



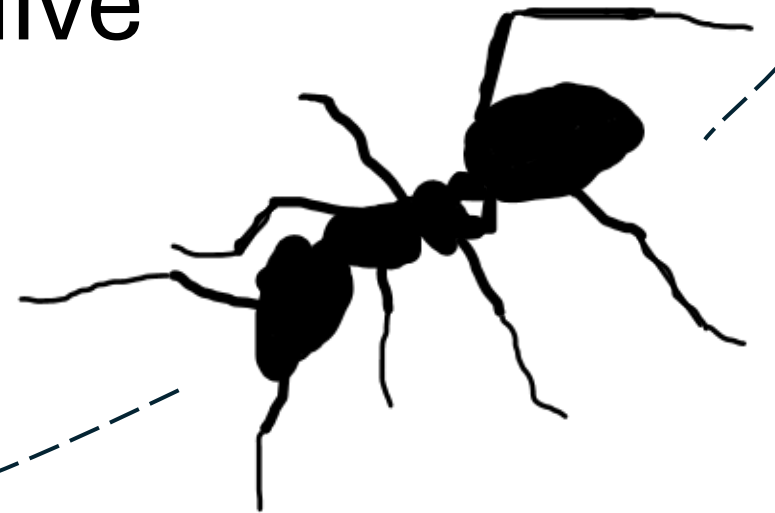
Plants & Ants

A Biological Study of Myrmecochory in
Dicentra cucullaria and a Literary Study of
the Rhizome & the Hive

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I.S. Symposium

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Outline

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 - Aims & Methods
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 - Conclusions
- English
 - Introduction
 - The Rhizome
 - The Hive
- Conclusion



Chapter 1: Biology

Myrmecochory in *Dicentra cucullaria*

What is myrmecochory?

↓
mŭrmĕx

↓
khōréō

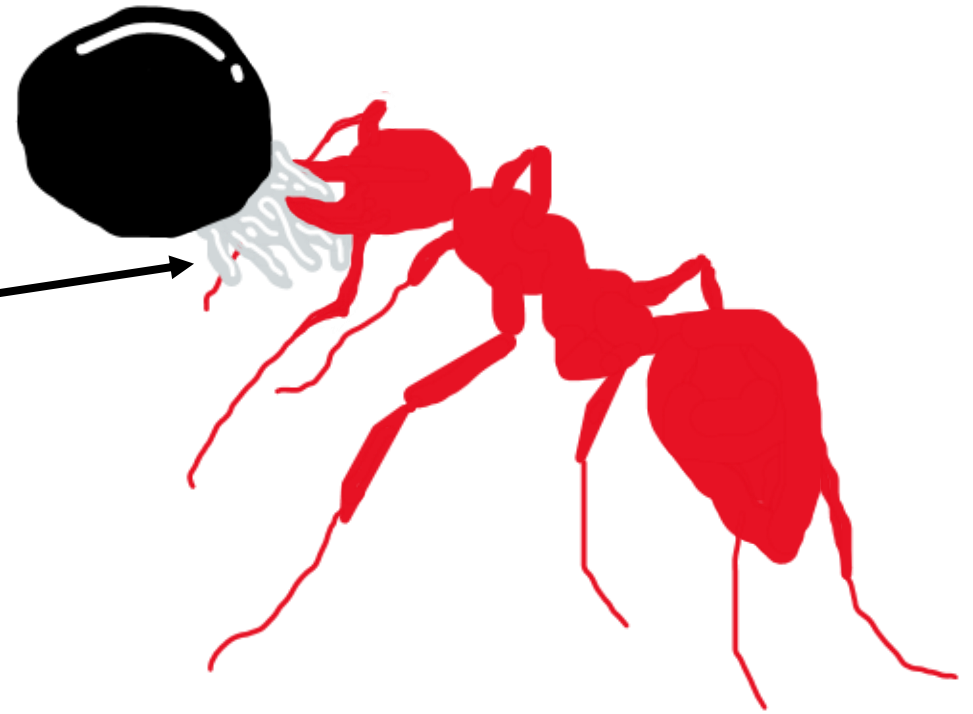
↓
ant

+ to move or spread

=

ant-mediated seed dispersal

- Mutualism between plants and ants
 - Plants get seed dispersal
 - Ants get to eat elaiosomes
- Occurs in over 11,000 plant species [1] and ~100 ant species [2]



Study species: *Dicentra cucullaria* (Dutchman's breeches)

- Wildflower native to much of eastern North America
- Spring ephemeral
- Myrmecochore (ant-dispersed plant)



(Go Botany)



(Missouri Wildflowers Nursery)

1 cm

Aims

1. Quantify rates of seed removal at sites with and without *D. cucullaria* naturally present

2. Identify species of seed-dispersing ants

Methods

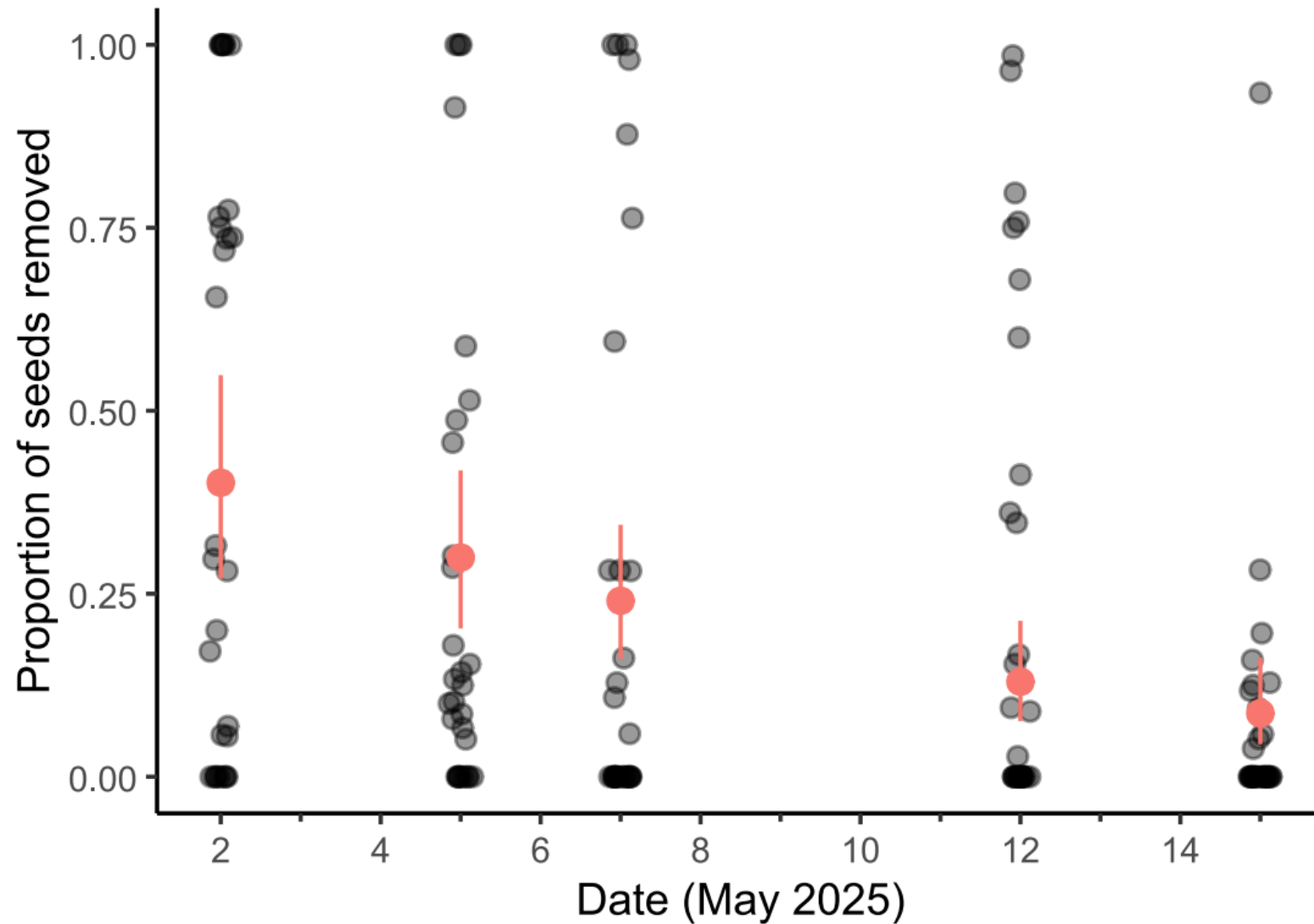


Seed Depots

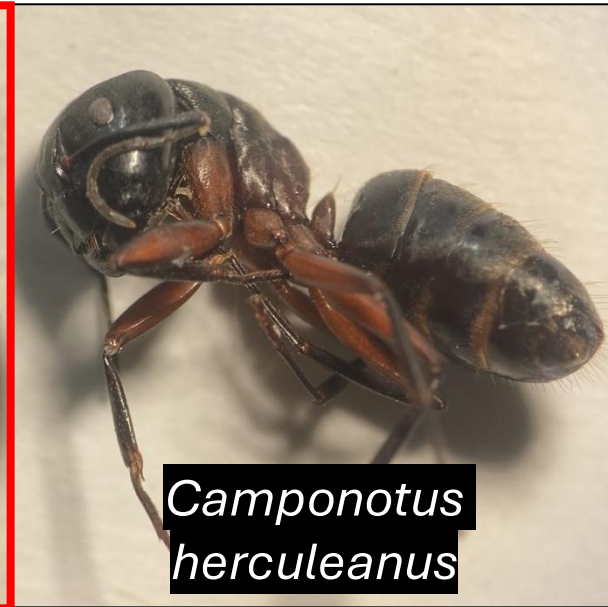


Baited Pitfall Traps

- Ants visited most seed depots (56%)
- *D. cucullaria* presence had no effect on seed removal
- Date was the only significant predictor of seed removal



- I collected 30 ant specimens representing six different species
- 70% were *Aphaenogaster* spp., 50% were *A. picea*



Conclusions

- Seed dispersal mutualism is active and involves keystone species of seed-dispersing ants (*Aphaenogaster* spp.) [3]
- Seeds became less relatively attractive to ants over time
 - Possible causes:
 1. Deterioration of elaiosomes over time
 2. Ant satiation with elaiosomes [4, 5]
 3. Emergence of other food sources (e.g. *Dicentra canadensis* seeds)
 - Could select for early fruiting → maintenance of early spring phenology
- *D. cucullaria* doesn't seem to spread extensively through asexual/clonal growth [6] → seed dispersal is important!

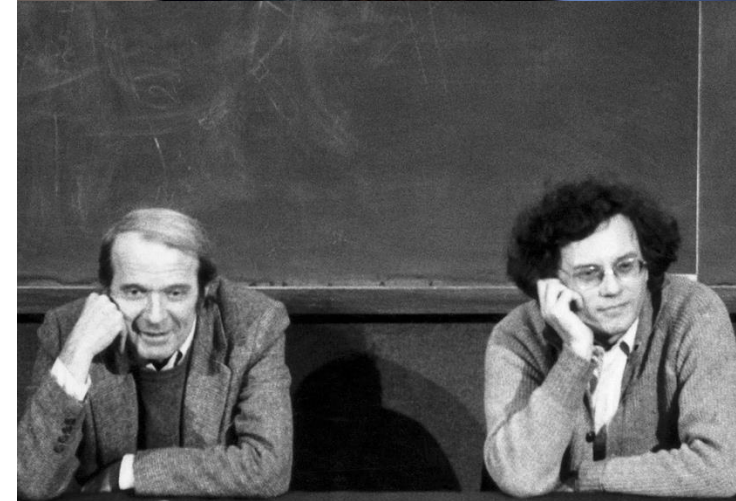
Je souhaiterais finalement, et l'idée m'en est venue
in extremis il y a quatre jours, intituler ce propos
« Fourmis », le « four/mis », « *four/me* », le mot ou la
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en
An
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se
ice
exemplaire, de ce qui arrive en me *touchant*, de ce
qui m'arriva ces jours-ci, sans doute de très loin mais
ces jours-ci, comme par hasard, et qui provient, cet

Chapter 2: English

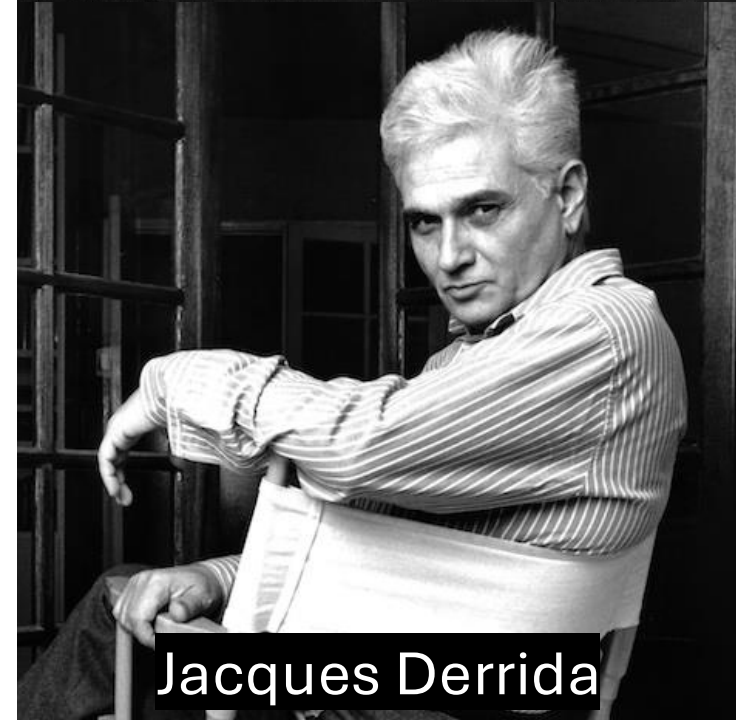
The Rhizome and the Hive

Introduction

- Colonial European modes of understanding are naturalized and universalized
 - E.g. binary logic, linear time, subject/object divide, categories and hierarchies of gender and race
- Many decolonial, antiracist, feminist, and environmentalist (etc.) thinkers resist colonial logic
- Postmodernist and poststructuralist theorists claim to resist colonial logic but sometimes fall back into it



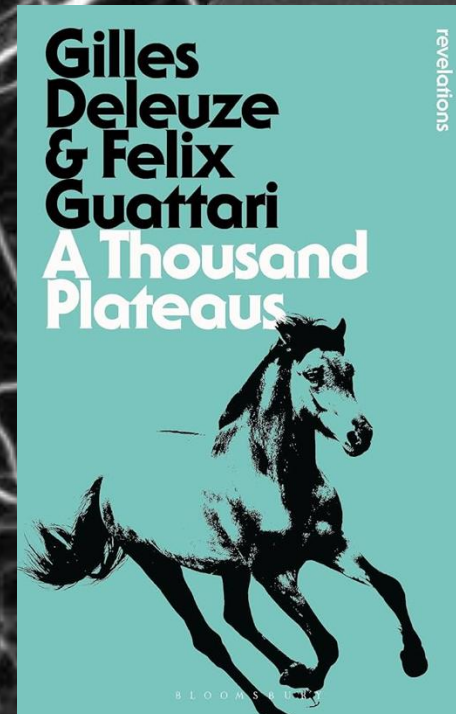
Deleuze & Guattari



Jacques Derrida

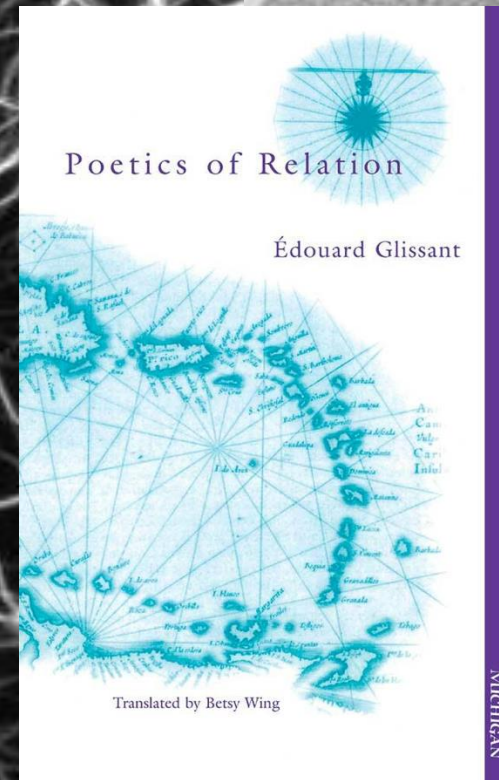
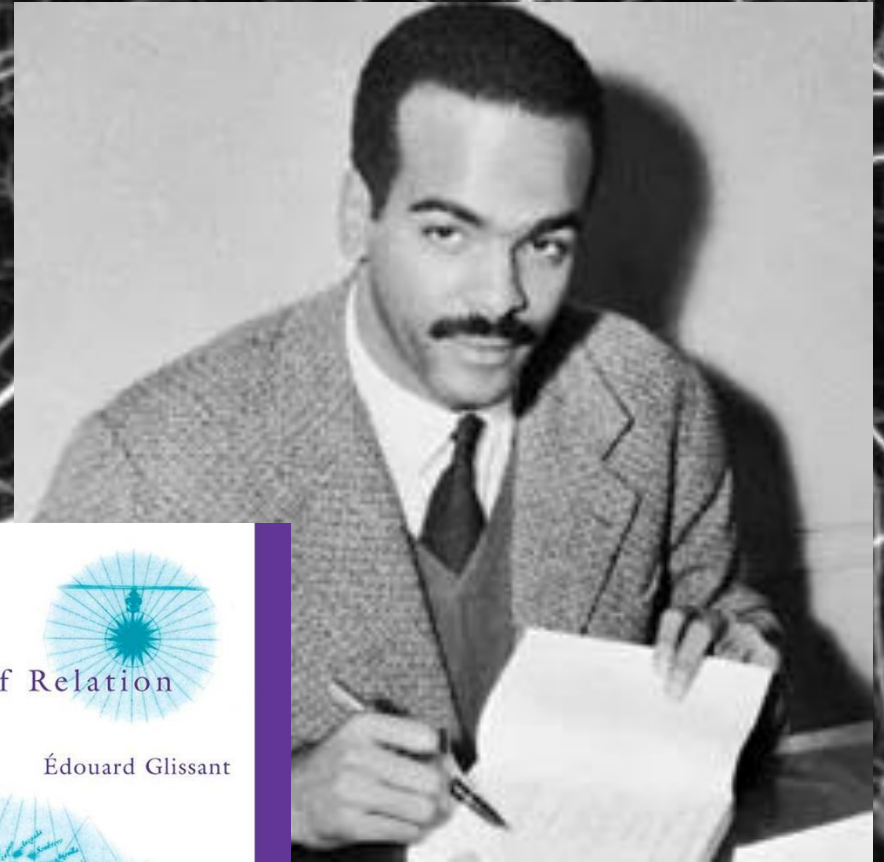
Rhizome: Deleuze & Guattari

- Present the rhizome as a decentralized, non-hierarchical, non-linear form of organization and relationality
- Fail to apply the rhizome or give it any material context
 - The rhizome itself becomes idealized, universalized



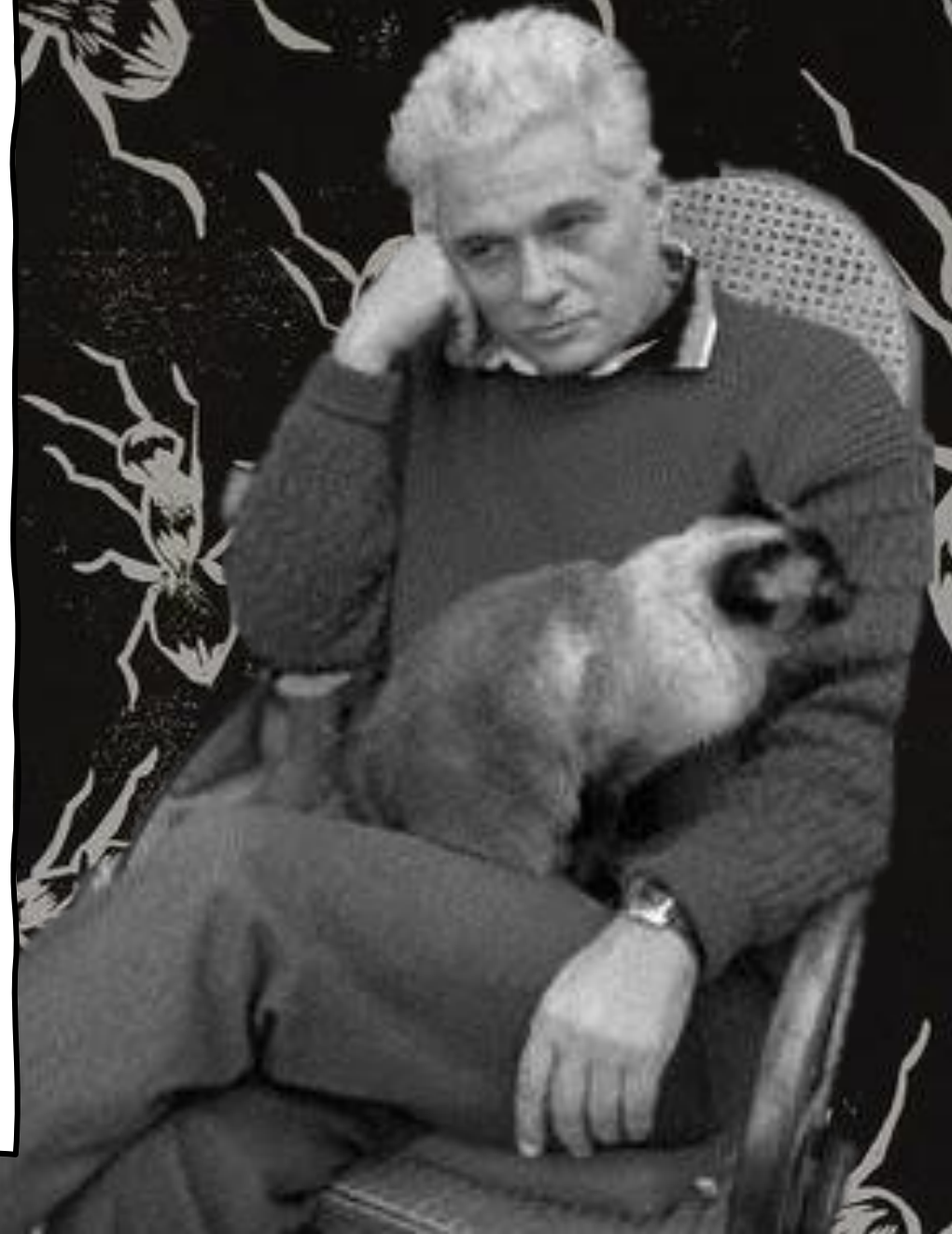
Rhizome: Glissant

- Poetics of Relation: meaning and identity as relational rather than self-sufficient
 - Relationships with cultural Others can be meaningful rather than extractive/oppressive/assimilatory
 - Identifies postcolonial potential of the rhizome
- Glissant does not idealize or universalize the rhizome
 - Encourages “other succulencies of Relation” (p. 21)



The Hive: Derrida

- Deconstructs sexual difference but fails to consider roles of race and coloniality
- Sexual difference is unknowable in ants due (in part) to their blackness
 - Reifies colonial & white supremacist beliefs which degender women of color
- Division of reproductive labor in ant hives as revolutionary, feminist
 - Ignores the reality of women of color already expected to do reproductive labor for others



Conclusions

- Deleuze & Guattari and Derrida both attempt to challenge aspects of colonial logic
 - Hierarchical forms of organization, traditional notions of gender and sexual difference
- Both arguments have significant limitations
 - Deleuze & Guattari universalize their alternative form of relationality
 - Derrida fails to consider how coloniality and race shape gender
- The rhizome and the hive are still useful or interesting structures
 - Glissant applies the rhizome
 - Octavia Butler pushes the boundaries of the r(hive)zome

Why an Interdisciplinary Project?

- Plants and ants don't respect boundaries between disciplines
- The natural world shapes theory
- Social and political power dynamics shape our view of the natural world



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Thanks for listening!