

TEACHING INFOGRAPHICS AND VISUALIZATION

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Is there a place for a talk
and a panel like these?

After all, data, infographics,
and visualizations seem to
have become mainstream
in journalism

Mapping the 2010 U.S. Census

Share this view on [Twitter](#) or [Facebook](#)

Browse population growth and decline, changes in racial and ethnic concentrations and patterns of housing development.

View More Maps



Address, ZIP code or city

Change in population since 2000

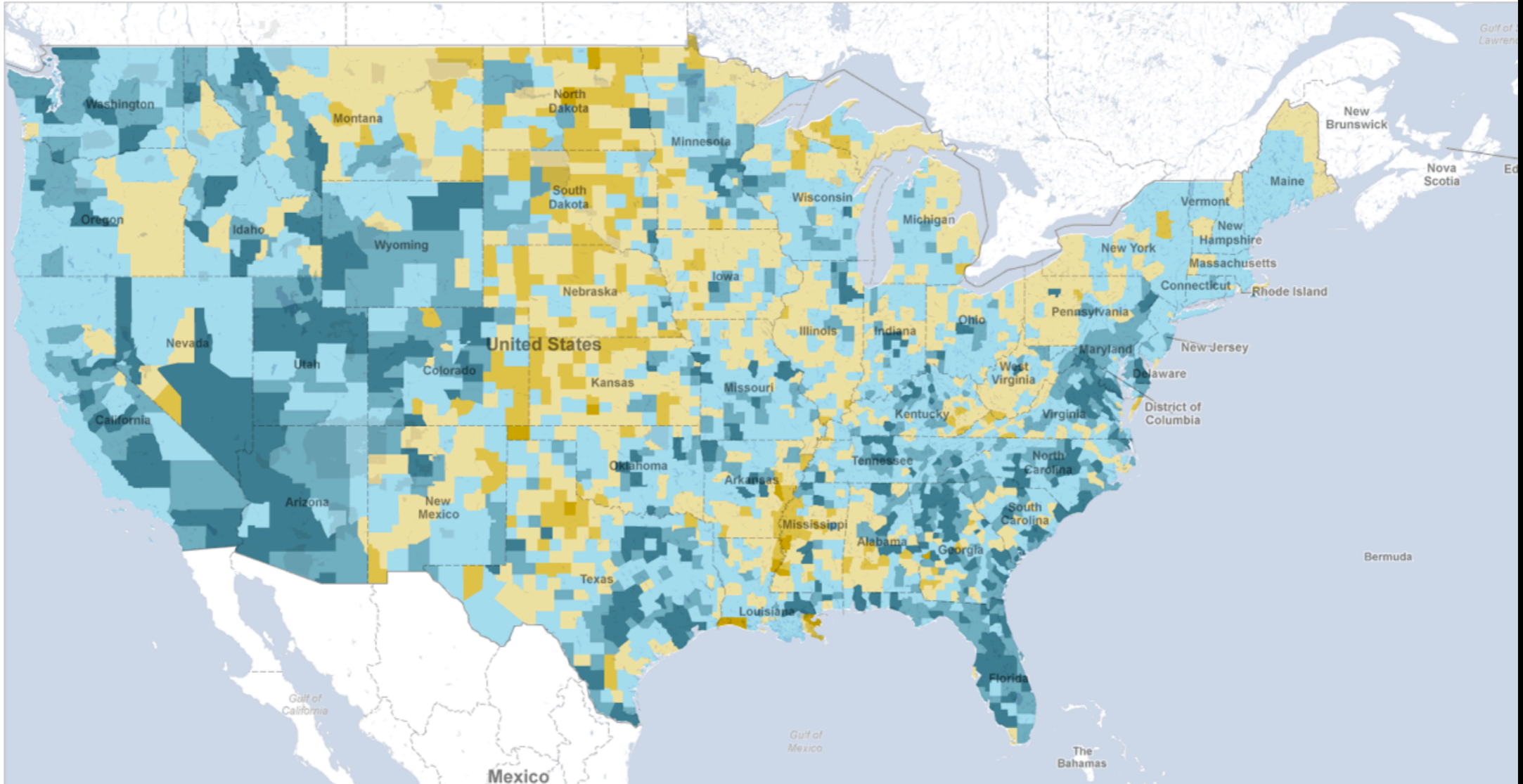
- Over 20% increase
- 10% to 20%
- 0% to 10%
- 0% to -10%
- 10% to -20%
- Over 20% decline

Zoom to a State

North Dakota

2010 POPULATION: 672,591
CHANGE FROM 2000: +4.7%

RACE/ETHNICITY	SHARE OF POP.	CHANGE FROM 2000
Whites:	89%	+2%
Blacks:	1%	+105%
Hispanics:	2%	+73%
Asians:	1%	+92%
Native Amer.:	5%	+16%
Multiracial:	2%	+55%
Other groups:	0%	+26%



Data visualizations

Perhaps we journalists
are not as good as we
think at communicating
our data (or *with* data)

Maybe we need not just
media literacy, but also
graphics literacy

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On this side of the screen I will
visualize my reactions to some of the
graphs we've seen so far at ISOJ





“3D bar graphs? Hmm... No”

56% "Niche" = Like-Minded Believers



Source: DMC Research Panel, Cathy Chamberlain

Deseret News



“Pie charts with more than three slices make Edward Tufte cry”

Basic Info

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friends don't let friends use pie charts



Source: DMC Research Panel, Cathy Chamberlain

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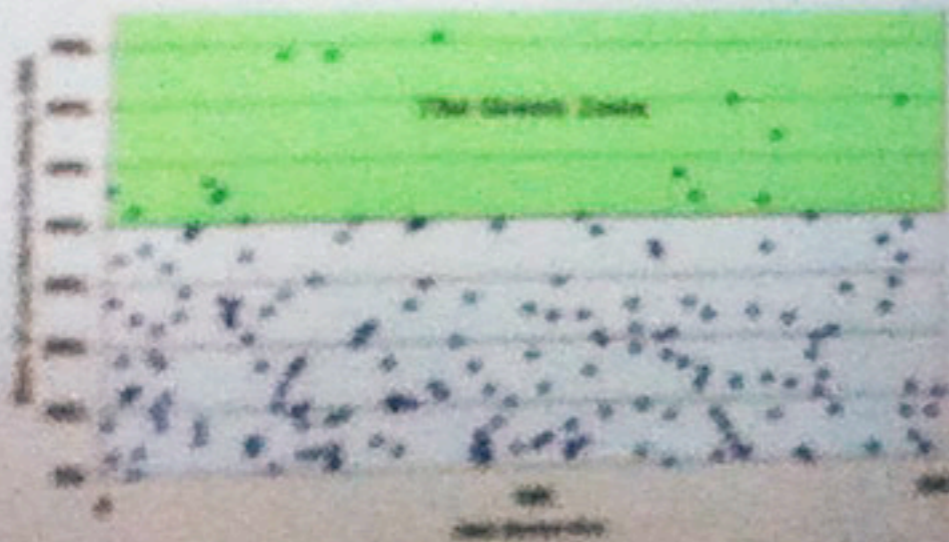
Deseret News



“Pie charts with more than three slices make Edward Tufte cry”

The Power of Autonomy

Benchmarking Local Media Online Market Share



Source: Duffell and Associates

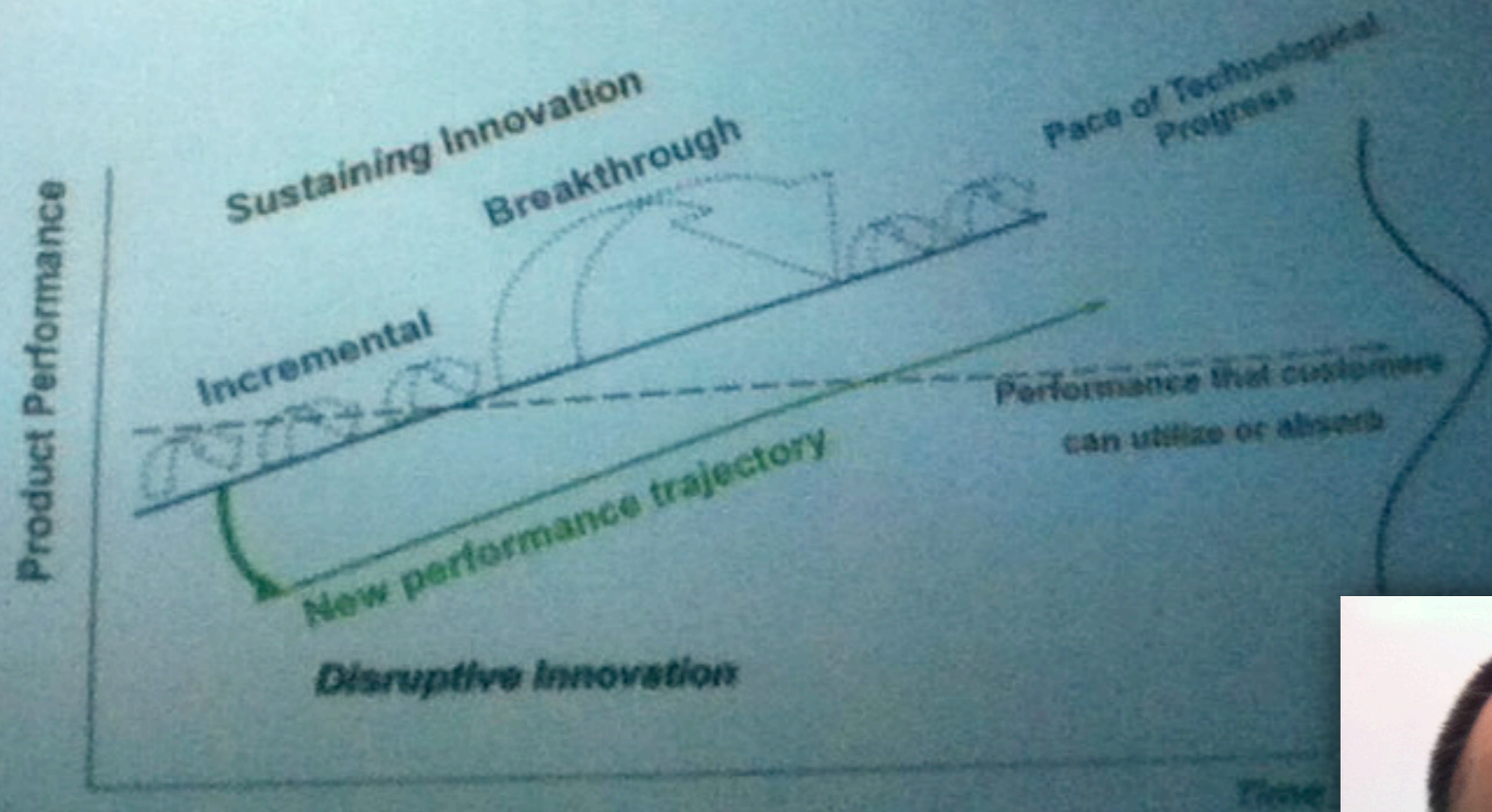
Characteristics of High Market Share Sites

- Separate Physical Location
- Separate P&L
- Separate Direct Sales
- Separate Content, Product, and Technology Teams
- Separate Management Structure



“What’s that!”

Disruption in Print Media



Source: The Innovator's Dilemma

Deseret News



“I feel ‘disrupted’ already, indeed!”

So it clearly makes sense to
have a panel like this at ISOJ!

We need to teach these skills
—and the theory behind them—
at J-schools much better than
we do right now

UNIVERSITY OF MIAMI
SCHOOL of
COMMUNICATION

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U MOMENTUM 2

ABOUT US DEGREE PROGRAMS ADMISSION ACADEMIC SERVICES FACILITIES STUDENT MEDIA CENTERS CAREER CONNECTION GIVE TO SOC

SoC News SoC Calendar

News

School of Communication Receives \$1 Million Gift for Student Scholarships

WHY UM SoC?

Undergrad and MA
journalism programs
<http://com.miami.edu/>

UNIVERSITY OF MIAMI

INTERACTIVE + MEDIA

PROGRAM NEWS APPLY FAQs FOLLOW US

Exploring technology, design, human behavior and their impact on communication.

Interactive Media at the University of Miami

The University of Miami Interactive Media program aims to prepare a new generation of innovators and leaders in the field of interaction design. Its mission is to explore the use of technology, design, human behavior, and their impact on communication. The multidisciplinary curriculum brings together students from different backgrounds to learn about gaming, mobile, data visualization, interaction design, and other emerging technologies. The program trains students to research, prototype, design, and build projects in business, social, academic, and cultural contexts.

Program starts in Fall 2013. [Apply now.](#)

News

[Game Design dorkShop this Saturday April 13](#)

[Ad Patrol is live!](#)

[Professor Tran presents Humans versus Mosquitoes at Come Out and Play San Francisco 2012!](#)

[Prof. Cairo on Storytelling with Data Visualization: Platforms vs. Craft at the Computation+Journalism Symposium 2013](#)

[Prof. Lien Tran to present Cops & Rubbers at the 2013 PCA/ACA popular and American culture conference](#)

MFA in
interactive media
<http://interactive.miami.edu/>

What UM's programs (undergrad and grad) may look like soon

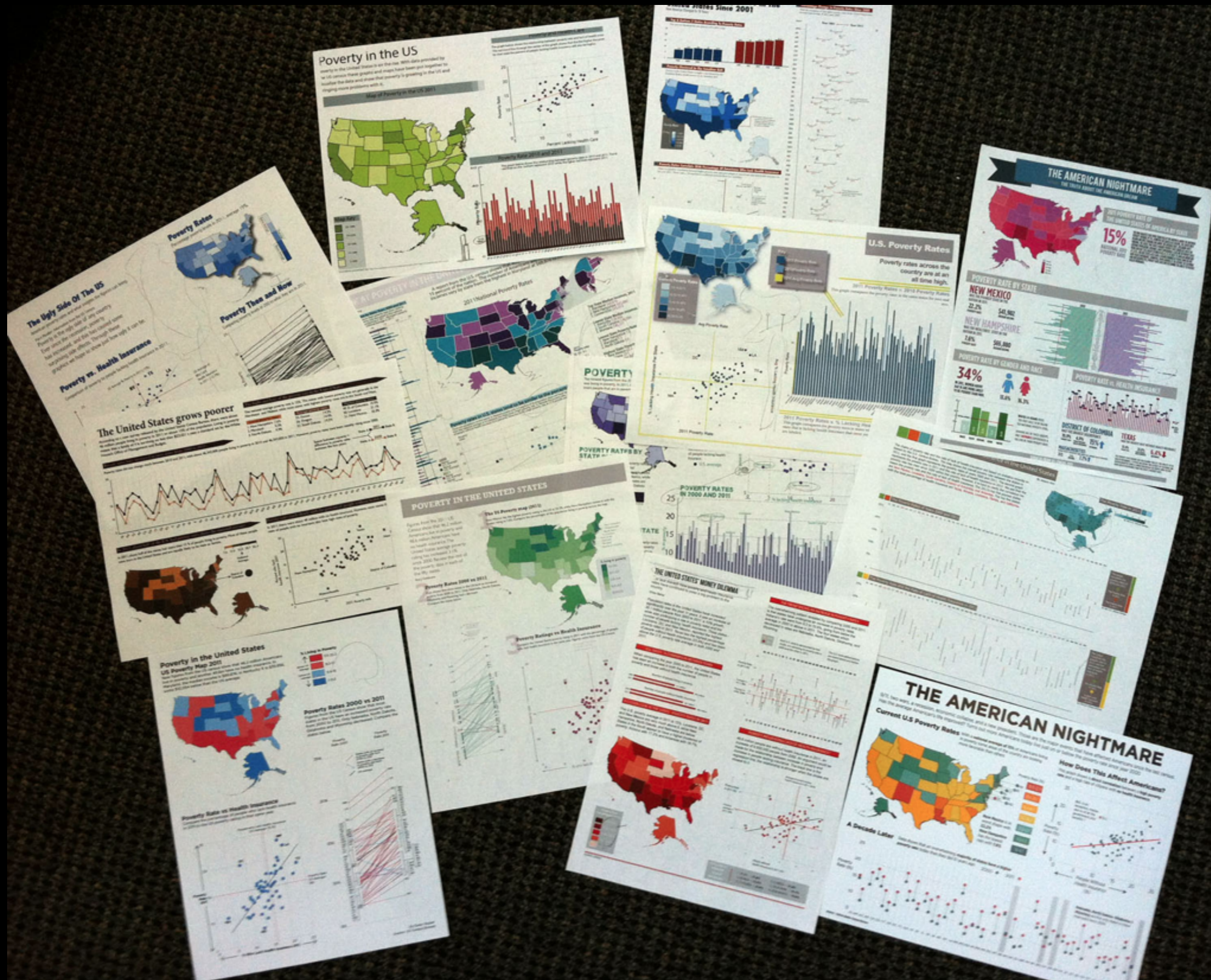
CORE

1. Journalistic skills and values (traditional and new)
2. Graphic design and Web design
3. Data journalism
4. Introduction to infographics and visualization

ELECTIVES

1. Programming for journalists (front end)
2. Databases (back end)
3. Data visualization
4. Game design

Some results after we began introducing some changes
(more info: www.thefunctionalart.com)



Some results after we began introducing some changes (more info: www.thefunctionalart.com)

GREAT WHITE THE ULTIMATE PREDATOR

Wintertime in False Bay, South Africa is known for its awe-inspiring white shark acrobatics during predatory attacks on juvenile Cape fur seals. Success rates in these ambush attacks are high, averaging 48%, but soaring up to 80% for specific skilled individuals.

POPS USE ACROBATICS
Seal pups are incredibly acrobatic swimmers, and though it might be the first time they have ever seen one, using their acrobatics to stay behind the shark's head as the shark barrels towards them often leads to their escape.

THE HUNT

- From the seal's view, dawn, evening light is dimmed, camouflaging the shark's dark grey dorsal color. In contrast, a shark stalking from below has a visual advantage, as the seal is backlit from the sun.
- The shark makes a sudden vertical rush that propels it out of the water. This strategy maximizes a shark's chances of catching a seal unaware. Stealth and ambush are key elements in the shark's predatory strategy.
- With acrobatic prowess, the shark immediately grabs the seal once above the surface, initiating a fatal first strike. If the seal escapes, a skilled shark will continue its attempt until the seal is captured.

TIME OF DAY MATTERS

>55% SHARK ATTACKS OCCUR BETWEEN 06:00-18:00 HOURS
<40% SHARK ATTACKS OCCUR BETWEEN 18:00-06:00 HOURS

Frequency and success of shark predations on seals are highest during low-light conditions. Since the shark's dark grey dorsal color reflects little to no light during dark hours, it is camouflaged into the sea! A seal looking down from the surface could identify a shark at 4.8 m below under bright sunlight, but only 2.6 m below at sunrise or sunset. A shark stalking a seal from below will have a visual advantage as the seal is backlit and silhouetted against the surface.

FALSE BAY
Predator-prey interactions between white sharks and Cape fur seals are reported from Seal Island in False Bay, South Africa. Sharks aggregate seasonally to prey on young seals. Sets of seals occur from November through December and pups are weaned in May and June. Predators by sharks on seal pups from May through August, averaging 6.7 per day. Seal feed offshore beyond the 15-mile vector mouth of False Bay. Most predatory attacks occur against small groups of young seals, which have been feeding offshore. Their behavior makes them more vulnerable to attack.

THE GREAT WHITE SHARK

Wintertime in False Bay, South Africa is known for its awe-inspiring white shark acrobatics during predatory attacks on juvenile Cape fur seals. Success rates in these ambush attacks are high, averaging 48%, but soaring up to 80% for specific skilled individuals. Find out all the facts on these predatory animals. **BY ANA CALDERONE**

HUNTING FOR PREY

Sharks stalking seals from below have a visual advantage because the seal is backlit and silhouetted against the surface while the shark remains camouflaged against the dark sea surface.

The Great Whites use a hunting strategy called breach attacks. They attack seals on the surface via a sudden vertical rush, which propels predator and prey out of the water.

After the animals are above the water, the shark then makes its initial bite, using extreme strength to make the first strike. The attacks have a 48% success rate.

THE LOCATION

During the winter, white sharks visit Seal Island to hunt Cape fur seals. They appear to hunt solitary juvenile seals near their primary entry and exit point early in the morning, when light levels are low.

The waters surrounding Seal Island in False Bay, South Africa, provide a unique opportunity to study predator-prey interactions involving Great White Sharks.

THE STATISTICS

The shark attack data can be shocking and researchers have found that smaller sharks exhibit more dispersed prey search patterns and have lower predatory success rates than larger conspecifics, suggesting possible learning with experience.

- 48% average shark attacks result in successful kills
- 6.68 average attacks per day, per shark
- 43 highest number of attacks recorded in a single day
- 26-30 average meter bottom depths of most shark attacks on seals

Sources: The University of Miami RJ Dunlap Marine Conservation Program and National Geographic.

GREAT WHITE SHARKS

The reality about these astounding creatures

South Africa is home to one of the world's most feared sea creatures: Great White Sharks. Most people fall victim to the common misconception that the animal's appearance correlates with its level of aggression towards humans. In reality, it is a selective animal that only hunts to survive. Kummerow and his team have conducted a 10-year research study in False Bay, where he monitored the sharks in the area without physically touching them. The work aims to discover how they hunt and how they can be further protected as they are endangered species.

Where do they live?

Most Great White Sharks are concentrated in the above mentioned light-shaded region and tend to concentrate in warm waters. Great Whites congregate in False Bay not only because of the warm temperatures, but because there is also a large seal colony that lives on Seal Island. The kelp extending from the island depicts the range of the seals that leave and return to the island. Seal kelp is the area where most sharks would be able to attack their prey at dawn. Dawn provides the ideal hunting conditions because of murky water and limited visibility.

And how do they hunt?

- The seal makes its way through the ocean as the shark approaches, slowly watching the seal from below.
- The shark hits the seal with an extremely rapid upward strike, catching the seal by surprise.
- The shark hits the seal with an extremely rapid upward strike, catching the seal by surprise.
- After the impact, the shark locks back into the ocean and the seal will safely swim for approximately one full month.

Facts and characteristics

- Great Whites can reach speeds up to 25 MPH when trying to ambush its prey.
- Big seals are a threat to sharks because of biting and scratching. Also, seals can reverse direction as quickly as a shark.
- These sharks are approximately three times as large as a human and the biggest ever recorded was 20 ft.
- Big sharks have more horsepower and reinforced anchor points in order to hunt as they exclude the small sharks from the better goods.

Conservation efforts

Great Whites' biggest threats are humans who hunt them for their fins. The big problem with this is that they reach sexual maturity at 10 years of age and have an 11-month gestation period. This means they don't reproduce as fast as they are being predicated. According to the IUCN Red List, some countries including South Africa have implemented laws protecting them from predation.

FLYING SHARKS

Great white sharks are much more dangerous in our heads than in reality. Their undeserved stereotype lies mostly with their magnanimous size, accompanied by teeth that with just one bite could be fatal.

White Shark Hotspot

Predation patterns in Seal Island are consistent. The seals swim about 200 meters away from the southernmost part of Seal Island to search for food. It is in this trajectory that Great Whites attack.

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Compare and Contrast

An average adult seal is 1.5m long, weighs 100kg, and swims at 10 km/h. A Great White is 3m long, weighs 3,000kg, and swims at 25 km/h. A Great White can bite through a 10cm steel pipe.

Size Matters to Darwin

Smaller sharks exhibit more dispersed prey search patterns and have lower predatory success rates than larger conspecifics, suggesting possible learning with experience.

In partnership with the School of Marine Sciences and the RJ Dunlap Marine Conservation Program (a way to keep J-education relevant to other students other than J-majors?)



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