Welcome to Otherland

In Otherland, we will examine a scientifically inspired philosophy known as Wild Systems Theory, an approach to understanding living systems, including humans, that conceptualizes them as living stories. That is, instead of thinking of people as physical bodies having either spiritual souls, mental minds, or both, we will come to understand persons as energy-transformation systems that continually intake, transform, and dissipate energy in the name of remaining a living system. Given such systems emerge step-by-step out of the trajectory of lived life, they are story-like; that is, they are narratives. And because these narratives always reside and emerge at the intersection of choices and chance, they are wild. In short, we are wild narratives.

An essential aspect of being a wild narrative is creating and sustaining borders at multiple, nested levels of scale, from the molecular, to the biological, psychological, sociological, cultural, and the cosmic. To get a grip on just how thoroughly our wild narratives are constrained and contextualized by our many self-created borders, we will engage with a collection of superb graphic novels. Specifically, in addition to investigating the personal and cultural borders the characters in these narratives generate and sustain, we will also examine how comic creators/authors/illustrators utilize the very structure of graphic novels (e.g., imagery, text, panel sizes, page turns, etc.) to create contexts and contrasts that reveal the borders of our perceptions, cognitions, and expectations. This idea—that creating borders necessarily creates relational contrasts—is referred to as 'othering.' And as you move through Otherland, you will come to understand just how profoundly your own 'othering' has shaped your life. In the end, it will be up to you to decide if Otherland is an imaginary place, or if it might be the case you've been living in Otherland your entire life.

Welcome to Otherland

In Otherland, we will examine a scientifically inspired philosophy known as Wild Systems Theory, an approach to understanding living systems, including humans, that conceptualizes them as living stories. That is, instead of thinking of people as physical bodies having either spiritual souls, mental minds, or both, we will come to understand persons as energy-transformation systems that continually intake, transform, and dissipate energy in the name of remaining a living system. Given such systems emerge step-by-step out of the trajectory of lived life, they are story-like; that is, they are narratives. And because these narratives always reside and emerge at the intersection of choices and chance, they are wild. In short, we are wild narratives.

An essential aspect of being a wild narrative is creating and sustaining borders at multiple, nested levels of scale, from the molecular, to the biological, psychological, sociological, cultural, and the cosmic. To get a grip on just how thoroughly our wild narratives are constrained and contextualized by our many self-created borders, we will engage with a collection of superb graphic novels. Specifically, in addition to investigating the personal and cultural borders the characters in these narratives generate and sustain, we will also examine how comic creators/authors/illustrators utilize the very structure of graphic novels (e.g., imagery, text, panel sizes, page turns, etc.) to create contexts and contrasts that reveal the borders of our perceptions, cognitions, and expectations. This idea—that creating borders necessarily creates relational contrasts—is referred to as 'othering.' And as you move through Otherland, you will come to understand just how profoundly your own 'othering' has shaped your life. In the end, it will be up to you to decide if Otherland is an imaginary place, or if it might be the case you've been living in Otherland your entire life.

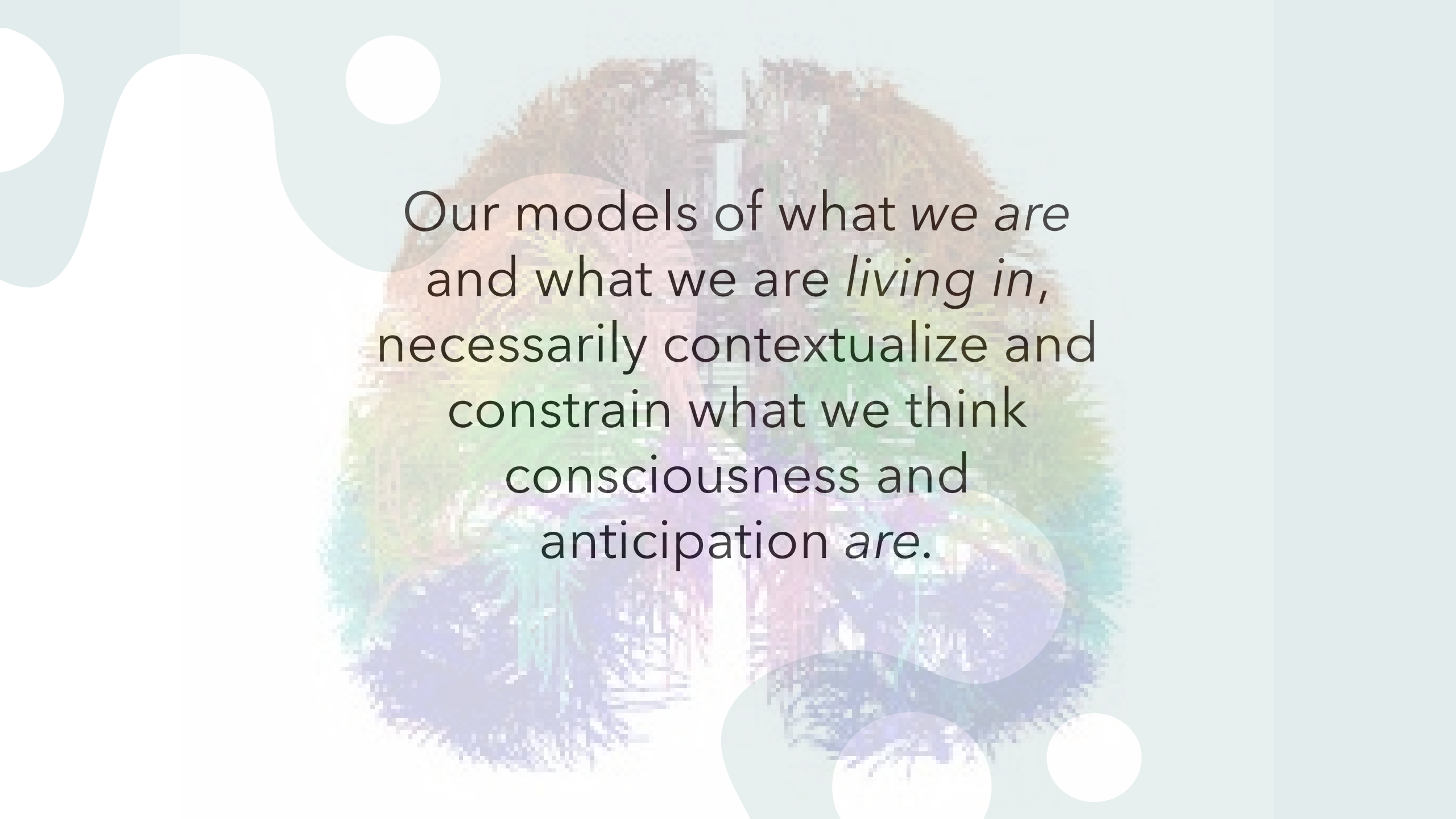# Things to admit up front…

I LOVE science

I LOVE the taste of ice cream

Science currently makes assumptions about what people ARE that prevent the taste of ice cream from being *necessarily* real

This makes me very sad

Of course, my sadness is just as unreal as the taste of ice cream

Are there different ways to talk about reality so that the taste of ice cream can be real?

Our models of what *we are* and what we are *living in*, necessarily contextualize and constrain what we think consciousness and anticipation *are*.

Spirits in a material world

Informational minds in a physical world

Physical minds in a physical world

Quantum minds in a quantum world

OUTLINE

Examine predominant contemporary take on reality of anticipation and consciousness
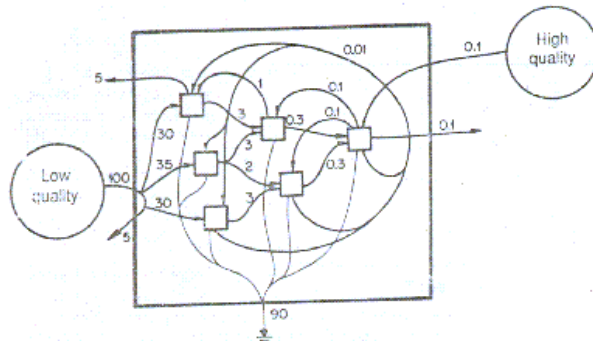
Informational minds in a physical world

Implications for Anticipation and Consciousness

Alternative perspective:
Anticipation and Consciousness as *Self-sustaining Embodiment of Context*

What if energy transformation is what we *are*?
Kauffman (1995), Maturana & Varela (1980), Rosen (1981)

Self-organizing

Hierarchy

Energy-transformers, not physical/mental systems

What if energy transformation is what we *are*?
Kauffman (1995), Maturana & Varela (1980), Rosen (1981)
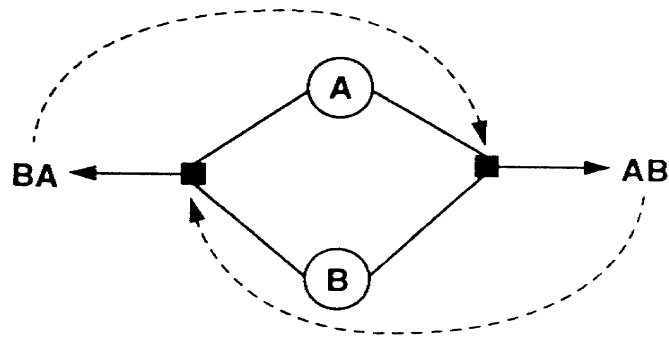
Autocatalysis
Sustainment Within a Transformation Hierarchy

Chemical interactions produce their own catalysts

Living systems are self metabolizing systems

The work produces products that actually sustain the work
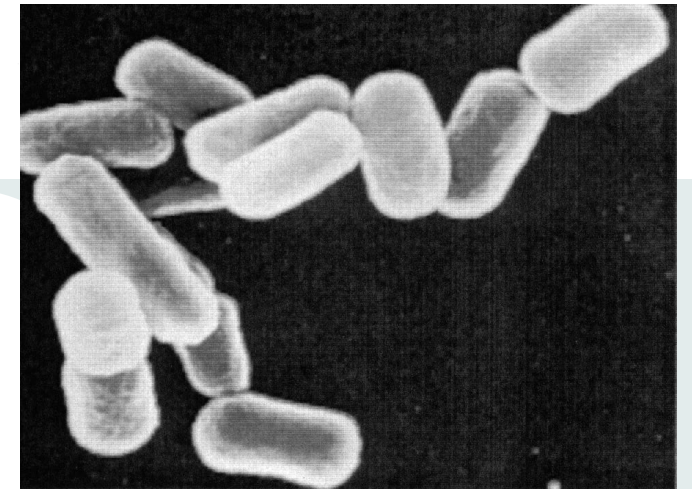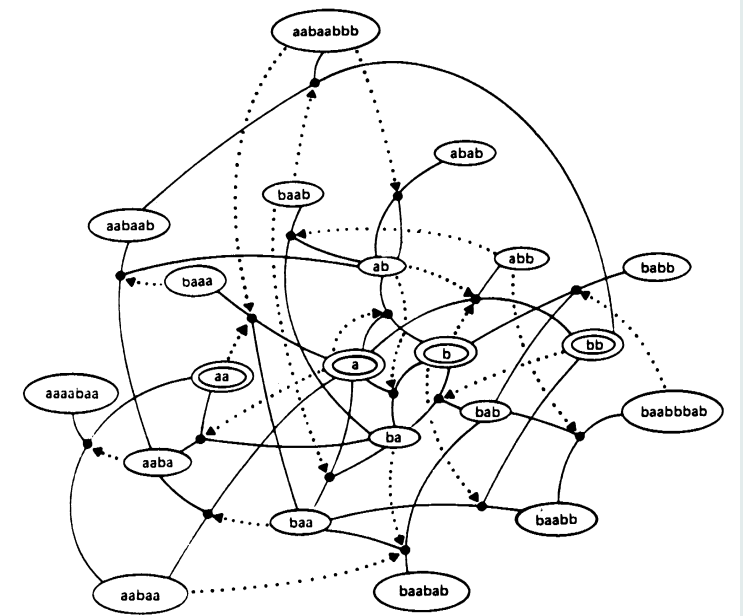(self-sustaining work)

From Kauffman, 1995

All Wild Narratives (living systems) *necessarily* create borders between themselves and context.

These borders *necessarily* create system/non-system distinctions.

Wild Systems Theory (Jordan, 2013) refers to these distinctions as 'othering.'

We are constituted of multiple, nested scales of 'othering.'

Multiple, Nested Levels of Othering

:
Neurons (Hebb, 1949)
Brains (Edelman, 1989)
Behaviors (Skinner, 1954)
Recursion (Bickhard, 2001)
Wild Systems Theory (Jordan, 2013)
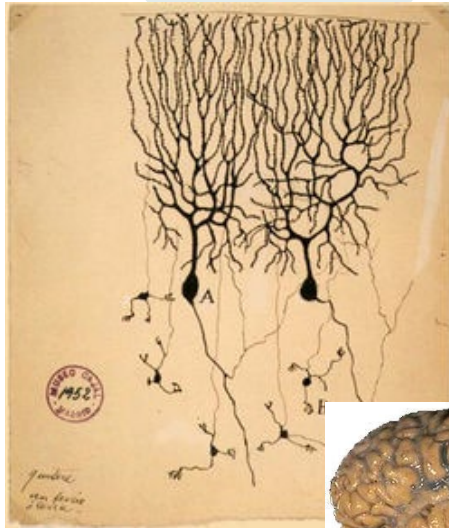
How Brains Create Otherings

After Miall (2003)

anticipatory motor error (Kawato et al. 1987)
virtual feedback (Clark, 1997)
dynamic state *estimation* (Paulin, 1993)

120 msec

Motor Cortex

Musculo Skeletal System

Environment

10 msec

Otherings!

Cerebellum

Command-feedback regularities allow for forward models

after Kawato et al. 1987

How Brains Create Otherings

after Kawato et al. 1987
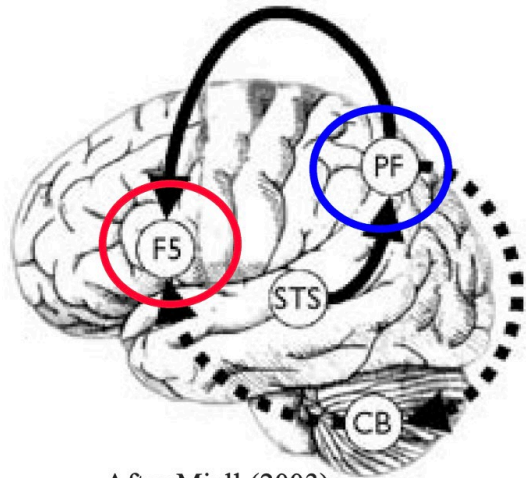
After Miall (2003)
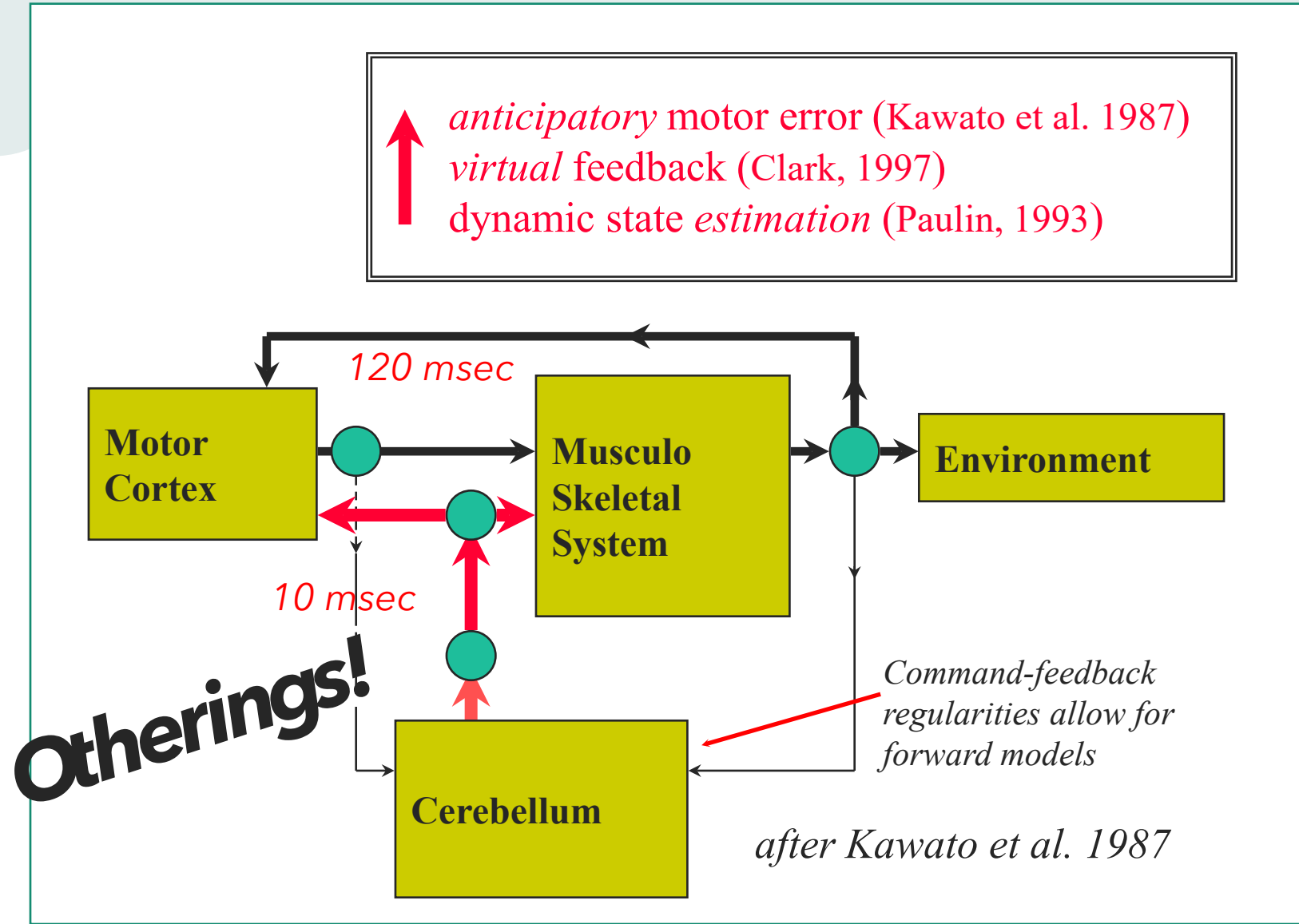
Almost every aspect of cortex is recursively coupled with cerebellum
(Koziol et al. 2011;Schmahmann, 2001).
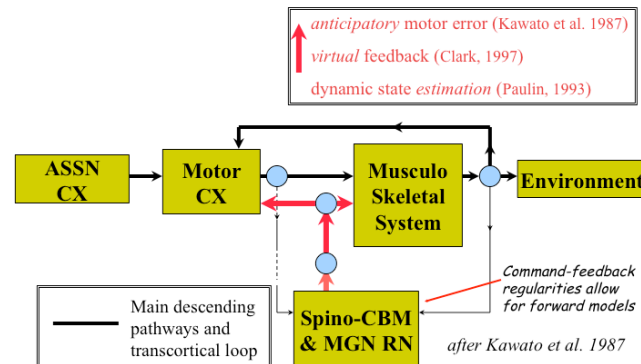
As a result of such neural recursion, at all time scales (i.e., action, perception, and cognition) the past is continuously fed forward into the present as a prediction about the future. We call this *anticipation*.

Multi-scale prospective recursion allows us to couple ourselves with, and sustain ourselves within, events taking place at increasingly large time scales
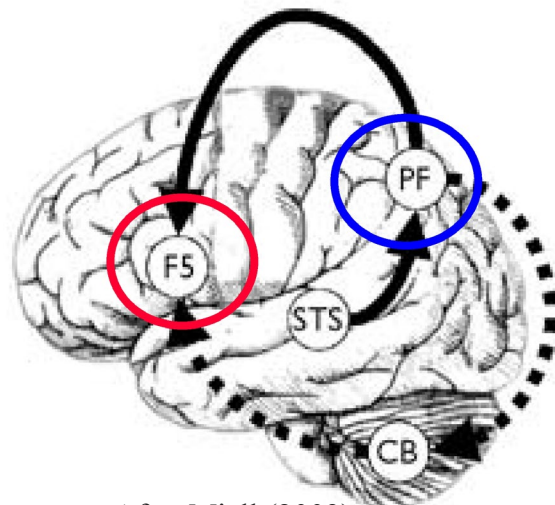
Why Brains Create Otherings

How inhibition protects learned song in zebra finches

Inhibitory neurons, not age, determine song learning in birds

Blakemore, Wolpert, & Frith (2000)

Consciousness and Meaning as Self-sustaining Embodied Context (Embodied *Abountess*)
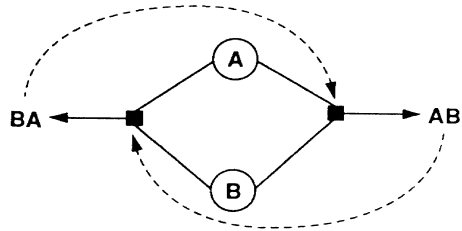
From Kauffman, 1995

Self-sustaining systems are embodiments of the contexts from which they emerged.

In short, they are *embodied context* (Spinoza's notion of *finitudes*).

They are thus naturally and necessarily 'about' the contexts they embody.

There is therefore no epistemic divide between the organism and its environment. Their internal processes are naturally and necessarily meaningful because they are embodied context.

Choice, Othering, Flow, and Meaning (i.e., embodied context)
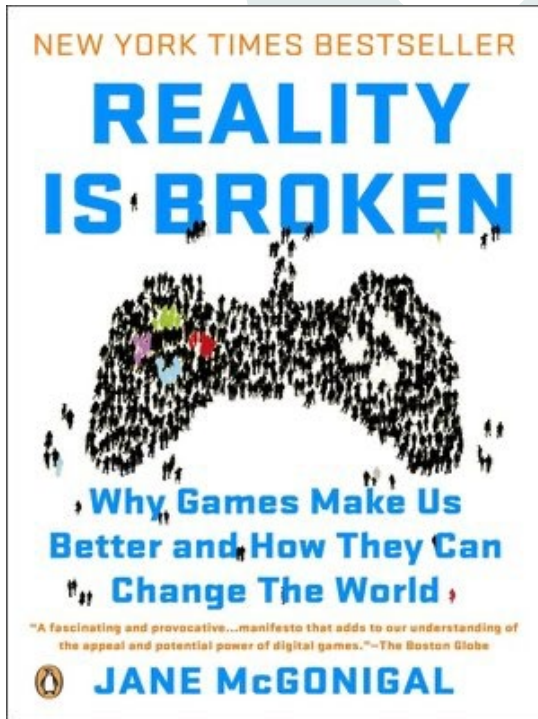
All self-sustaining systems necessarily generate and sustain system/context boundaries/borders.

If we conceptualize thought and behavior as border construction and sustainment, the WORK of behaving and thinking CREATES some possibilities while simultaneously 'othering' (i.e., extinguishing) other possibilities.

Our thoughts and behaviors evolved to both create and 'other' possibilities.

Our sense of identify, of being an "I" that is doing "this" emerges from the possibilities we both create and negate.

Expert creators experience a sense of agency known as "flow."

As culture altered the relationship between bodies, borders, and possibility, we simultaneously decreased opportunities for 'flow.'

McGonigal claims that video games re-establish the historically-direct connection between behavior and flow, ultimately making us feel more agentic and efficacious.
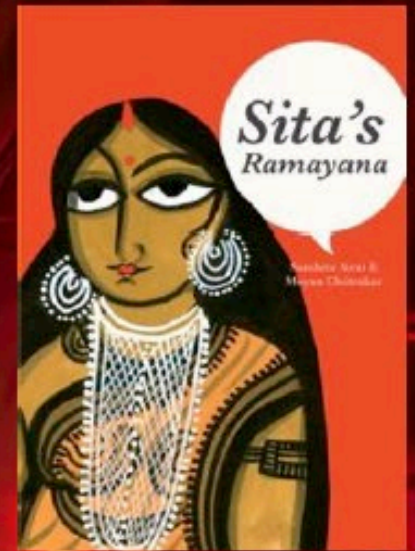
How did we integrate these ideas of embodied context, 'othering,' and 'flow' into a class?

Otherland

A Game   A Course   A Life

Required Quests and Side Quests through Otherland

Just as you, yourself, are a wild narrative, perpetually creating your lived story at the intersection of choice and chance, so, too, is Otherland. Below is a list of the points required to achieve whatever grade you wish to attain by the end of your journey.

A = 500 - 450
B = 450 - 400
C = 400 - 350
D = 350 - 300

On the way to achieving your goal, you are required to complete the tasks listed below. Together, these tasks comprise your **Required Quest** through Otherland. In addition to your **Required Quest**, you may also choose to complete a number of optional tasks known as **Side Quests**. **Completing all tasks in the Required Quest qualifies you to add points acquired during Side Quests to your final grade.** The meaning and details of all tasks will be clarified in the sections titled, Routes.

Task	Possible Points
Wild Borders Paper	100
Three Graphic Novel Papers	75
Term Paper	100
3 Strategy Reports	30
Pre & Post Semester Questionnaires	50
All assignments in on time	5
Possible Points from Required Quests	500

The 'Wild Borders' Paper

Wild Borders:

Science, Literature, and the Transdisciplinary Nature of *Being*

Darkness turns to grey
Night caresses day
Words belong
to something
very cruel

-Anonymous

Jordan, J.S. (in press). Wild borders: Science, literature, and the transdisciplinary nature of being. In G. Bhatnagar (ed.), *Literature and Transdisciplinarity*. MacMillan India.

W.G. Sebald's *The Rings of Saturn* (1998) describes an unknown narrator's walk along

England's East Anglia coastline through Norfolk and Suffolk counties. The motions of the tale

are propelled by the structures and events encountered along the way. Expressed in the language

of textual and visual memory, the narrative juxtaposes genres in a manner that thoroughly, yet

The 'Wild Borders' Paper
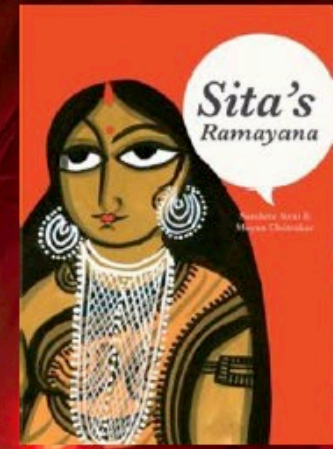
Wild Borders Paper Instructions

For the Wild Borders Paper, do the following:

1. Read the paper, "Wild Borders: Science, Literature, and the Transdisciplinary Nature of Being." You can find the paper under "Resources" in Reggienet.
2. Either attend the "Wild Borders Discussion" (see Zoom Pro tab in Reggienet for date, time, and zoom link) or watch the "Wild Border Discussion" (see Lessons tab in Reggienet) after 1/26/23.
3. Watch the following YouTube video: "Wild Narratives: Science, Literature, and the Transdisciplinary Nature of Being" at https://youtu.be/zx10ggrES58
4. Write a 2-3 page, double-space, 12pt font paper that address the following:
   Jordan describes organisms as multi-scale self-sustaining systems (wild systems) versus mental/physical systems. Describe what this means, making your address the following points:
   - self-organizing energy-transformation hierarchy
   - self-sustaining work
   - multi-scale work
   - embodied context versus objective-subjective properties
   - embodied contexts necessarily create and sustain borders
   - borders and 'othering'
   - 'othering' in human history
   - 'othering' in narratives
5. Make sure your paper utilizes information from all three sources (i.e., the paper, the YouTube talk, and the class discussion).
6. When mentioning information in your paper from one of the three sources, indicate the source in the paper by stating, "In the YouTube video," "In the paper," or "In the class discussion."
7. The paper should be no less than two pages and no more than three. It should be double-spaced, with 12pt font. Include a title page that has the following format:

   Your Name
   Otherland Wild Borders Paper
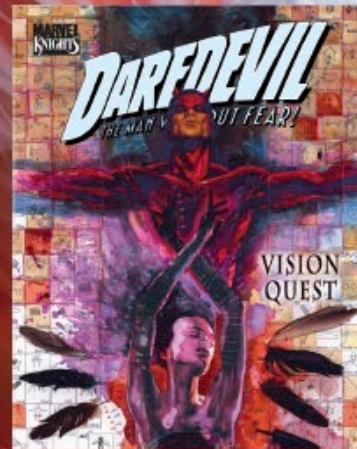
The Graphic Novels

The Graphic Novels

WAR, IN SOME WAYS, IS MERCIFUL TO MEN.

It makes them heroes if they are the victors. If they are the vanquished — they do not live to see their homes taken, their wives widowed. But if you are a woman — you must live through defeat...

... you become the mother of dead sons, a widow, or an orphan; or worse, a prisoner.

I THOUGHT THE END OF THE WAR HAD MEANT FREEDOM FOR ME. I HAD HOPED FOR LOVE, I HAD HOPED FOR JUSTICE. THAT WAS NOT TO BE. INSTEAD OF LOVE, I FOUND SUSPICION. INSTEAD OF JUSTICE, I MET WITH FALSE ACCUSATIONS AND DISTRUST.

WHERE COULD I GO? WHAT COULD I DO?

I stepped into the flames of the tall pyre that Lakshmana had built.

BUT I FELT NOTHING. THE FIRE REFUSED TO TOUCH ME.

The Graphic Novel Discussions
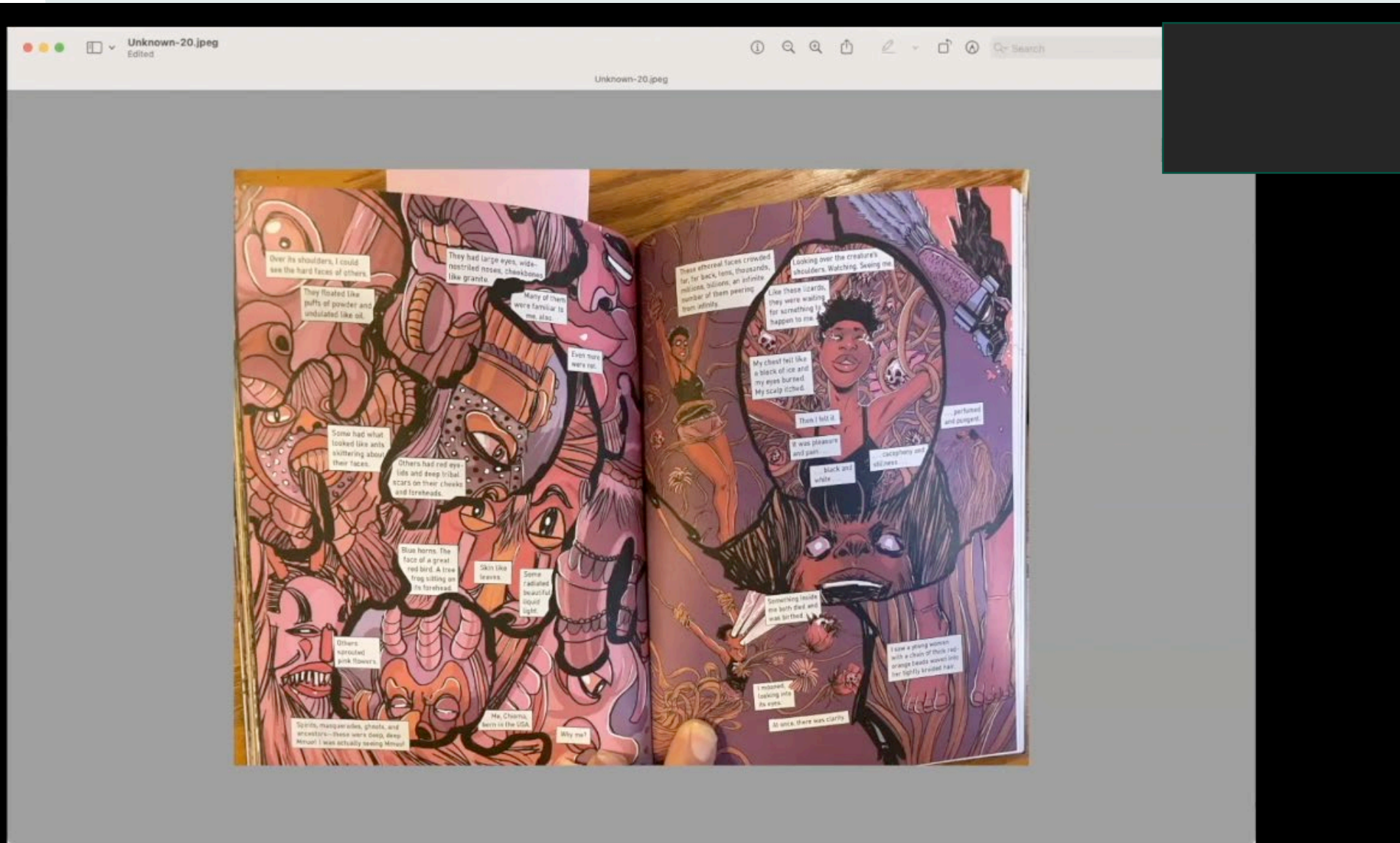
The Graphic Novel Papers

Graphic Novel Paper Instructions

Write the Graphic Novel papers, write a paper that contains the following six parts:

1. A brief, one-paragraph description of the story.
2. A paragraph that describes an example of 'othering' that takes place on a specific page between frames on that page. Make sure to describe the frames and how relationships between them serves as an example of 'othering'. Make sure to indicate the page number.
3. A paragraph that describes an example of 'othering' that takes place between characters in the story. Describe the images and/or text that create the 'othering' relationship. Make sure to indicate page numbers when referring to specific pages in the story.
4. A paragraph that describes a frame/page/character in the story that surprised you. What did your surprise reveal about your own borders (assumptions)? Make sure to indicate page numbers when referring to specific pages in the story.
5. Describe something new you learned about 'othering' while engaging this story. Make sure to indicate page numbers when referring to specific pages in the story.

Make sure your paper mentions at least one of the discussion videos for this graphic novel. The paper should be no less than two and no more than three double-spaced, 12pt font pages. Include a title page that has the following format:

Your Name
Otherland Graphic Novel Paper
NAME OF GRAPHIC NOVEL

The Term Paper

Title Page	3	00
At least 10 double spaced pages of Discussion	4	4
Reference Page	3	1.5
Perceptual Othering	20	20
Cognitive Othering	20	18
Psychological Othering	20	17
Cultural Othering	20	17
Quality of Writing	10	7
Total	100	84.5

Assessing 'Choice' as Conscious Deliberation

NEW YORK TIMES BESTSELLER

REALITY IS BROKEN

Why Games Make Us Better and How They Can Change The World

"A fascinating and provocative...manifesto that adds to our understanding of the appeal and potential power of digital games."—The Boston Globe

JANE McGONIGAL

Reality is broken and we need to make it work more like a game.

— Jane McGonigal —

AZ QUOTES
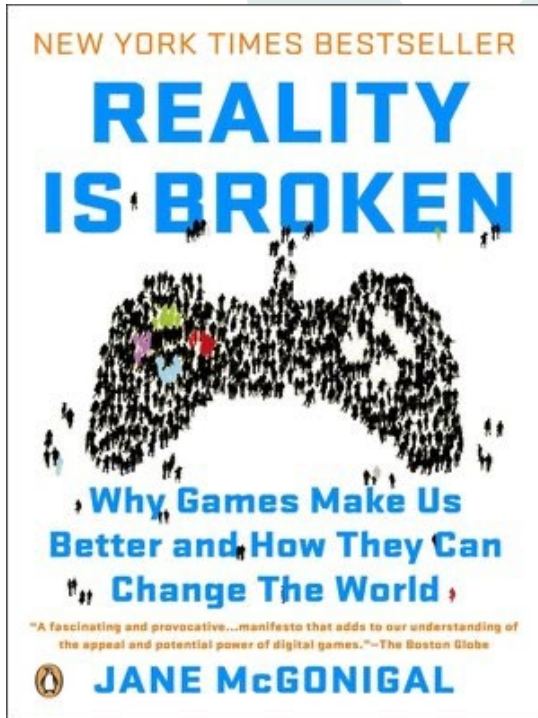
We required students to creates "strategy reports" that indicated:

1. The grade they wanted for the course
2. The points associated with that grade
3. Their current point total
4. Assignments they would attempt to achieve desired grade.
5. Reasons for why they did not complete the assignments they indicated in previous strategy reports.

Assessing 'Choice' as Conscious Deliberation

Student looking for 450 points			(Frame it as doing enough effort to get an A)		
Main Quests	Points				
WB		100	Don't anticipate you will get 100% on everything		
3 GNP		75	You need to do these to pass the class		
TP		100			
3 SR		30			
Questionaires		50			
On Time		5	Needs 90 points from side quests		
Total:		360	But, lets assume we have 90% grade from quality.		
Side Quests			Requires: attending six scheduled events over the semester		
Panelw/Frame x4		20	Requires being able to commit to Otherland on Wednesdays and Thursdays at 6pm and 7pm respectively		
Panelw/Question x4		20			
ReggieCon w/Question x2		10	Demands consistent high effort towards quality on written assignments across both main and side quests.		
ReggieCon After party x2		10	Requires perfectly attending all the discussions you plan to.		
Reggie Con Paper x2		20			
Graphic Novel Paper x2		50			
Reggie Con Paper x 1		10			
(from viewing a reggie con					
discussion they didn't attend)					
		140			
Grand Total		500			
.90% quality		450			

Assessing 'Choice' as Conscious Deliberation

Student looking for 400 points				(Frame it as doing enough effort to get an B
Main Quests	Points			
WB		100		Don't anticipate you will get 100% on everything
3 GNP		75		You need to do these to pass the class
TP		100		
3 SR		30		
Questionaires		50		
On Time		5		Needs 40 points from side quests
Total:		360		But, lets assume we have 90% grade from quality.
Side Quests				Requires: attending six scheduled events over the semester
Panelw/Frame x3		15		Requires being able to commit to Otherland on Wednesdays and Thursdays at 6pm and 7pm respectively
Panelw/Question x3		15		
ReggieCon w/Question x1		5		Demands consistent high effort towards quality on written assignments across both main and side quests.
ReggieCon After party x1		5		Requires perfectly attending all the discussions you plan to.
Reggie Con Paper x1		10		
Graphic Novel Paper x1		25		
Reggie Con Paper x 1		10		
(from viewing a reggie con		85		
discussion they didn't attend)				

Did Students Learn Wild Systems Theory?

Re-read every Graphic Novel paper.
Coded sections in the following way:

Dimension:
A = Application
I = Introspection
U = Ubiquity of Othering

Quality:
+ is Exceptional
= is Good
- is Minimal

Did Students Learn Wild Systems Theory?

A+

A good example of othering happens on page 35. This scene occurs in the part of

the book where Chioma is already slipping into the other world but is still mainly in

reality and her aunts are concerned about what is happening to her. The frames of this

page are borders for the real world and keep the spirit world out. In the first 2 frames, the

borders of the frames are mixing with the spirit world but are still holding it at bay. The

third frame of the page lacks any borders which is a good example of the lack of othering,

where the spirit world and real world mesh together and there aren't any borders that

differentiate between the two. The last frame has apparent borders, successfully

separating the two worlds and in another way othering itself.

Did Students Learn Wild Systems Theory?

I+

As it was talked about in the zoom discussions, one way Chioma exemplified 'othering' was from her own Western identity as a Chicago police officer. This relates to my personal life because I lived in Mexico for five years. With the identity I created living in central Illinois and exposing it to the Mexican culture, I 'othered' myself from it. Unlike the comic, I did not think I was better than those around me but had borders that clearly defined my identity from theirs. And even after living there for a couple of years and integrating the Mexican culture into my identity, I am still able to 'other' my American identity from my 'Mexican identity, as did Chioma with her Nigerian and American identities.

Did Students Learn Wild Systems Theory?

U+

Another thing I learned about othering in this novel is that it's not exclusive to the physical borders but mental borders and borders on experiances as well. To explain this further, our minds have their own borders that are built based on our experiences and cultures. Throughout the novel, all the characters are good examples of this. More specifically, Chioma's experiences as a cop and the night she killed a man helped create borders and played a role in othering between her and someone else.

Average Dimension Rate X Graphic Novel
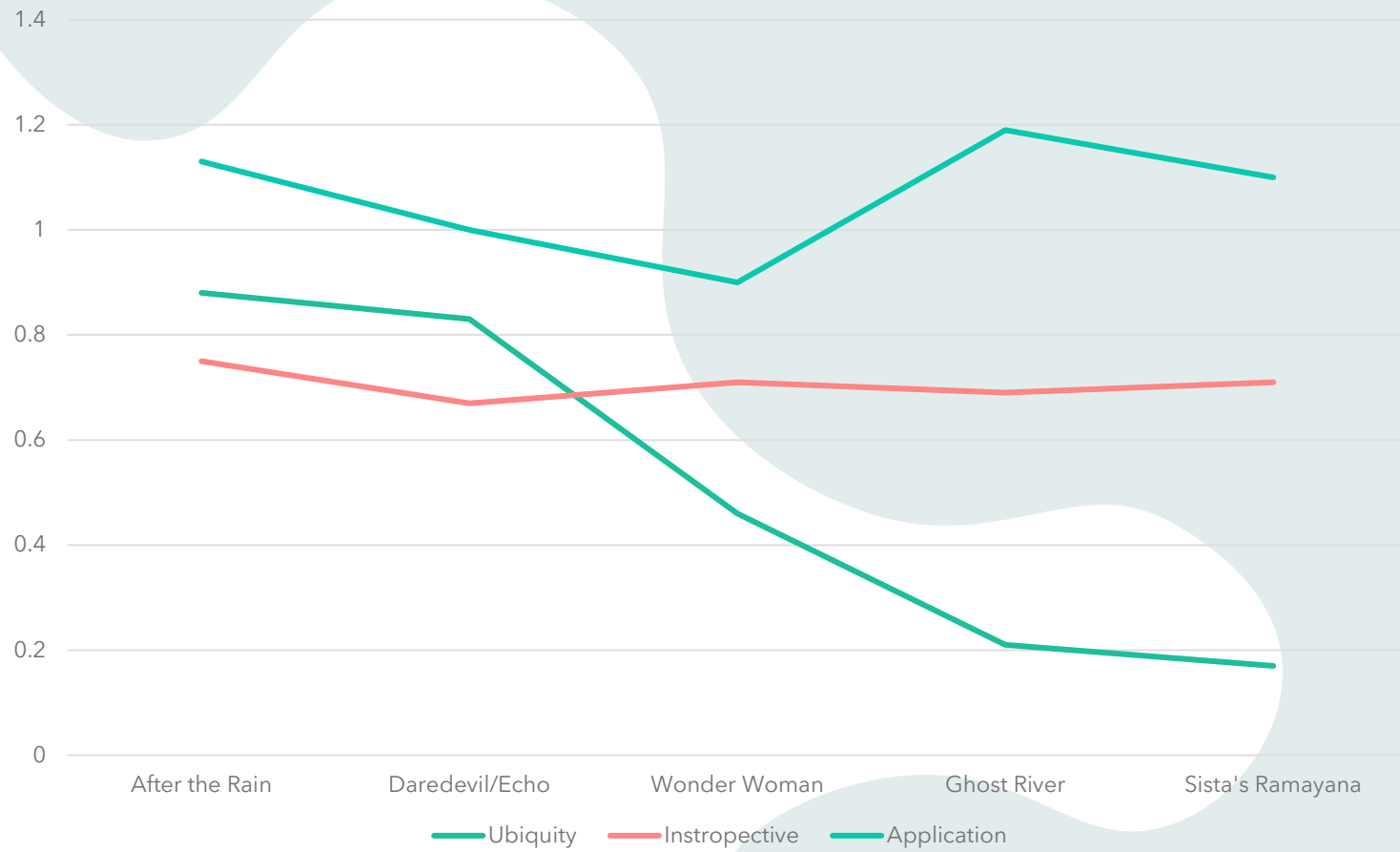
Average Dimension Rate X Graphic Novel
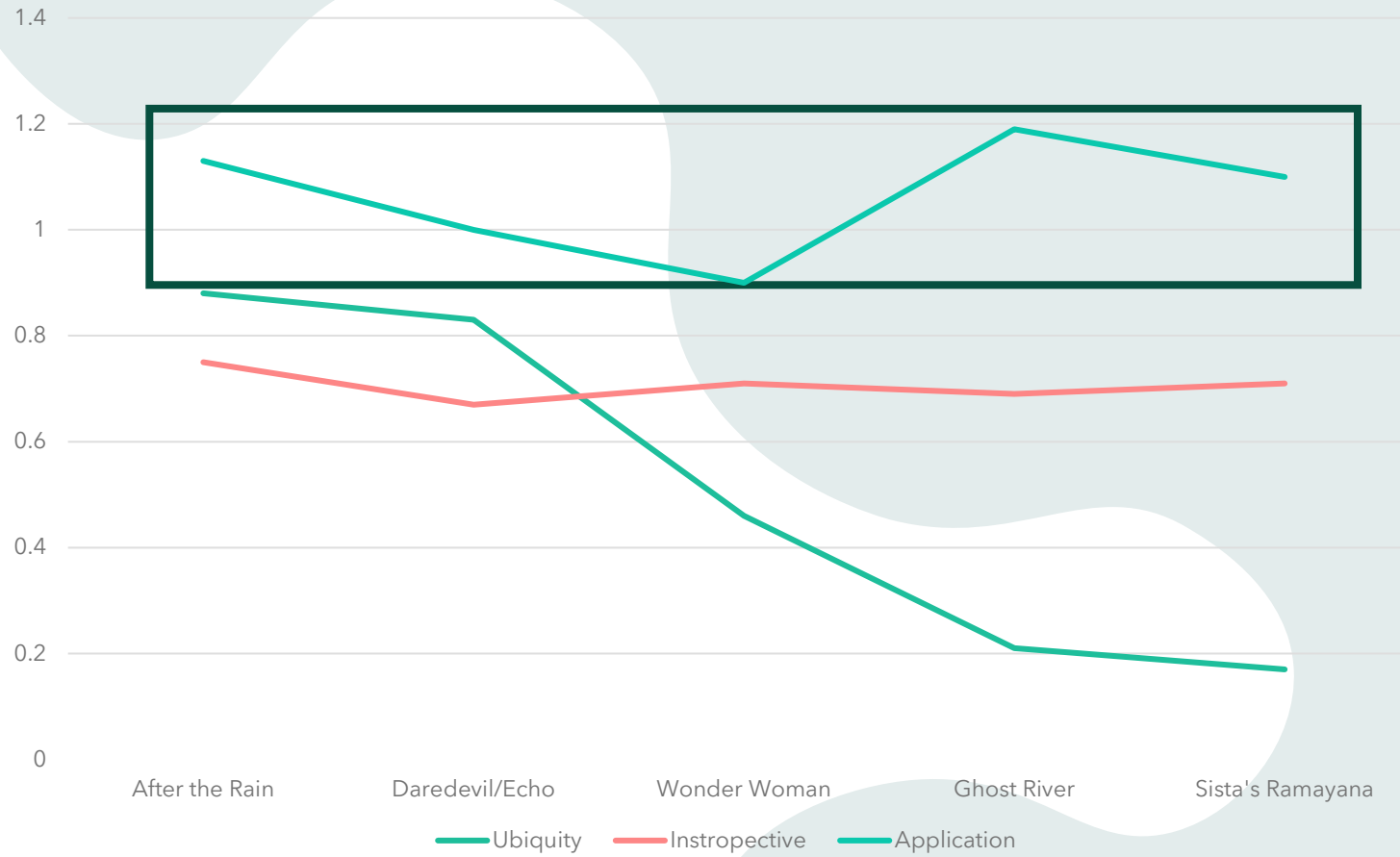
No significant difference in APPLICATION scores as a function of Graphic Novel

Average Dimension Rate X Graphic Novel
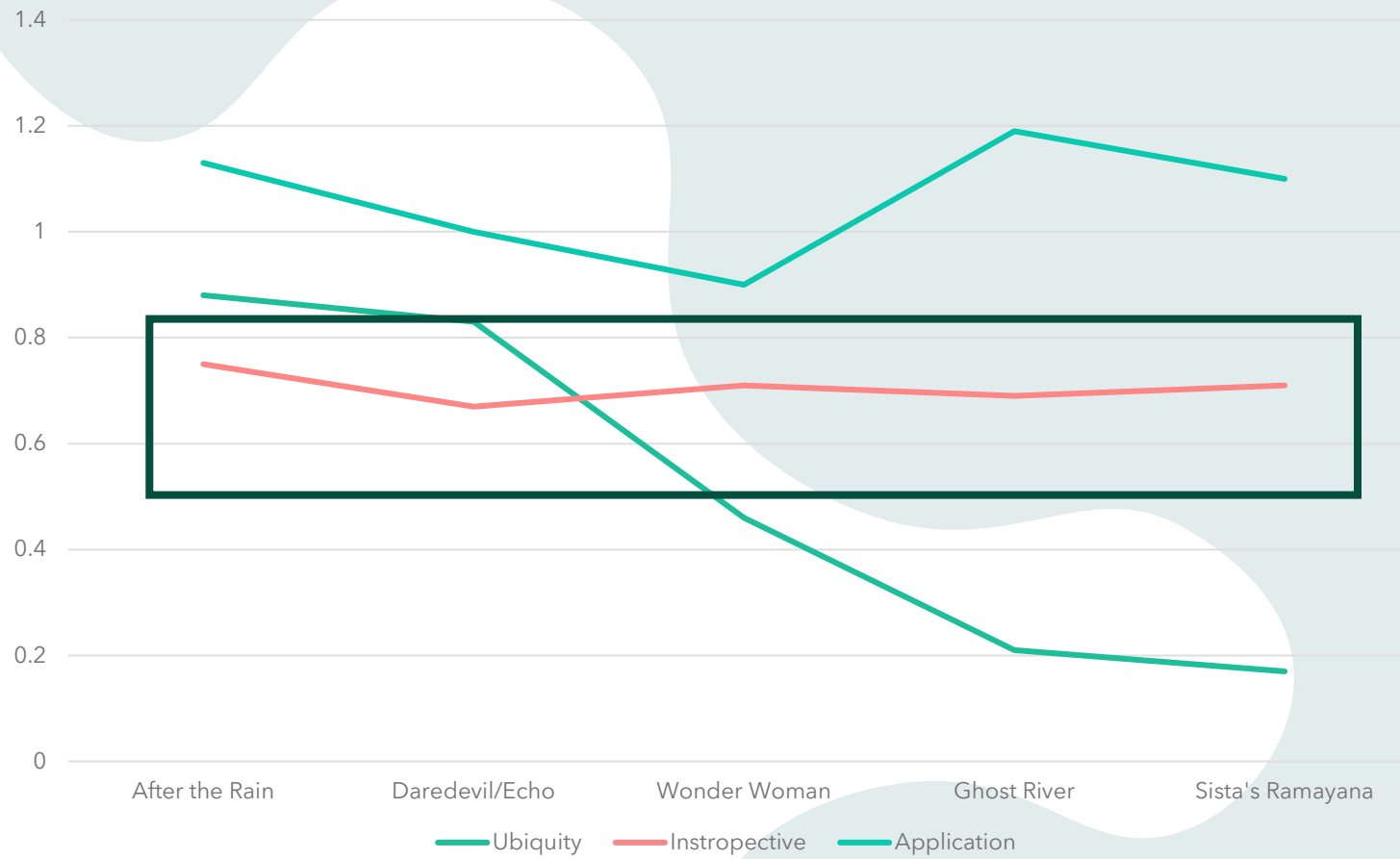
No significant difference in INTROSPECTION scores as a function of Graphic Novel
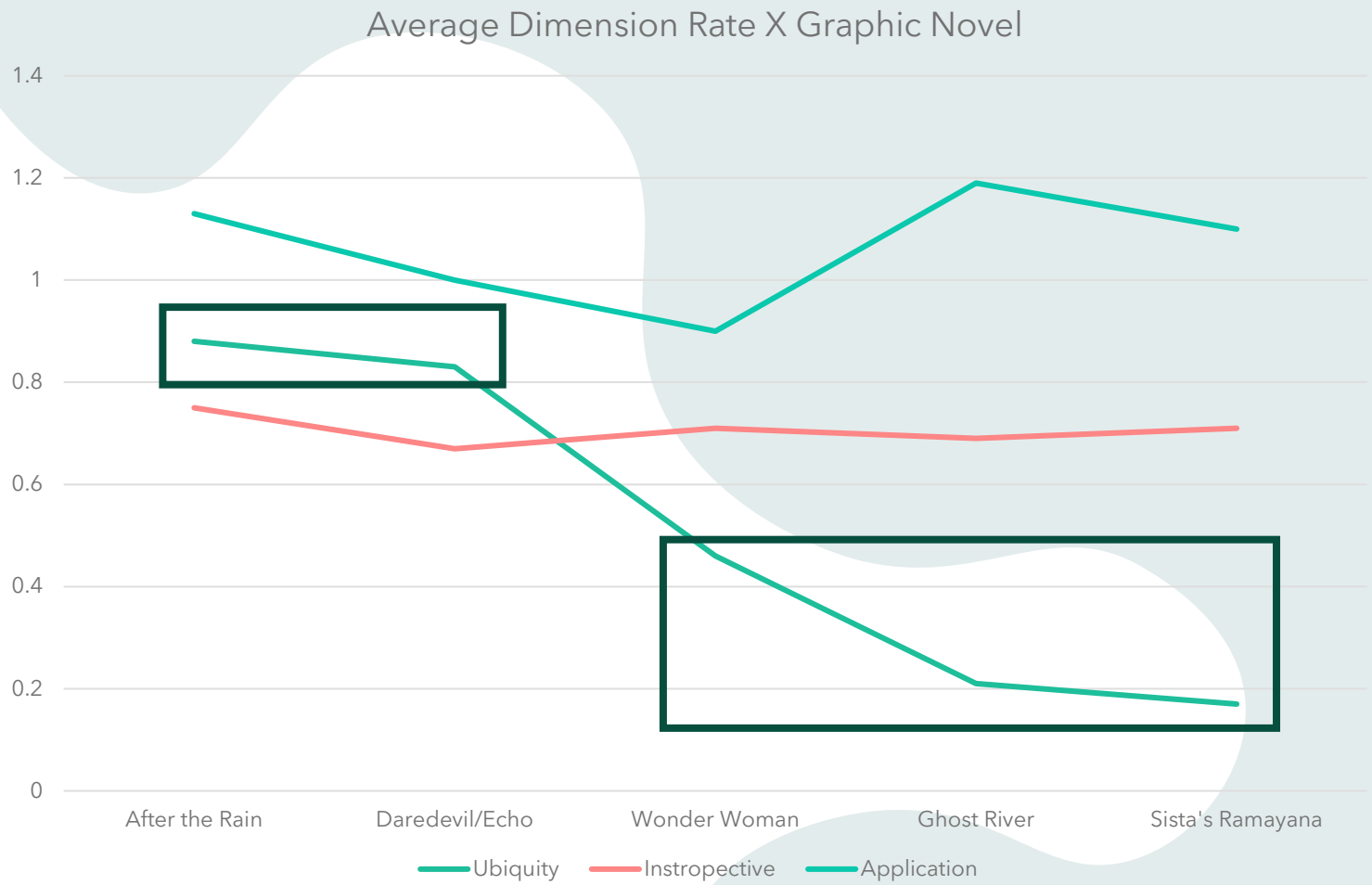
Average Dimension Rate X Graphic Novel

Ubiquity — Instropective — Application

WHY?
Is it the Graphic Novel or the Students Who
Completed the Assignment?

Significant difference in UBIQUITY scores as a function of Graphic Novel

After the Rain and *Daredevil* result in more UBIQUITY scrores than *Wonder Woman*, *Ghost River*, and *Sita's Ramayana*

Do those students who have more UBIQUITY scores perform better on other variables…

…than those students who have fewer UBIQUITY scores?
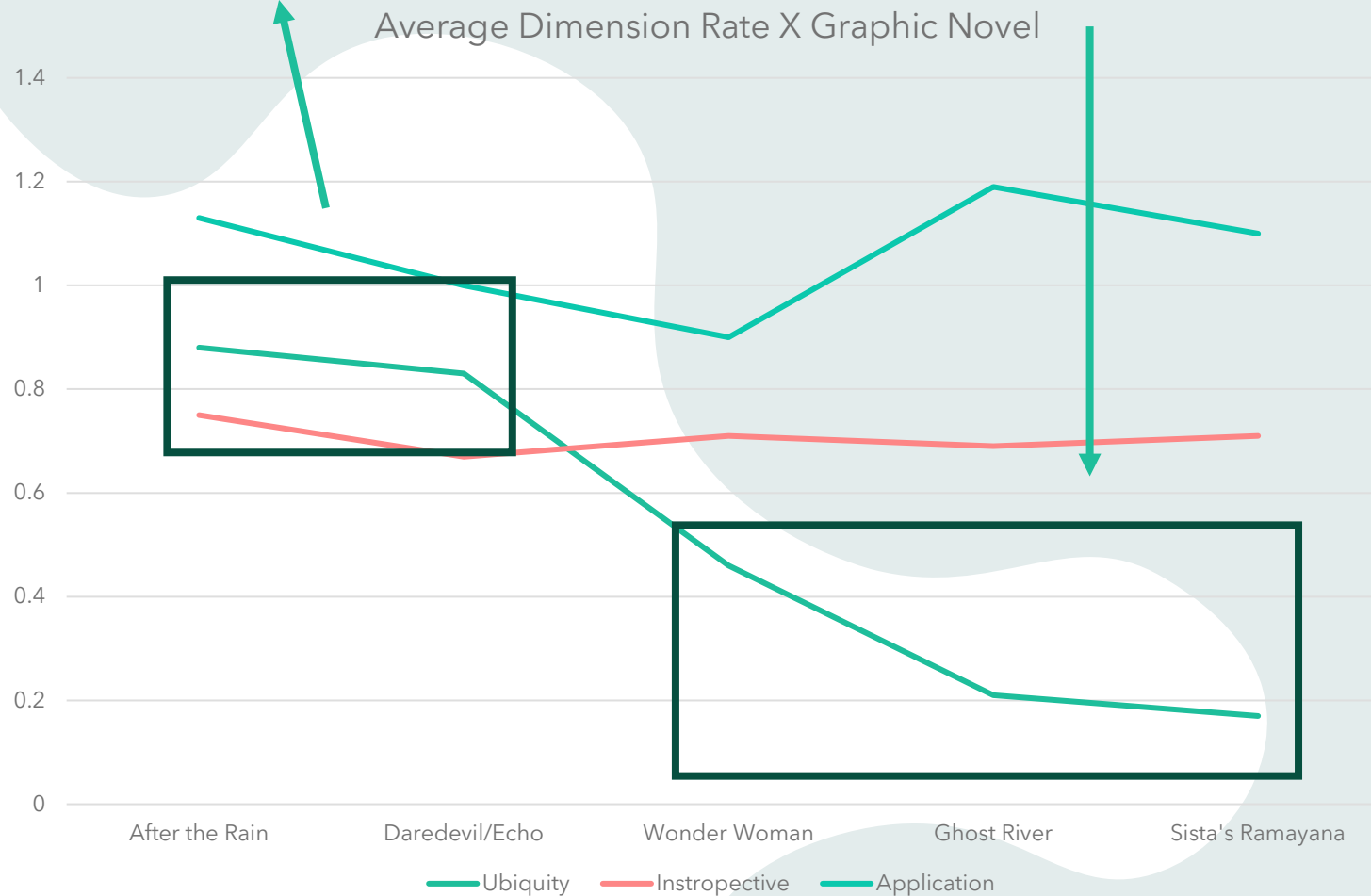
Average Dimension Rate X Graphic Novel

Significant difference in UBIQUITY scores as a function of Graphic Novel

After the Rain and *Daredevil* result in more UBIQUITY scrores than *Wonder Woman*, *Ghost River*, and *Sita's Ramayana*

WHY?
Is is the Graphic Novel or the Students Who Completed the Assignment?

Total # Us, Is, and As
By Quality, Participant, and Graphic Novel

	Um	Ue	Up	Im	Ie	Ip	Am	Ae	Ap	GN
1	.00	2.00	.00	.00	2.00	1.00	.00	3.00	.00	1.00
2	.00	4.00	.00	.00	2.00	.00	.00	2.00	.00	1.00
3	.00	1.00	.00	.00	1.00	.00	.00	3.00	1.00	1.00
4	.00	2.00	.00	.00	2.00	.00	.00	2.00	.00	1.00
5	.00	1.00	1.00	.00	3.00	1.00	.00	2.00	1.00	1.00
6	.00	2.00	.00	.00	.00	1.00	.00	5.00	1.00	1.00
7	2.00	1.00	.00	1.00	1.00	.00	1.00	.00	.00	1.00
8	.00	4.00	1.00	.00	.00	3.00	.00	2.00	4.00	1.00
9	2.00	2.00	.00	1.00	.00	1.00	.00	.00	.00	2.00
10	.00	1.00	.00	.00	1.00	.00	1.00	1.00	.00	2.00
11	.00	2.00	.00	.00	.00	1.00	.00	2.00	.00	2.00
12	.00	1.00	1.00	.00	1.00	.00	.00	4.00	1.00	2.00
13	.00	3.00	.00	.00	2.00	.00	.00	3.00	.00	2.00
14	.00	1.00	.00	.00	1.00	.00	.00	2.00	.00	2.00
15	.00	2.00	.00	.00	4.00	.00	.00	3.00	2.00	2.00
16	1.00	3.00	1.00	.00	3.00	1.00	.00	2.00	3.00	2.00
17	.00	.00	.00	.00	2.00	.00	.00	4.00	.00	3.00
18	.00	2.00	.00	.00	2.00	.00	2.00	2.00	.00	3.00
19	.00	1.00	.00	.00	1.00	1.00	1.00	2.00	1.00	3.00
20	1.00	1.00	.00	.00	.00	.00	.00	1.00	1.00	3.00

Correlations between Us, Is, and As, Quality, and Graphic Novel

Correlations

		Um	Ue	Up	Im	Ie	Ip	Am	Ae	Ap	Wild Borders Paper
Um	Pearson Correlation	1	.129	-.131	.169	-.107	.167	-.070	-.158	-.140	-.280
	Sig. (1-tailed)		.305	.303	.251	.337	.253	.392	.265	.290	.130
	N	18	18	18	18	18	18	18	18	18	18
Ue	Pearson Correlation	.129	1	.458*	.043	-.049	.473*	-.104	-.107	.553**	.326
	Sig. (1-tailed)	.305		.028	.433	.423	.024	.340	.336	.009	.093
	N	18	18	18	18	18	18	18	18	18	18
Up	Pearson Correlation	-.131	.458*	1	-.396	.242	.685**	-.425*	-.016	.807**	.402*
	Sig. (1-tailed)	.303	.028		.052	.166	.001	.039	.474	.000	.049
	N	18	18	18	18	18	18	18	18	18	18
Im	Pearson Correlation	.169	.043	-.396	1	-.458*	.012	.349	-.147	-.408*	-.438*
	Sig. (1-tailed)	.251	.433	.052		.028	.481	.078	.280	.046	.035
	N	18	18	18	18	18	18	18	18	18	18
Ie	Pearson Correlation	-.107	-.049	.242	-.458*	1	-.073	-.242	.373	.438*	.500*
	Sig. (1-tailed)	.337	.423	.166	.028		.387	.166	.064	.035	.017
	N	18	18	18	18	18	18	18	18	18	18
Ip	Pearson Correlation	.167	.473*	.685**	.012	-.073	1	-.192	-.003	.604**	.178
	Sig. (1-tailed)	.253	.024	.001	.481	.387		.222	.495	.004	.240
	N	18	18	18	18	18	18	18	18	18	18
Am	Pearson Correlation	-.070	-.104	-.425*	.349	-.242	-.192	1	-.519*	-.374	-.435*
	Sig. (1-tailed)	.392	.340	.039	.078	.166	.222		.014	.063	.035
	N	18	18	18	18	18	18	18	18	18	18
Ae	Pearson Correlation	-.158	-.107	-.016	-.147	.373	-.003	-.519*	1	.147	.305
	Sig. (1-tailed)	.265	.336	.474	.280	.064	.495	.014		.280	.109
	N	18	18	18	18	18	18	18	18	18	18
Ap	Pearson Correlation	-.140	.553**	.807**	-.408*	.438*	.604**	-.374	.147	1	.483*
	Sig. (1-tailed)	.290	.009	.000	.046	.035	.004	.063	.280		.021
	N	18	18	18	18	18	18	18	18	18	18
Wild Borders Paper	Pearson Correlation	-.280	.326	.402*	-.438*	.500*	.178	-.435*	.305	.483*	1
	Sig. (1-tailed)	.130	.093	.049	.035	.017	.240	.035	.109	.021	
	N	18	18	18	18	18	18	18	18	18	18

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

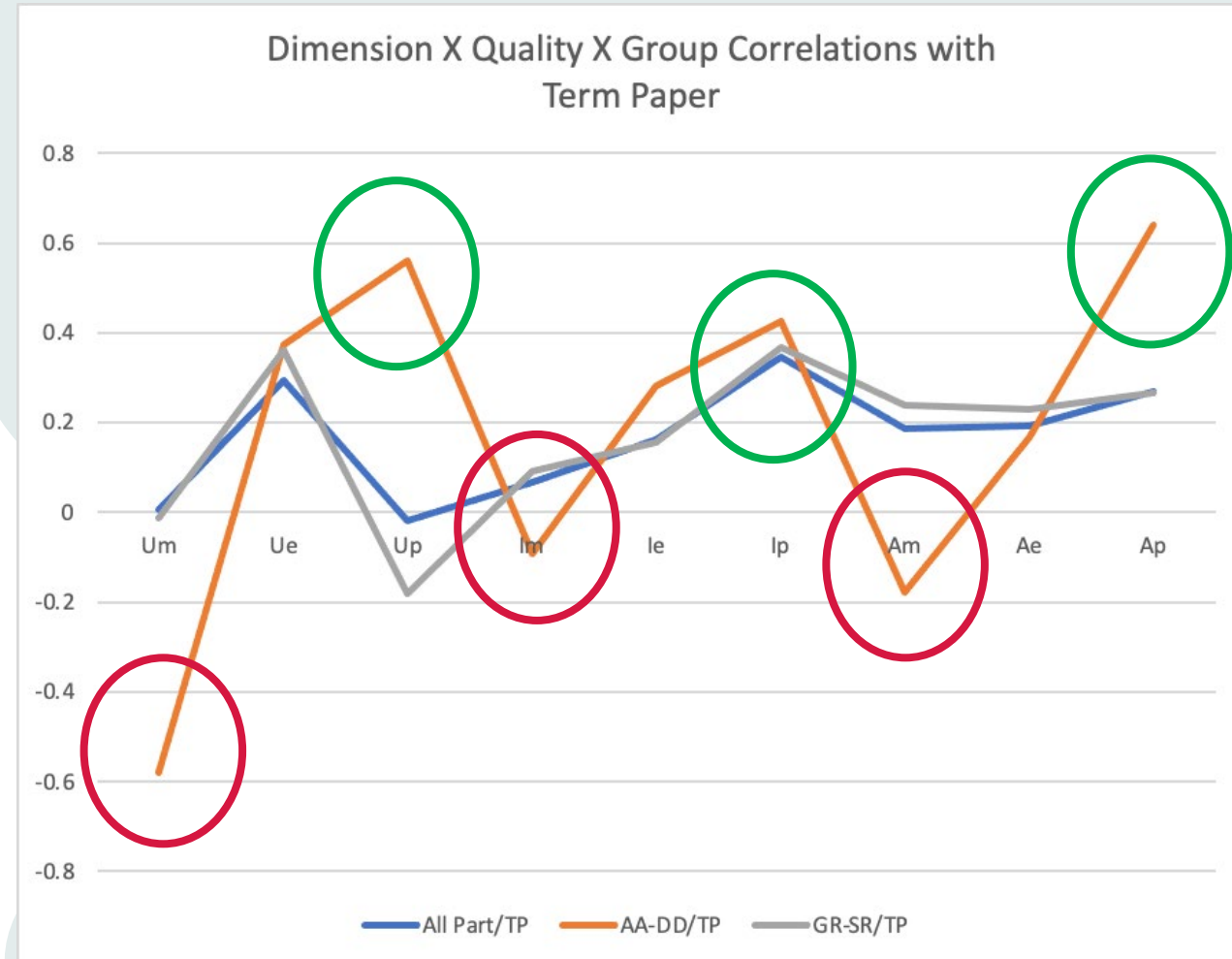# Did Students Learn Wild Systems Theory?

Wild Borders Paper *predicts* Dimension Scores

Dimension Scores *somewhat predict* Term Paper
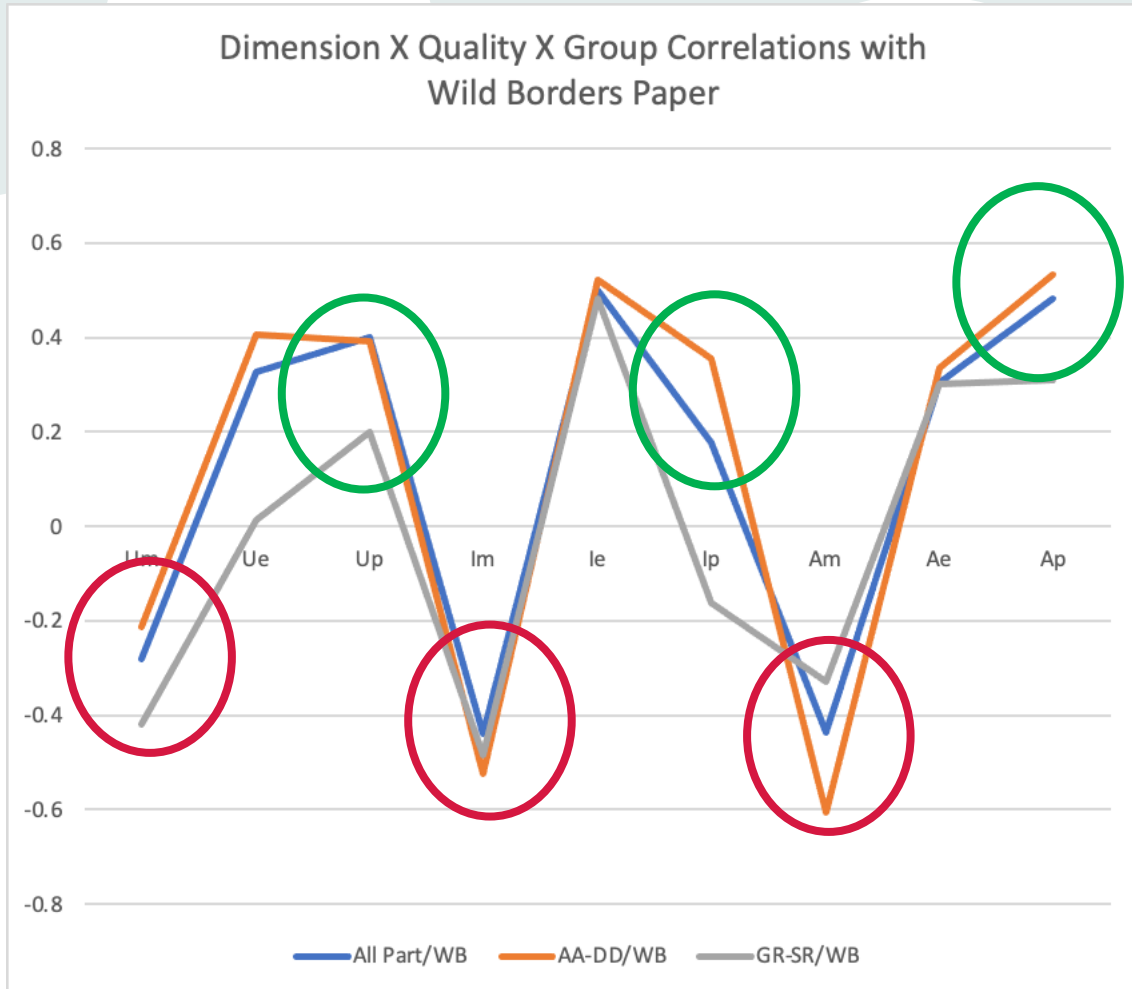
Correlations strongest for AA-DD and ALL students

Correlations only strong for AA-DD students

Conclusions

Otherland utilizes culturally-informed graphic novels so students have the opportunity to search for and identity 'otherings' happening at the perceptual level between frames, the cognitive level between thoughts, the social level between characters, the cultural level betweel cultural narratives, and the historical level between histories.

Wild Systems Theory provides a framework that allows students to experience and understand all these different levels of 'othering' as a natural, necessary aspect of being a wild narrative (i.e., a living system).

The drop off in UBIQUITY scores across the graphic novels has more to do with the students than the graphic novels. Performance on the Wild Borders paper better predicted the frequency of Dimension scores (i.e., Is, Us, and As) of students who completed the AA-DD graphic novel papers, versus those who completed the GR-SR graphic novel papers. In addition, the Dimension scores better predicted Term Paper performance for the AA-DD students.

Using Graphic Novels to teach multi-scale othering provides perceptual- and cognitive-level practice that seems to help students understand Wild Systems Theory and its assertion of ubiquitous othering.

One is All, All is One

Wild Systems Theory is cool!

Conclusions
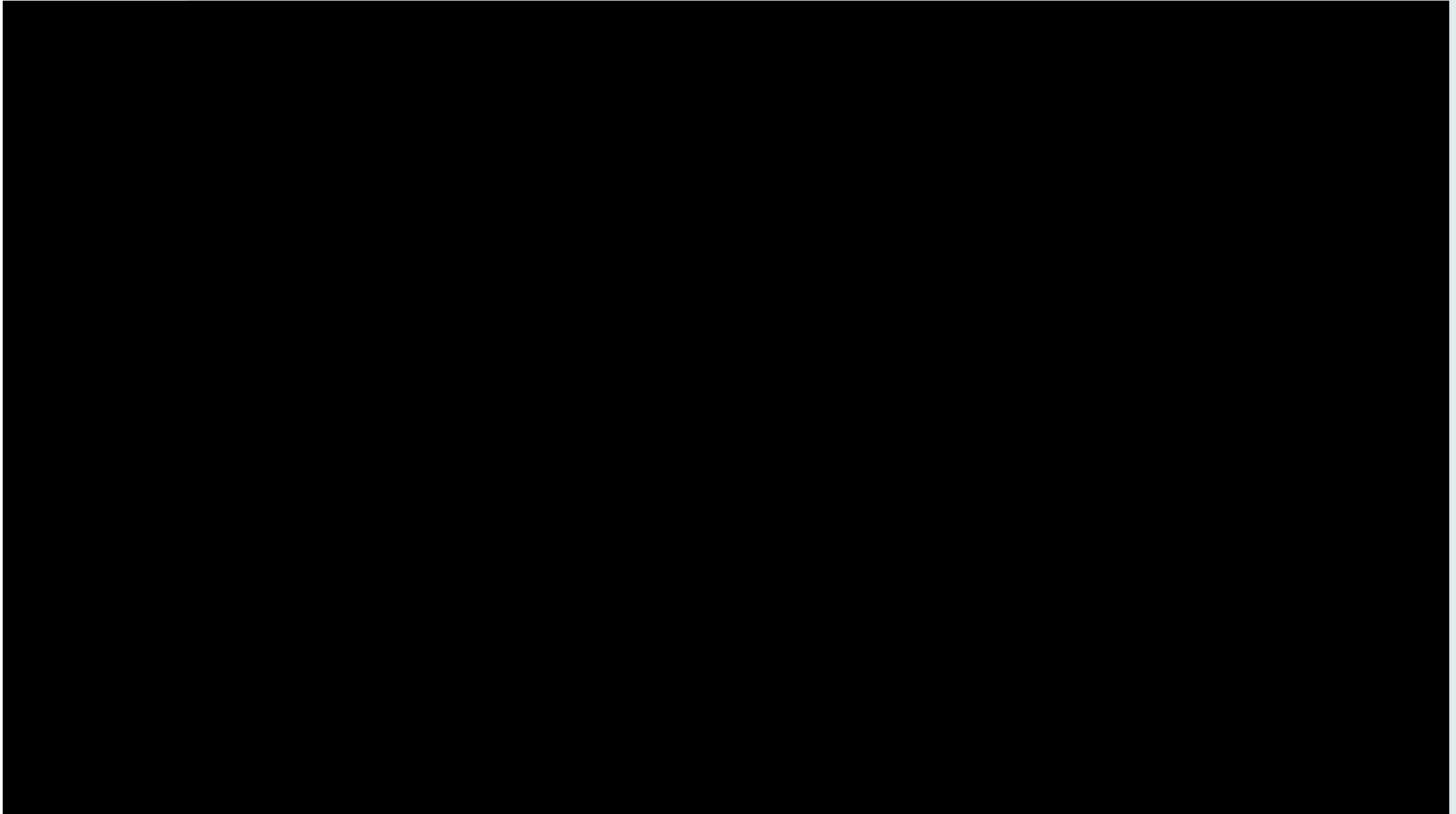
Wild Horror:
The Multi-scale Systems Approach to Generating, Sustaining, and Violating Boundaries

Symposium:
Hope Is a Fickle Thing:
The Way, The Final Girl, and The Last of Us
Saturday, 10:45-12:15
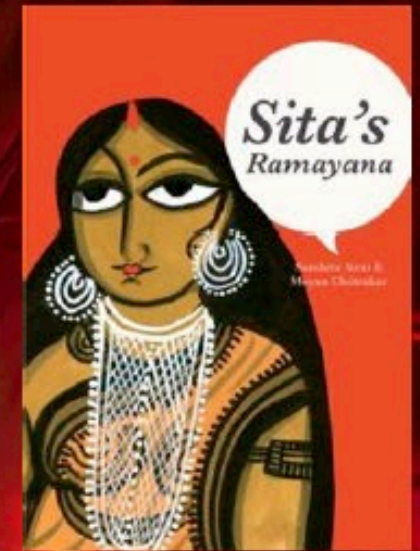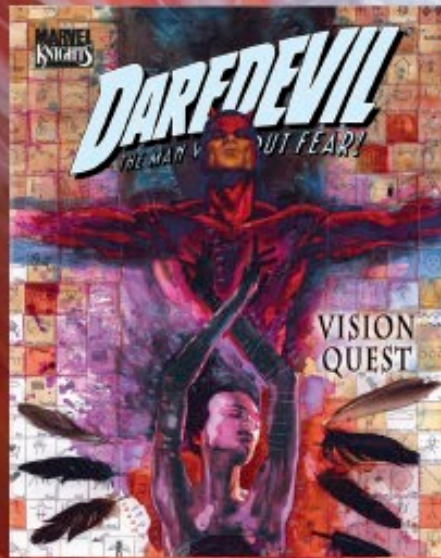Room 8002

J. Scott Jordan
Department of Psychology
Illinois State University
jsjorda@ilstu.edu
YouTube: Dark Loops Productions
Founder/Director: ReggieCon