought of the perception of perception. When looking specifically at the trained body of a Magpie performer, a body that is focused through patterning, on perceiving the emergence of chance through choice, we *can see the affective* in its most literal, living form. Duck's work emphasizes the complexity of the distinctions between chance and indeterminacy. Her work is closer to Cages' ideas of indeterminacy than his experiments with chance operations involving the I Ching or the Tarot. Though her method seemingly aligns with Boulez' insistence on choice/chance, Duck only uses ontological rule-based structures:

I have only a few words that I will bring to the rehearsals.

Movement = memory

Space / Time = choice

Exit = Chance (Duck, *Interview*, Tangent)

Let's parse this.

Movement = memory.

Consistent with Bergson certainly. Memory is continuous, qualitative and heterogenous. Memory is movement. Perception, it's 'binary' is spatial in its pure form. In its impure form as a composite of experience it is recursively folded back into the body as affect. One could hypothesize that the exaggerated movement transitions of a dancing body heightens memory over perception. Or, optimally, opens a path for intuition that distinguishes between the two tendencies. We begin to identify intuition with affect and with proprioception.

What I insist on from dancers is that they lose entering as an option. In fact, I would like the dancer/performer to only use what is of memory as an option. (Ibid)

Space/Time = choice.

a) Consistent with the spatiotemporal continuum of experience and the 0.3 sec 'now' (the cognitive blind spot between brain trigger and consciousness). It resembles a breakdown from microidentity to microidentity in miroworld shifts outlined by Varela. This would frame choice as a creative event.

Chance is what allows the ensemble to find order. It is not achieved by abilities to read scores or memorize patterns, though I do think this back round adds agility. Nothing to read, no patterns set to memory, *everybody has to change their role*. You have to listen to the space in the theater as if it was the heartbeat of an old animal in order to understand your role because it is shifting all of the time.²⁰ (Duck, *Interview*,

Proximity My emphasis)

b) Consistent with the sensorimotor present of Bergson which is durational (of time) and noncausal. Choice is not of time, it is of space/time.

c) Consistent with the update of Bergson by both Massumi and Hansen that embody the event of the sensorimotor present in affection. Either incorporeally or proprioceptively.

Exit = chance.

This is more cryptic and contextually specific to Duck's terminology. Exiting has an immediate effect on the relationality between the performers and the space. It evokes presence and its lack, absence. It globally changes the situatedness of the performers and audience. It produces an effect that triggers chance through operability. It is the broad gesture of presence/ absence that obviates the nuance of microidentity shift.

a) For Duck duration is the quantifiable time of the performance. It is not duration as the real time continuum we have established through Bergson. Interestingly, Duck describes choice and chance as a constant process while "experiencing time in rapid and suspended slots." So choice and chance or what we might otherwise call intuition or affect is a continuum whereas time (as duration in its street sense) is spatialized. When Duck says "There is no duration in an improvisation performance, unless it is set. " she means that the choreographer determines a length of interplay. She explains:

A performer who improvises dance or music using only choice as their time structure will eventually lose any perspective of the space because choices come rapidly under the condition of performance and/or ensemble, more rapidly than there is space to contain. Eventually, the performer is no longer choosing. This is why chance is such an important innovation for the improvisation dance performance. (Ibid)

b) So chance, as exit, would appear to act as a filter, as a limit-cycle. It acts as a stabilizing form of negative feedback to counter the runaway positive feedback of unlimited choice. It would seem to establish the conditions of complexity, a relational middle between chaos and order. The in-between of potential; of the event. The interval of affect. But Duck insists that that this process is *not* about transformative process. She positions choice and chance in a temporal dimension, in the perception or intuition that intersects duration (in the Bergsonian sense).

But it is most important that these two elements [choice, chance] represent time

structure. An approach which places meaning on choice as freedom (from the choreographer, from culture, from styles etc.) and chance as a transformation process (of ego, of nature, theology etc.) does not place the emphasis on the effect of the time and the space as choreography. (Ibid)

Choice is not free will. Check. Chance is not transformation. It is an operation.

c) Consistent with the in-between of the 'image' that is neither *representation* nor *thing*. That disavows choice as meaning, and chance as transcendental (Note: My reading of transformation in this context).

d) Consistent with the by now familiar refrain of the dissolution of subjectivity. Of the fading primacy of the liberal human subject and the ascendancy of the singular as plural. Though Duck does not invoke collaborative individuation, she places 'choice' in the collective flux:

In the way I work, the dancers need to lose the 'self'. The expression of the 'self' is of no value, for me, when improvisation is the structure. It is odd how improvisation leaves the whole piece to choice and how we identify choice as the liberation of the 'self'. *We can 'believe' that choice is what we are doing but actually choice is there without me or anyone else doing it.* We can all choose to do nothing, for example, or we can all choose to exit. (Ibid, My emphasis)

So if we return to our premise of situating the affective in Duck's construction of improvisation we focus again on the body. Quite specifically, ala Bergson, the body, as the privileged image, the center of indetermination. The body, for Duck, as the affective continuity of chance and choice. Bodies, in the plurality of an ensemble improvisation, resonating as indeterminate centers, intuiting the rhythm between the beats, the exit that is silence. Perhaps the most prescient remark in David Cope's book from 1976 that foresees aesthetics in a synergetic ecology:

Indeterminacy is a step-by-step (even pedagogical) approach to erase or *distribute that control over compositional elements* which so many have fought to retain, must first transcend man's loss of individual and "racial" ego. As such, it is merely the first step to a far-reaching eventuality: rejection of all homocentered creativity, and acceptance of all of the life around us, with man no longer in control, no longer the creator or destroyer of images or ideals, real or imagined. (170-1 My emphasis)

Here Cope intuitively taps the pulse, intersects the multiplicities of concept, function and

percept through a performative act of composition. Recall the posthuman paradigm - this is it; human and nonhuman (animal and machine) co-operative ecologies. Recall the joystick generation and their acceptance of 'out-of-control.' Recall interauthorship and the abdication of egocentric artwork. Recall collective individuation. Distribution. Resonance. Movement. Rhythm. Self, other, environment co-extensivity. Recall the intersection of other people's durations. Emergence emerges.

The recognition of this dualism, chance/choice vrs indeterminacy, encountered in the performing arts is significant. It drags the substantialist vrs. hylomorphic (essentialist) debate directly into the process of "form"-making in the arts.²¹ In the "essentialist" view²² that posits form inscribed on matter from the outside (by force, choice, language or culture) we can think of chance/choice improvisation as 'essentially' hylomorphic, transformation through transcendent means, outside agents. Choice inscribes matter, form. From a Deleuzian and post-Deleuzian perspective this is an unacceptable approach to morphogenesis, to transformation. From his perspective, chance is immanent to matter/form. Endogenous transformation can only emerge from the indeterminate, from the center of indetermination that Bergson found in the body, that for Foucault and Massumi is the incorporeal material, that is the internal resonance of Simondon. This is basis of multiplicities, they replace essences, even the tricky "essences" of process, of morphogenesis, of ontogenesis.

Composition as a Translocal Affective Interval

There can be no perception without affection. Affect exerts a kind of action on the body itself. It may be the relation between perception and movement (Deleuze), the power of the body to catalyse action on itself (Bergson), embodied virtual synesthetic perspectives (Massumi) or an extended internal interval (Hansen):

Thus, far from simply occupying the interval constitutive of perception, affection must be said to emerge *on the basis of another interval altogether*: the distance internal to the body as a form. This understanding yields a view of the body as an active, self-organizing (autopoietic) kernel possessing a virtuality proper to it. (Hansen, 2004, 225)

Deleuze unhinged this power from the body and placed it in an autonomous *framing* function outside the body - in selecting images from the universal flux; in the disembodied affection-image. In his book *New Philosophy for New Media*, Mark B.N. Hansen posits his thesis to return affectivity from the frame back to the body. The gap, filled by a hyphen, between the sensori and the motor is for Hansen the "proprioceptive interval" of affection

within the body. Hansen's reappropriates Deleuze's cinematically-oriented Any-Space-Whatever and transforms it to fit a digital context²³ - a digital Any-Space-Whatever (ASW) which is the autopoietic kernel of the space of the body that creates images of reality, "extracts a lived space from the universal flux of information and in so doing restores the possibility for belief in the world." (2004, 216).

To understand how affectivity can confer reality on our sense experience (including perception) we will have to modify our conception of the sensori-motor interval [...] For as the source of the force of sensation, affectivity does not simply occupy the interval between a sensory stimulation and a motor response; rather, it opens an interval within the body itself - an interval that allows the body to act on itself and thus operate as an internal space, or better, as a continuous body spacing. (2004, 215-6)

Now what has emerged here, in returning affection to the body, in re-embodiment sensation, is ostensibly, a return to the de-prioritization of the temporal that Bergson (and Deleuze) have long advanced. It is also a presupposition of this thesis: that translocal composition privileges the temporal, is *of* intersected durations experienced through an overfull interval in the affective/proprioceptive space of the body.

Intuitive, collaborative translocal composing is a form that has evolved from pan-disciplinary improvisational practice. The increasing availability of real time data transfer through broadband accessibility opens another performative dimension to the issues foregrounded here. I have stated earlier that this thesis uses Deleuze's description of composition and the 'event' as our reference for the processual production of the aesthetic. It is as much Stein's method and Cage's indeterminacy; a variegated weave of artist and philosopher, of percept and concept (the felt thought of relationality) that tumble in force field of sensation. In the next chapter we will examine KeyWorx composing as generating aléatoric and indeterminate lines of flight. It evokes the intersection of the concept, the function and the percept/affect and their respective planes of immanence, reference and composition and begs the question of *interference* between these discrete domains. Does it catalyse an event-dimension, penetrable through intuition, in which the new can emerge from nuance? Does the structure and organization of the technology, though limited by an input/output methodology, enable this potential through its multi-user tendency or force? Is the experience of composing intensified because it is mirrored and shared; socially convened and culturally exposed?

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² Derek Bailey notes the contingent nature of musical improvisation, and its subsequent resistance to analysis: "...[A]ny attempt to describe improvisation must be...a misrepresentation, for there is something central to the spirit of voluntary improvisation which is opposed to the aims and contradicts the idea of documentation" (ix).

³ Berliner, Paul. *Thinking in Jazz: The Infinite Art of Improvisation*. Chicago: University of Chicago Press, 1994.

⁴ Influential Parisian theorist and actor (1879-1949) and contemporary of Bergson. Copeau promoted "the *art* of improvisation and the illusion of spontaneity" (155) in his actors, and sought to define a "pre-established form which is inspirational" (158). Apart from repeating the idea that improvisation occurs within a matrix of constraints, Copeau draws our attention to the self-reflexive awareness required of performance." (Copeau, Jacques. *Copeau: Texts on Theatre*. Ed. & Trans. John Rudlin and Norman H. Paul. London:

Routledge, 1990 .5-6; emphasis in the original) In: Marshall Soules, *Improvising Character: Jazz, the Actor, and Protocols of Improvisation*, 2001

⁵ The term “Spontaneity” vaguely conceived seems to be commonly used as free, unstudied, extroversive behavior, or as a personality attribute without relation to environment, situation or culture. Were the term scientific, it would refer to dynamic organism-as-a-whole environment behavior. It is in this sense that the term is used in this text. Spontaneity may arise in the thought processes and from individual initiative, or in Social processes, or in the Integration of both. In any case spontaneity gives the impulse to action or achievement. (Boyd, Theory of Play)

⁶ Play is a dynamic irradiant, organism-as-whole experience and like all behavior it can be evoked by stimuli of various sorts. Observation of play behavior in man shows it to be different from all other forms of behavior. Play behavior employs many mediums of expression varying in character at various times of life but it is distinct behavior different from other forms. Play behavior has produced some units of behavior or patterns that are called dances, games, sports, drama, stories, etc. These play activates were produced in the play life of common people. (Neva L. Boyd, The Theory of Play)

⁷ Spolin’s game theory for improvisation was extensively used in the early days of the `open Theater by Joseph Chaikin and by Peter Brook. Countless actors have studied this technique which remains lively in the work of Second City, in Chicago, run by the son of Spolin, Paul Sills.

⁸ Massumi’s “glue” metaphor as an in-between substance might be better reconsidered, metaphorically, as a lubricant rather than an adhesive. A substance of transduction between planes, strata and durations with a varying viscosity, producing variable frictions.

⁹ Chernoff, John Miller, Chicago, The University of Chicago Press, 1979

¹⁰ http://crossfade.walkerart.org/brownbischoff/hub_texts/hub_aesthetics_f.html

¹¹ http://crossfade.walkerart.org/brownbischoff/hub_texts/points_of_presence_f.html

¹² <http://webjam.nsad.ac.uk/decentred/pages/interview.html>

¹³ Cage, John, “45’ for a Speaker” In: *Silence*, 155. I chose this excerpt aléatorically. I opened the book to a random page and chose a text from that page.

¹⁴ D. Campana, "Interview with Cage (1985)," *Form and Structure in the Music of John Cage*, Ph.D. Northwestern University Evanston 1985, 109.

¹⁵ With the occurrence of two sounds whose timbre, structure, and dynamics are so different as to avoid the traditional concept of melody, these entities become events, that is, equal in importance but not necessarily building to a climax or part of a cadence. The introduction of silence is an integral part of a composition, to be treated as an equal with sound, becomes a help with identifying these events in time. The events become important in themselves, and contribute less to the phrase, period or movement of the work. As these sounds separate, consideration of the significance of their order becomes immediately suspect; that is, if each "event", each unit, is predominantly important in itself, the order of these units becomes less and less important. (Cope, 1976, 174)

¹⁶ Gilbert Simondon ...

¹⁷ There is a slightly different account of this 'happening' in a review found on the web: <http://www.medienkunstnetz.de/works/hommage-a-cage/>

One review of the music action gives the following account: 'On top of the ladder sat the poet Helms, reading the score from a roll of toilet paper. Beneath him were the instruments: two pianos (one of which had no keys), tape recorders, tin cans with stones, a toy car, a plastic train, an egg, a pane of glass, a bottle holding the stump of a candle, and a music box. The audience was urged to be careful: Stand back, please! The cries of twenty distressed virgins rang out from the tapes, then came the WDR news broadcast. (...) In the fourth movement, the finale furioso, Paik ran about like a madman, sawed through the piano strings with a kitchen knife and then overturned the whole thing. Pianoforte est morte. The applause was never-ending.' Paik repeated the action a number of times in Mary Baumeister's Cologne studio in June, 1960. In October of the same year, the studio also hosted a joint concert by Cage and Paik, who in the course of his 'Etude for Piano' cut off Cage's tie then washed his co-performer's hair with shampoo.

¹⁸ "John Cage and Roger Reynolds. A Conversation," *Musical Quarterly*, 65, 1979, 581. In: Feisst, Sabine, 2002, *Losing Control: Indeterminacy and Improvisation in Music since 1950*, New Music Box

¹⁹ Corbet, David, 1999. Katie Duck: An Interview, *Proximity*, vol 2, ed 3, http://proximity.slightly.net/v_two/v2e4a2.htm

²⁰<http://www.katieduck.partists.com/interviews/>

²¹ To review this issue we can best look to Simondon and his isomorphic reconciliation in his concept of “individuation”:

When the living being is considered as an individual, there are two ways in which it can be conceived. There is the substantialist viewpoint, which conceives the unity of the living being as its essence, a unity that is provided for itself, is based on itself and is created by itself; a unity that will vigorously resist anything that is not itself. There is also the hylomorphic viewpoint, which regards the individual as having been created from the conjunction of a form and some matter. [...] in both cases there is the assumption that we can discover a principle of individuation, exercising its influence before the actual individuation itself has occurred, one that is able to explain, produce and determine, the subsequent course of individuation. Taking the constituted individual as a given, we are then led to try to recreate the conditions that have made its existence possible. (Simondon, 1992, 297)

²² Delanda explains essentialism in Deleuze’s context:

In a Deleuzian ontology [...] a species is not defined by its essential traits but rather by the morphogenetic process that gave rise to it. Rather than representing timeless categories, species are historically constituted [...] And while an essentialist account may rely on factors that transcend the realm of matter and energy (eternal archetypes for instance), a morphogenetic account gets rid of transcendent factors using exclusively form-generating resources which are immanent to the material world [...] there may be similarities of process which still demand an explanation. we may be tempted to reintroduce essences through the back door. These would not be essences of objects, but essences of processes, but essences nonetheless. It in order to break this viscous circle that multiplicities are introduced. (Delanda, 2002, 10)

²³ [...] it differs from the cinematic on account of the means by which it operates this shift: whereas the cinematic ASW emerges as a transfiguration of an empirical spatial experience, the digital ASW comprises a bodily response to a stimulus that is both literally unprecedented and radically heterogeneous to the form of embodied experience. (Hansen, 2004, 205)