

# Symbiotic Synergies

Organisation and Mutual Exploitation  
in Interdisciplinary Collaboration

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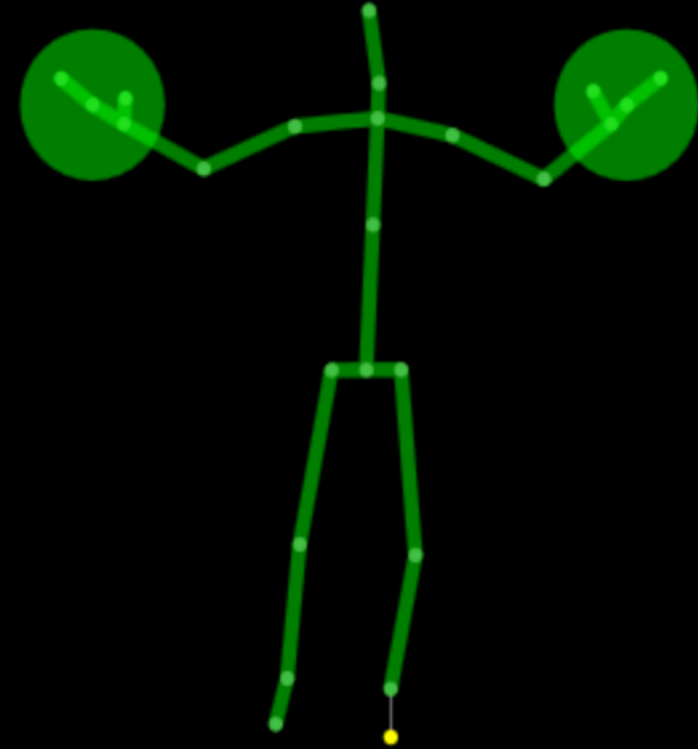
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the practice of disciplinarity is  
bound up in self-affirming  
incestuous cycles

(Experience Bryon)



MotionNode (inertia measurement unit)



Kinect (depth perception camera)

# Stratofyzika



THÆTA, 2012

Heather Nicole with IMU on right arm



# Danceroom Spectroscopy



*Hidden Fields, 2013*

Audience interacting with sound & visuals  
through depth perception cameras



# Marco Donnarumma



*Hypo Chrysos, 2013*

Xth Sense, biophysical sensors gather data from pulse, blood flow, and muscle activity





Analogue turntables/mixer



Digital controllers

1: What similarities can be observed between the interactions of organisms engaged in symbiotic relationships and those between practitioners engaged in interdisciplinary collaboration?

2: How can the core traits of symbiosis be interpreted into a framework for interdisciplinary collaboration in performance practice?

3: How can the interpreted symbiotic traits inform a model of interaction between sound and movement through gesture recognition technologies (GRT)?



art as “the imitation of Nature  
in her manner of operation”

(John Cage, in Sabine M. Feisst)

all living things are mutually  
interdependent

(Rene Dubos)

# Symbiosis

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## **Etymology**

σύν (together) & βίωσις (living)

## **Definition**

close & persistent relationships between organisms of different species

## **Traits**

interspecificity, persistence, closeness, host & symbiont roles

# Types of symbioses

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Typology	Fitness outcome	
	Symbiont	Host
<b>Mutualism</b>	Positive	Positive
<b>Commensalism</b>	Positive	Neutral
<b>Parasitism</b>	Positive	Negative

labels like mutualist, commensal, or parasite  
don't quite work as badges of fixed  
identity... they describe how two partners  
relate to one another at a given **time** and  
**place**

(Ed Yong)

Why prolong harmful relationships? If a parasite is too good at causing harm to its host, then the host will die, along with the parasite. There is more benefit in a prolonged **peaceful exploitation**.

(Ian Goodhead)

A well-functioning partnership could easily be seen as a case of **reciprocal exploitation**. 'Both partners may benefit but there's this inherent tension. Symbiosis is conflict – conflict that can never be totally resolved'

(Ed Yong/Toby Kriers)

Symbiotic interactions are those relationships between organisms that permit some species to **overcome** their physiological **limitations** by exploiting the capacities of others

(Angela Douglas)

Collaboration offers partners an opportunity to transcend their individuality and to **overcome** the **limitations** of habit, and of biological and temporal constraints

(Vera John-Steiner)

# Interpretation

## Symbiotic relationships

organisms

symbiont

host

interspecificity

biological traits

closeness

persistence

fitness outcome

typology

## Interdisciplinary collaborations

instigator

practitioners

directee

expressive  
mediums

interdisciplinarity

direct engagement

complete involvement

influence

expressive range



**Symbiotic  
relationship**

host  symbiont

**mutualism**

host  symbiont

**commensalism**

host  symbiont

**parasitism**

**collaborative**

instigator  directee

**interactive**

instigator  directee

**directive**

instigator  directee

**Interdisciplinary  
collaboration**

Stage		Collaboration mode		
		<i>Mutualism</i>	<i>Commensalism</i>	<i>Parasitism</i>
<i>Genotype</i>	<b>Conception</b>	equal contribution towards brief development	one discipline /practitioner acts as initial stimulus	Instigator practitioner/ discipline defines brief
	<b>Development</b>	mutual influence between disciplines & practitioners	practitioners utilise own resources independently	instigator practitioner/ discipline guides directee
<i>Phenotype</i>	<b>Manifestation</b>	bi-directional influence	greater influence on one discipline/of one practitioner	directee restricted in supporting instigator



Shona Roberts, Summer Hall, 2014



Frances Kay, Islington Mill, Jul 2015



Teresia Björk, Fylkingen, June 2016



Ali Matthews, MediaCityUK, Apr 2016



Lucie Lee, Talbot Mill, Oct 2017



Ana Berkenhoff, MediaCityUK, Dec 2015



Lucie Lee with *DeviceD* tactile feedback wearable system (developed by Barry Carter)

processes of making work in the performing arts are, and arguably always has been, collaborative

digitally influenced interactions did not allow the ideology of the single author to be maintained and challenged the doctrine by putting forward notions of collaborative endeavour and shared ownership.

(Ghislaine Boddington & Christopher Bannerman)



John Cage & Merce Cunningham, *Variations V*



The very term symbiosis has been twisted so that its original neutral meaning – ‘living together’ – has been infused with... flaky connotations of cooperation and harmony. But evolution doesn’t work that way. It doesn’t necessarily favour cooperation, even if that’s in everyone’s interests.

(Ed Yong)

organisms don't care. It's not a  
nice relationship. It's just biology

(Forest Rohwer)

## **Collaborator**

1 - a work partner, peer, colleague

2 - to cooperate with an enemy, a traitor

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## **Discipline**

1 - a delimited field of study, a subject

2 - correction by way of punishment

## **Parasite**

1 - someone who takes advantage of others without reciprocating, a sycophant, a leech

2 - one who eats at another's table

## **Exploitation**

1 - the action or fact of deriving benefit from something by making full or good use of it

2 - the action or fact of taking advantage of something or someone in an unfair or unethical manner



*Corpus Nil*, Marco Donnarumma & Baptiste Caramiaux

Collaboration is not absence of  
tension, but fruitful cultivation of tension

(Moran & John-Steiner)

Politeness...is the poison of all good  
collaboration

(Francis Crick)

the posthuman is not a singular, defined individual, but rather one able to see the world through 'heterogenous perspectives', 'embody different identities', and employ the 'loving care people might take to learn how to see faithfully from another's point of view'

(Danna Haraway)



Collaborators are not homogenous people, but rather individuals with different perspectives, expertise, conceptualisations, working methods, temperaments, resources, needs, and talents

(Vera John-Steiner)

if we aren't different, then we don't need to collaborate

(Yancey & Spooner)

Symbioses are the ultimate examples  
of success through collaboration

(David Relman)

# *Symbiont*

symbiotic modes of interaction

Manoli Moriaty

Shona Roberts

Lucie Sykes

# Symbiosis

Definition two **different** species living together within a dynamic partnership

Mutualism one moment **both** partners benefit

Commensalism sometimes  
one benefits **without affecting** its partner

Parasitism other times  
one benefits while **harming** its partner

# Interpretation

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**biological traits**

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**creative practice**

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organisms

practitioners

interspecificity

interdisciplinarity

harm/benefit

restriction/liberty

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# Symbiosis

Definition two artists of **different** disciplines interact through a system of dynamic sonic modulations

Structured improvisation **Dancer** structures movement towards sound design  
**Musician** adds layers of modulation

Free improvisation **Dancer** performs independently of sound design  
**Musician** distributes modulations to sounds

Choreography **Dancer** repeats choreographed routine  
**Musician** adjust level of modulation

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