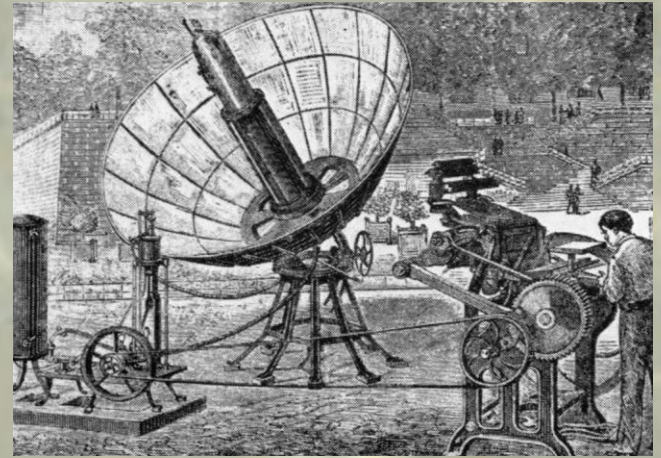
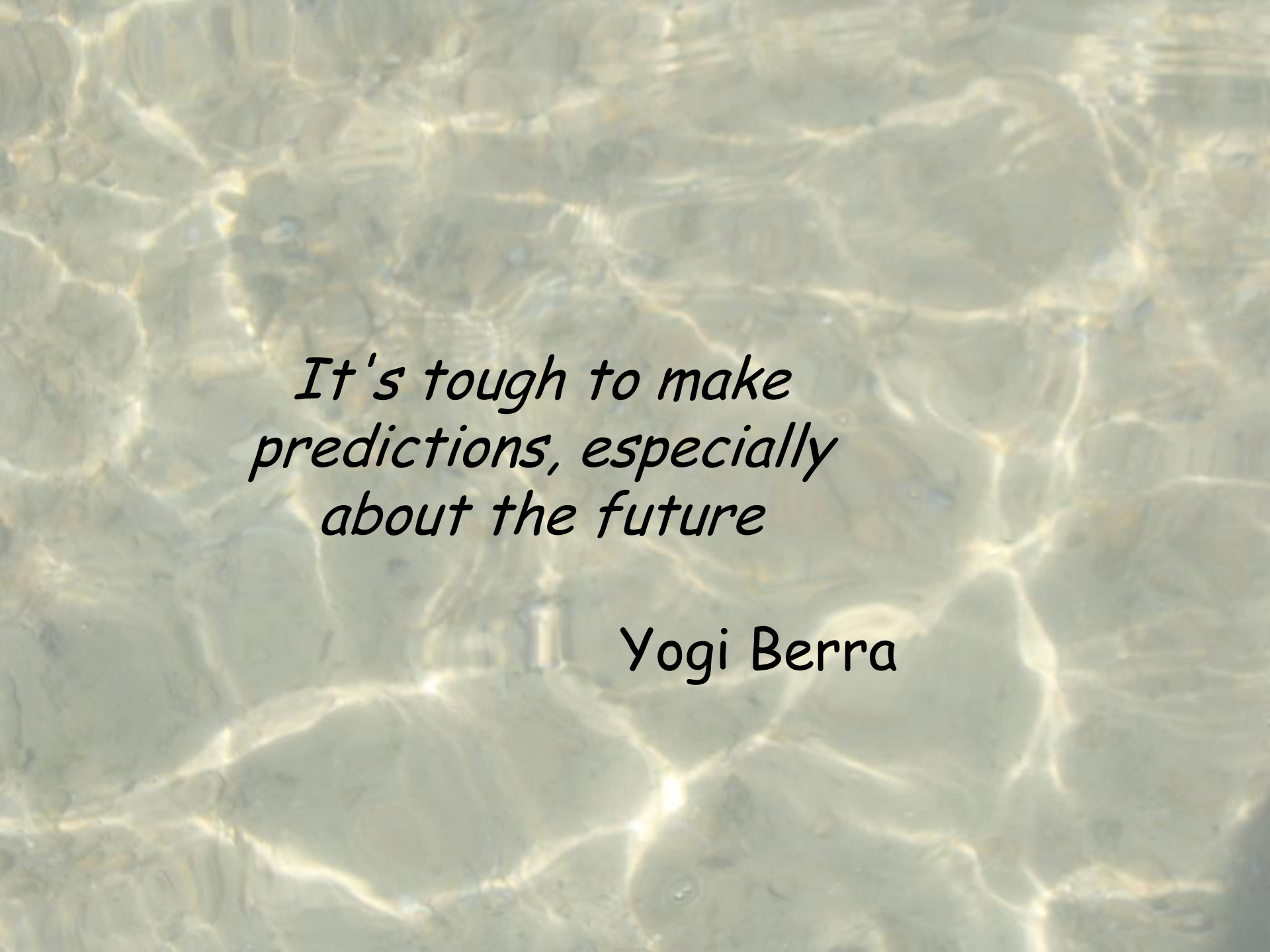


Predicting the future of printing



John Seymour
QuadTech



*It's tough to make
predictions, especially
about the future*

Yogi Berra

Who is John Seymour?

- John the Revelator, premier karaoke host

John the Revelator

John the Revelator is one of the most innovative and influential karaoke hosts of our time, having pioneered the use of an inflatable guitar to augment the cheesy riffs in karaoke backup tracks. In addition to his phenomenal skill with karaoke equipment, with karaoke software, and his uncanny ability to know just where on the floor a mic cable should go, the Revelator is a tireless advocate of karaoke in the greater Milwaukee area. His website with a listing of every single karaoke venue in Milwaukee is pure poetry to the karaokephile.

[This must be true, it's on the web](#)



*Half the lies they tell
about me aren't true.*

Yogi Berra

Who is John Seymour?

- John the Revelator, [premier karaoke host](#)
- John Math Guy Seymour, [mathematician to the stars](#)
- John Seymour, applied math dude and color scientist, [QuadTech](#)

Who is John Seymour?

John Seymour is a man who describes his job as the best in the world. I think my job is pretty terrific, but I agree that he has an enviable job.

Brian Lawler, Cal Poly

[This must also be true](#)

Who is John Seymour?

Pompous description

*My job is to invent the
future of printing*

12 patents,
2 pending

Realistic version

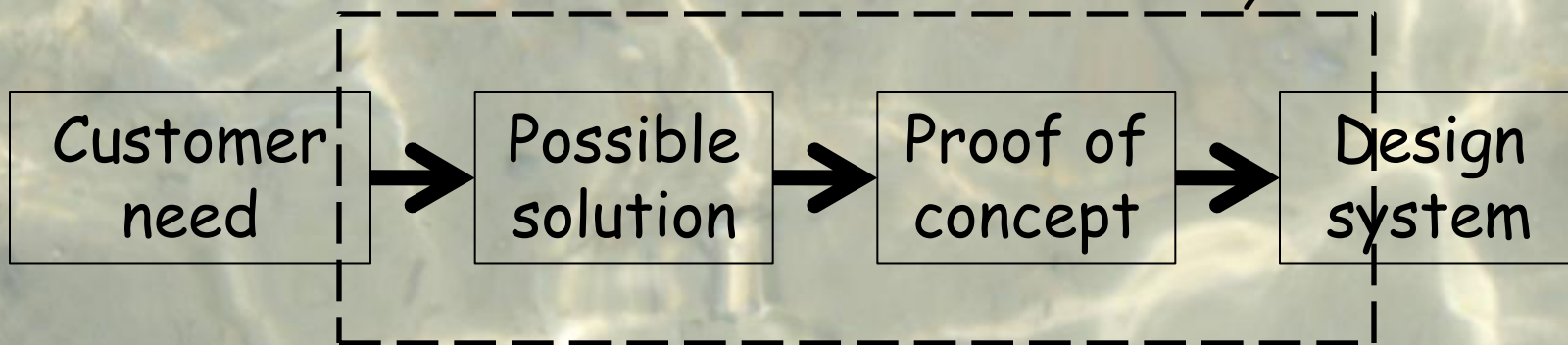
*My job is
advanced product
development for press
control systems*

Who is John Seymour?

Realistic version

*My job is
advanced product
development for press
control systems*

My involvement



Who is John Seymour?

12 years as a computer
programmer

6 jobs in 4 different
companies

I was good at it,
but


I grew to hate it

Who is John Seymour?

My comfort zone
Working with people
Big picture thinking
Feeling
Spontaneity

Programming
Working alone
Juggling BBs
Thinking
Working to a calendar

Myers-Briggs Type Indicator



Spending all your
time working outside
your comfort zone
is stressful

Myers-Briggs Type Indicator

Future of print

[Click here to see the video](#)

[Click here to see the video on YouTube](#)

Future of print

- Newspapers ☹️
- Catalogs 😐
- Packaging 😊
- Magazines?

Future of magazines

First 9 months of 2009

428 titles closed
275 new titles launched

2008

525 titles closed
335 titles launched

314 less titles

Big titles closed in 2009

*Gourmet, Cookie, Southern Accents,
Vibe, Nickelodeon, Portfolio,
Blender, Best Life Travel & Leisure
Golf, Figure, Hallmark Magazine,
Domino, Teen, Wondertime,
Country Home*



*The future ain't
what it used to be.*

Yogi Berra

Future of magazines

Survey last 12 months WhatTheyThink.com

Looked for articles on magazines

Folding or stopping print

Starting up

Signing print deals

Future of magazines

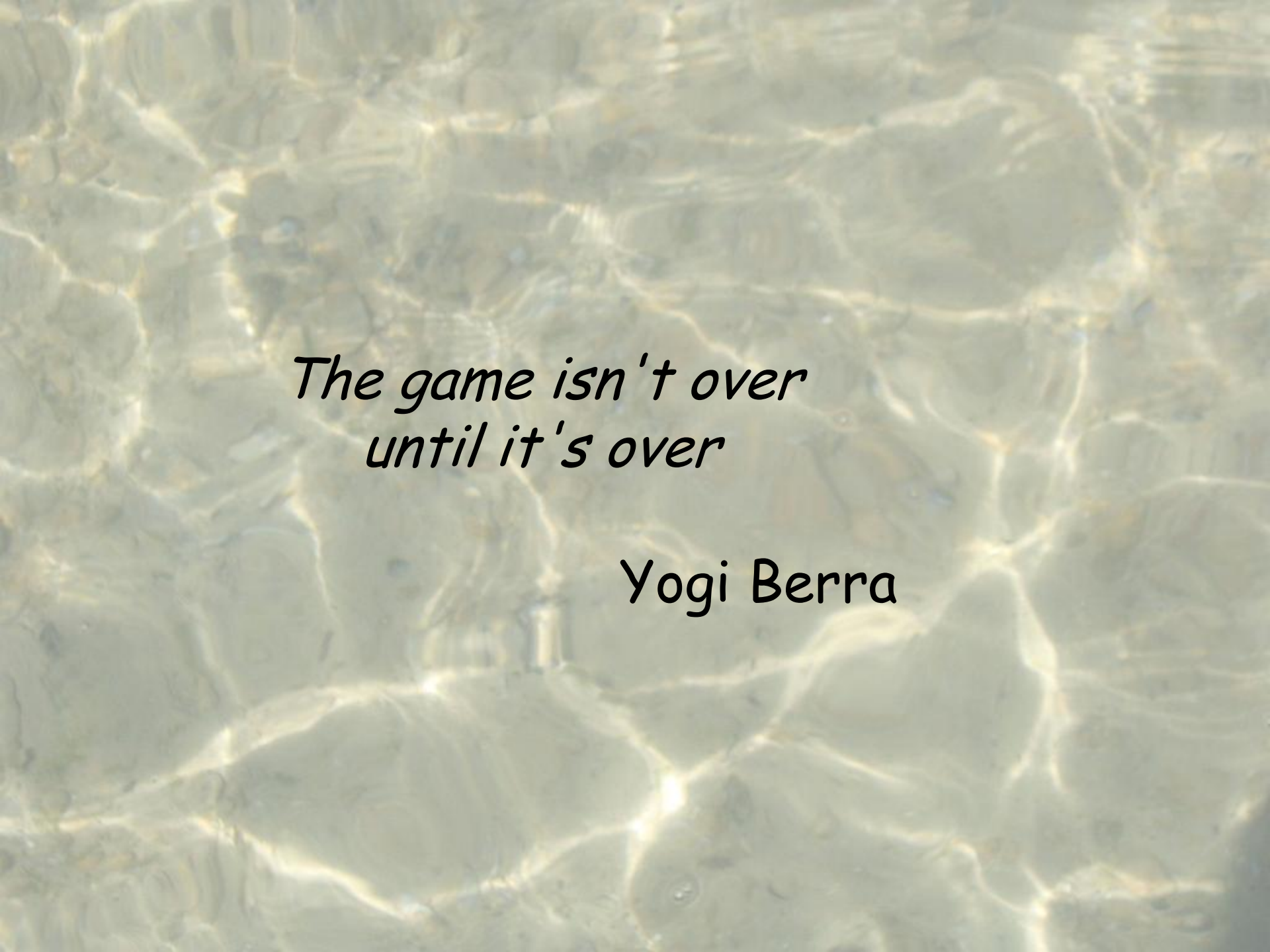
- World Color - ESPN magazine (7/30/2009)
- World Color - 21 ABA titles (10/9/2009)
- Quad/Graphics - 11 Conde Nast titles (1/11/2009)
- Brown Printing - 5 Hearst titles (3/24/2010)
- World Color - 4 Hearst titles (3/26/2010)
- Quad/Graphics - 5 Hearst titles (4/1/2010)

Future of magazines

Still signing
deals

Allure
Architect. Digest
Cosmopolitan
Country Living
Details
ESPN
Esquire
Golf Digest
Golf World
Good
Housekeeping
GQ
Harper's Bazaar
House Beautiful

Lucky
Marie Claire
O
The Oprah
Magazine
Popular Mechanics
Redbook
Self
Seventeen
Teen Vogue
Town & Country
Veranda
Vogue
Wired



*The game isn't over
until it's over*

Yogi Berra

Really cool transition slide

World of print



My world

Printing press of the future



Press

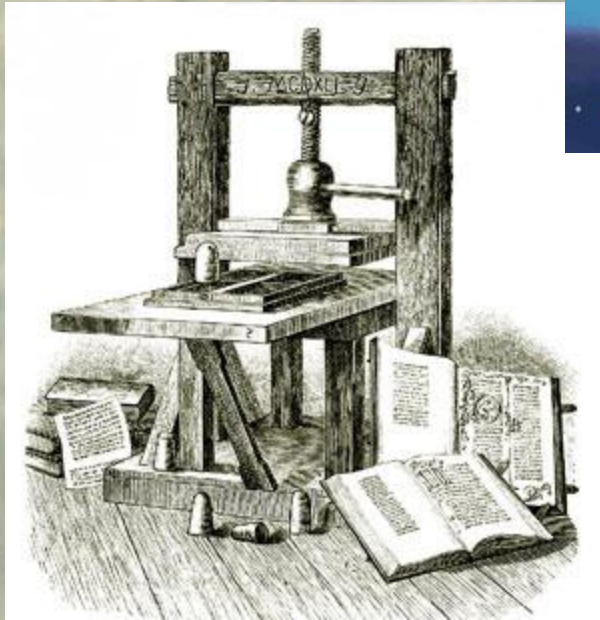


A man and a dog

Q: Why do you need the man?

A: To feed the dog

Printing press of the future



Press



A man and a dog


Q: Why do you need the dog?

A: To keep the man from touching the press

Printing press of the future

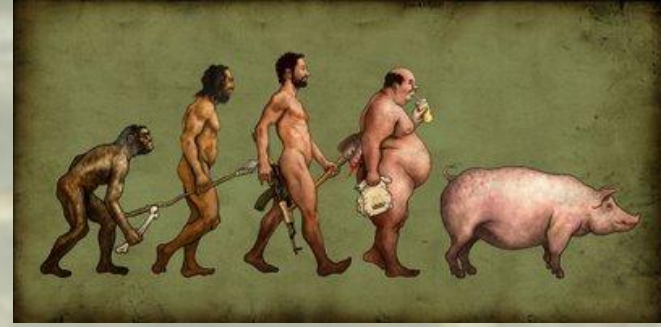
Lights out pressroom

Harry Quadracci



My own little
contribution to the
lights out pressroom...

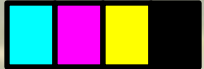
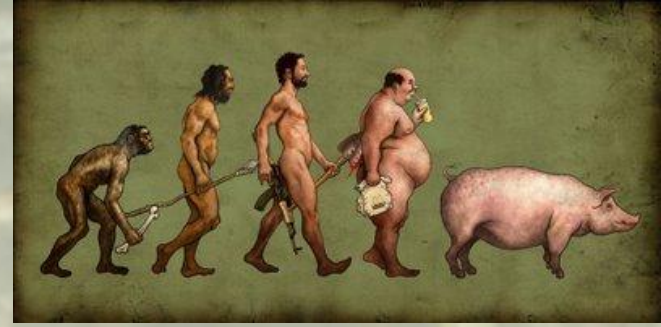
Evolution of color control



I started working
on this in 1992

I was 12

Evolution of color control



SID
control

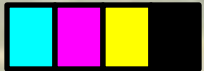
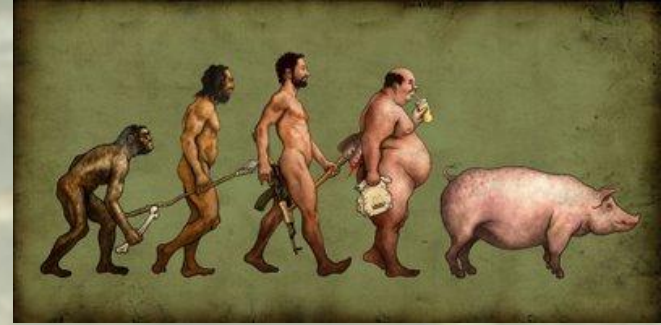
*Does not deal
with changes
in dot gain*

The background of the image is a close-up, top-down view of water ripples. The light reflects off the surface, creating a complex pattern of bright, shimmering highlights and darker, shadowed areas. The ripples are irregular and organic in shape, filling the entire frame.

*We made too many
wrong mistakes*

Yogi Berra

Evolution of color control

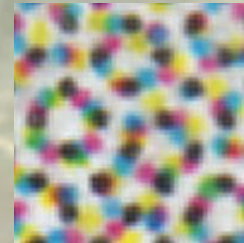
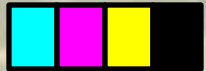
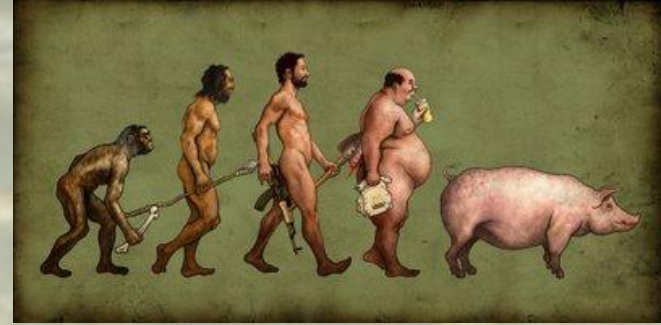


SID control → Tone control

*Deals
with changes
in dot gain*

*Tone control does
not focus on most
sensitive colors*

Evolution of color control



SID
control



Tone
control



Gray
balance

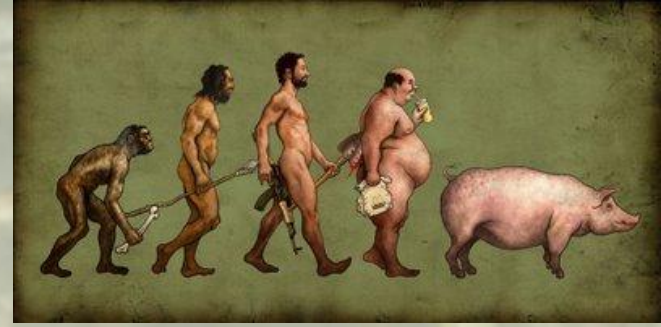


*The eye is very sensitive
to gray balance*

*Focuses on
most sensitive
color - gray*

*Very effective
with these images*

Evolution of color control



SID control → Tone control → Gray balance

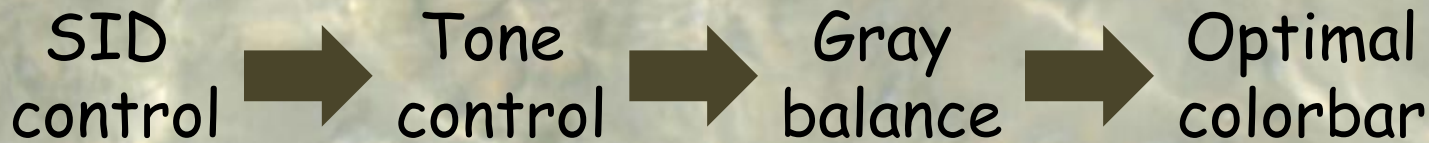
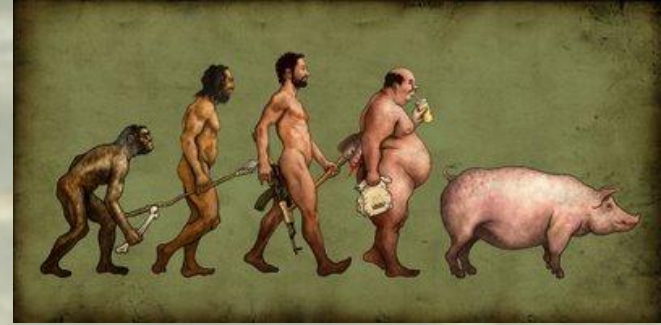


*Very effective
on these images*



*Not as effective
on these images*

Evolution of color control

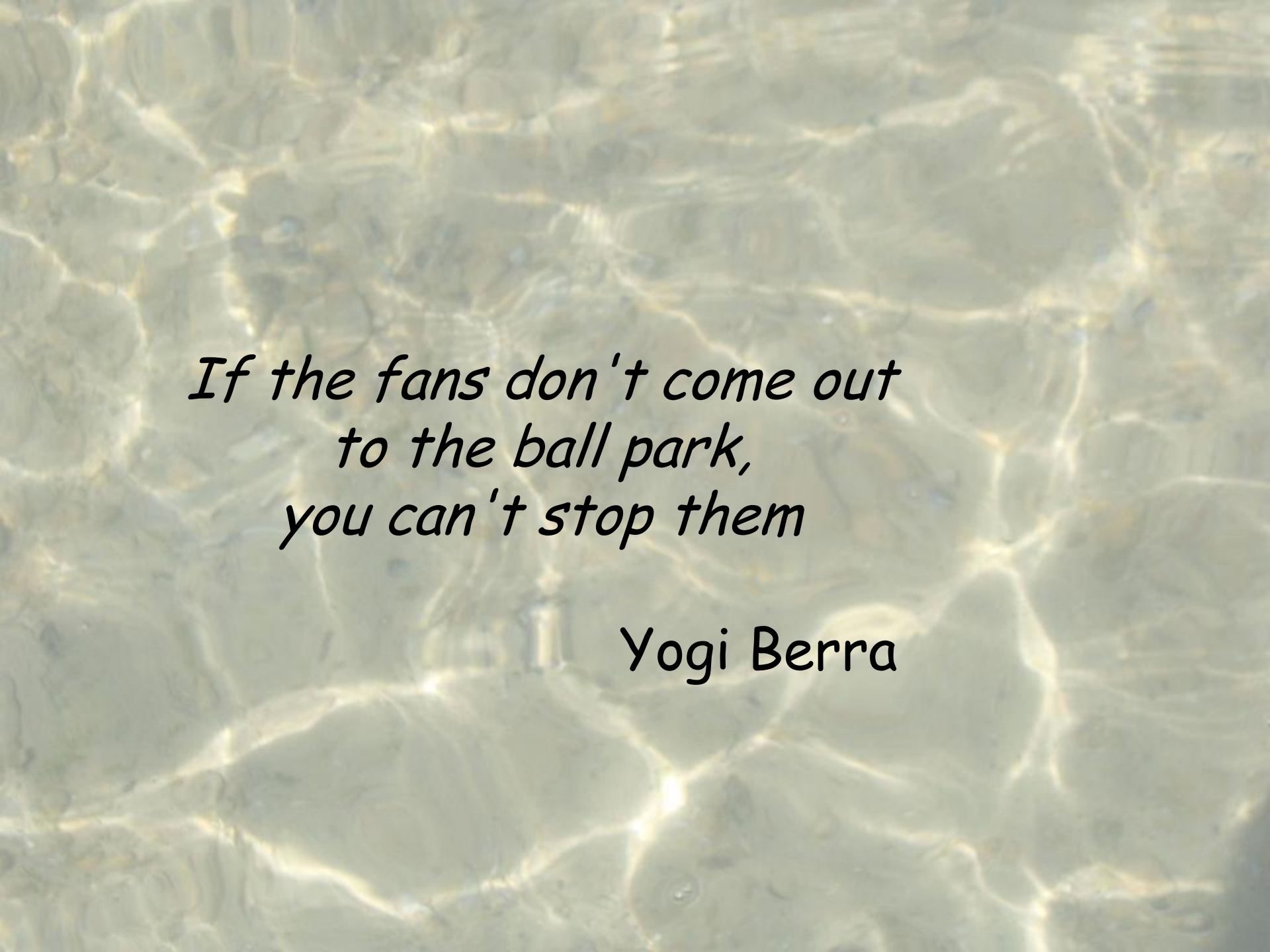


Choose colorbar patches close to colors in the work

Seymour, 2002

The background of the image is a close-up, top-down view of water. Sunlight filters through the surface, creating a complex pattern of bright, shimmering highlights and darker, shadowed areas. The light rays are visible, creating a sense of depth and movement. The overall color palette is a mix of pale yellows, greens, and blues, with the water appearing slightly hazy or turbid. The text is centered in the middle of the frame.

This never
caught on



*If the fans don't come out
to the ball park,
you can't stop them*

Yogi Berra

Fozzie Bear

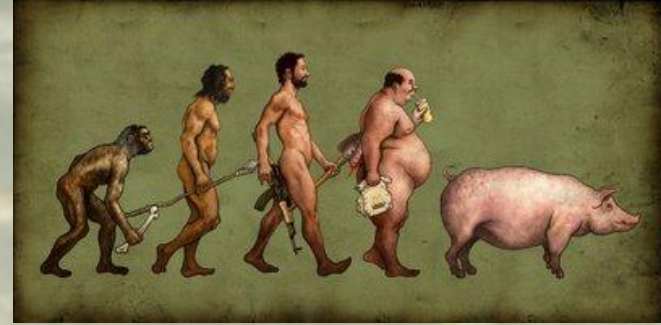


Yogi Bear



Yogi Berra

Evolution of color control



Control the
actual work


*My patent 5,967,050
Filed Oct. 1998*

Why did it take 12 years?!?!?

Either

- I am way ahead of my time
- I am a bad salesman

*My patent 5,967,050
Filed Oct. 1998*

The background of the slide is a close-up photograph of water. Sunlight is filtering through the surface, creating a complex pattern of bright, shimmering highlights and darker, shadowed areas. The light rays create a textured, almost crystalline appearance, with many small, irregular shapes that resemble ripples or reflections. The overall color palette is a mix of pale yellows, greens, and greys, giving it a fresh and natural feel.

Brief commercial interlude

AccuCam



- Six channel spectral scanner
- Images @ 25 DPI
- Full web speed

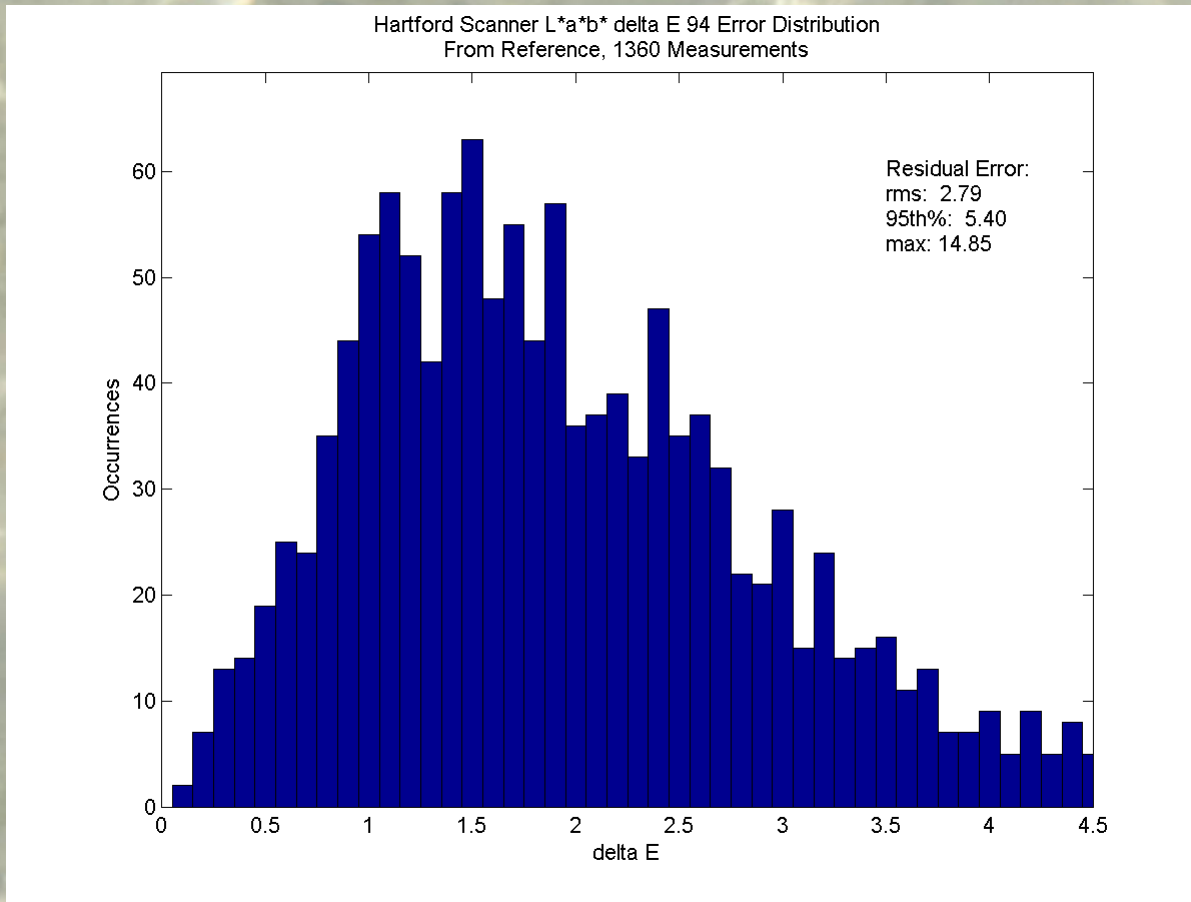
Accucam

Six channel spectral scanner?

RGB camera is
a *three* channel
spectral scanner

Not accurate
enough
(Seymour 1997 and 2009)

High End Flatbed Scanner



95th percentile
5.4 ΔE_{94}

Three channels don't give accurate color!

Accurate color images



+



=



AccuCam

Six channel spectral scanner?

RGB camera is
a *three* channel
spectral scanner

Not accurate
enough
(Seymour 1997 and 2009)

Thirty channel
spectral scanner
would be ideal!

Not practical

The Engine

Six channel spectral scanner?

RGB camera is
a *three* channel
spectral scanner

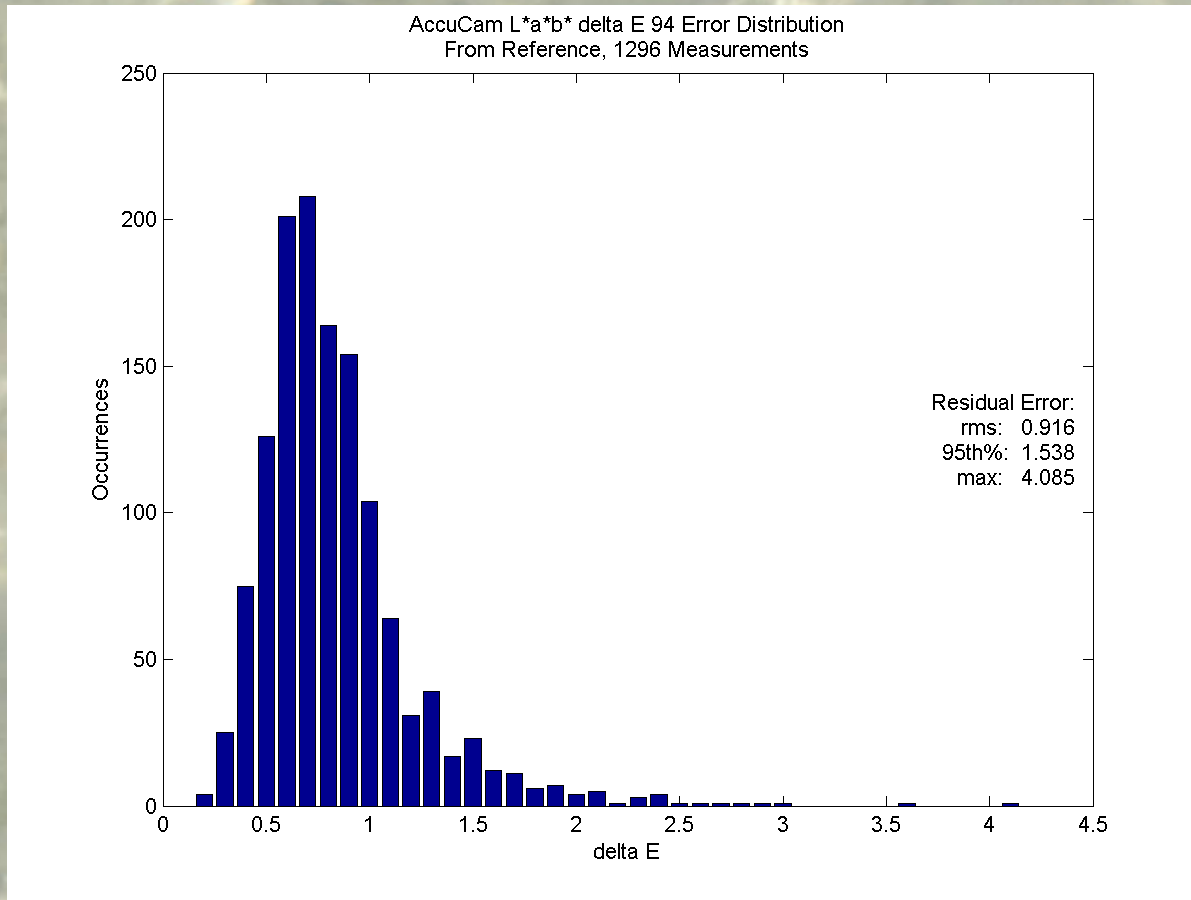
How about a
six channel

Thirty spectral scanner?
spectral scanner
would be ideal!

Theoretically accurate enough
(Seymour 1997)

Actually accurate enough
(Seymour 2010)

AccuCam



95th percentile
1.5 ΔE_{94}

Measurement accuracy on 1,296 CMYK patches

The background of the image is a close-up, top-down view of water. Sunlight filters through the surface, creating a complex pattern of bright, shimmering highlights and darker, shadowed areas. The light reflects off the ripples, creating a textured, almost crystalline appearance. The overall color palette is a mix of pale yellows, greens, and blues, with the most intense light appearing as bright white and yellow spots.

Time to pay attention again

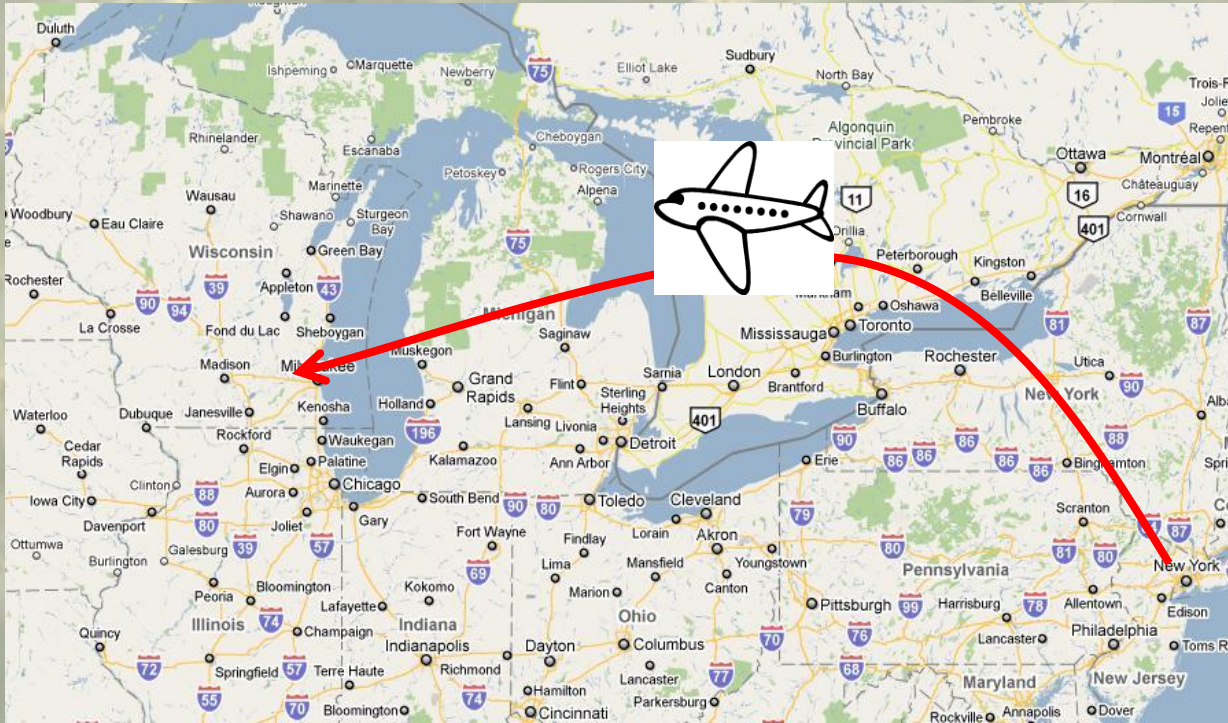
1. RGB cameras are not color accurate

2. Color accurate cameras are just becoming available

What to do with an accurate image?

- Remote color OK

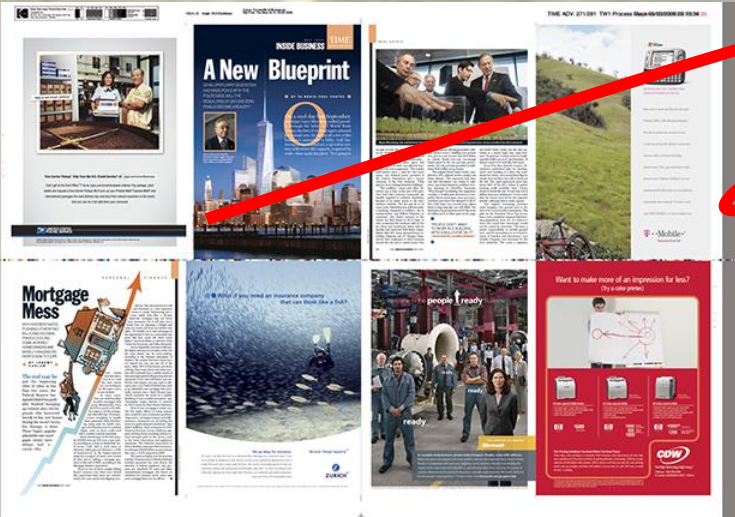
Remote color ok



Today, customers fly in for a color ok

Remote color ok

Over the web



What if we could
send an image of
the web...

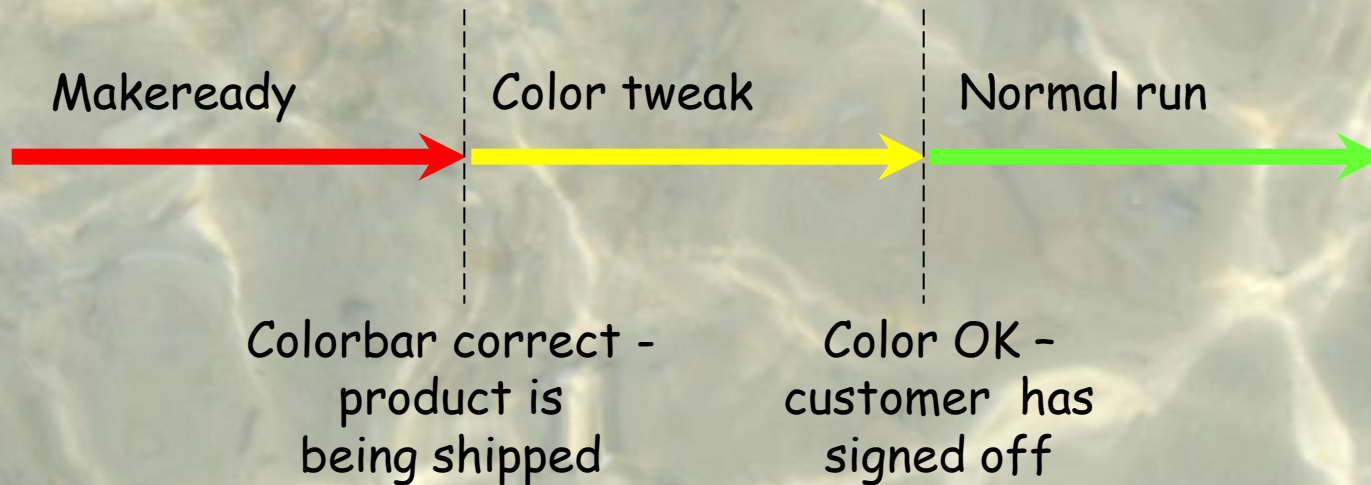
to a customer
in New York?

Patent pending

What to do with an accurate image?

- Remote color OK
- Ink move preview

Typical job flow



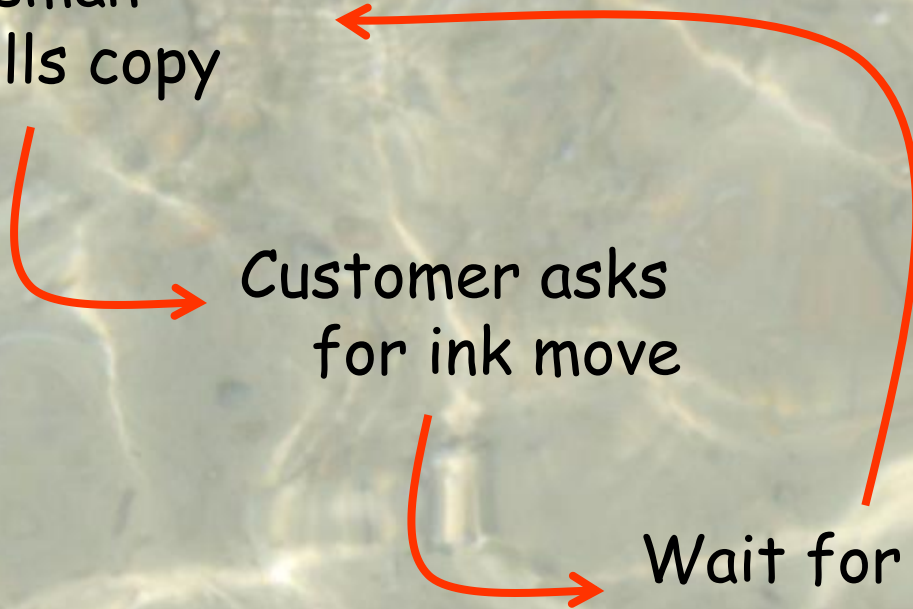
Yes, this is a little backwards!

Color tweak

Pressman
pulls copy

Customer asks
for ink move

Wait for move
to settle out

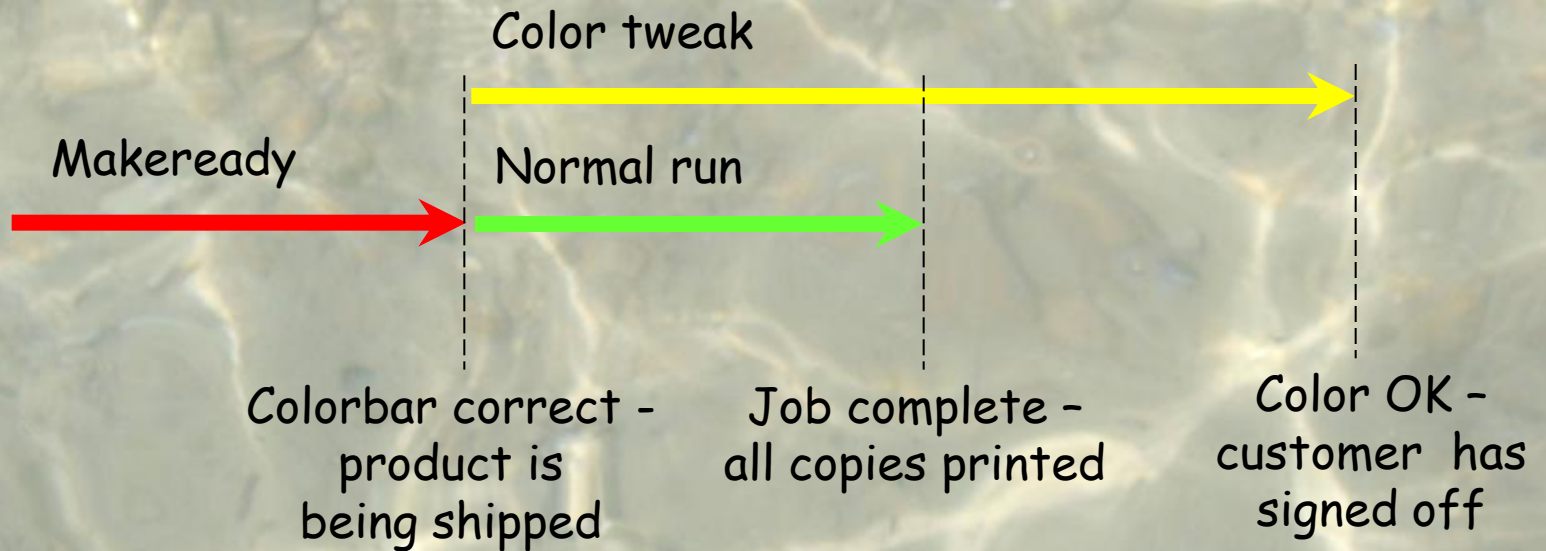




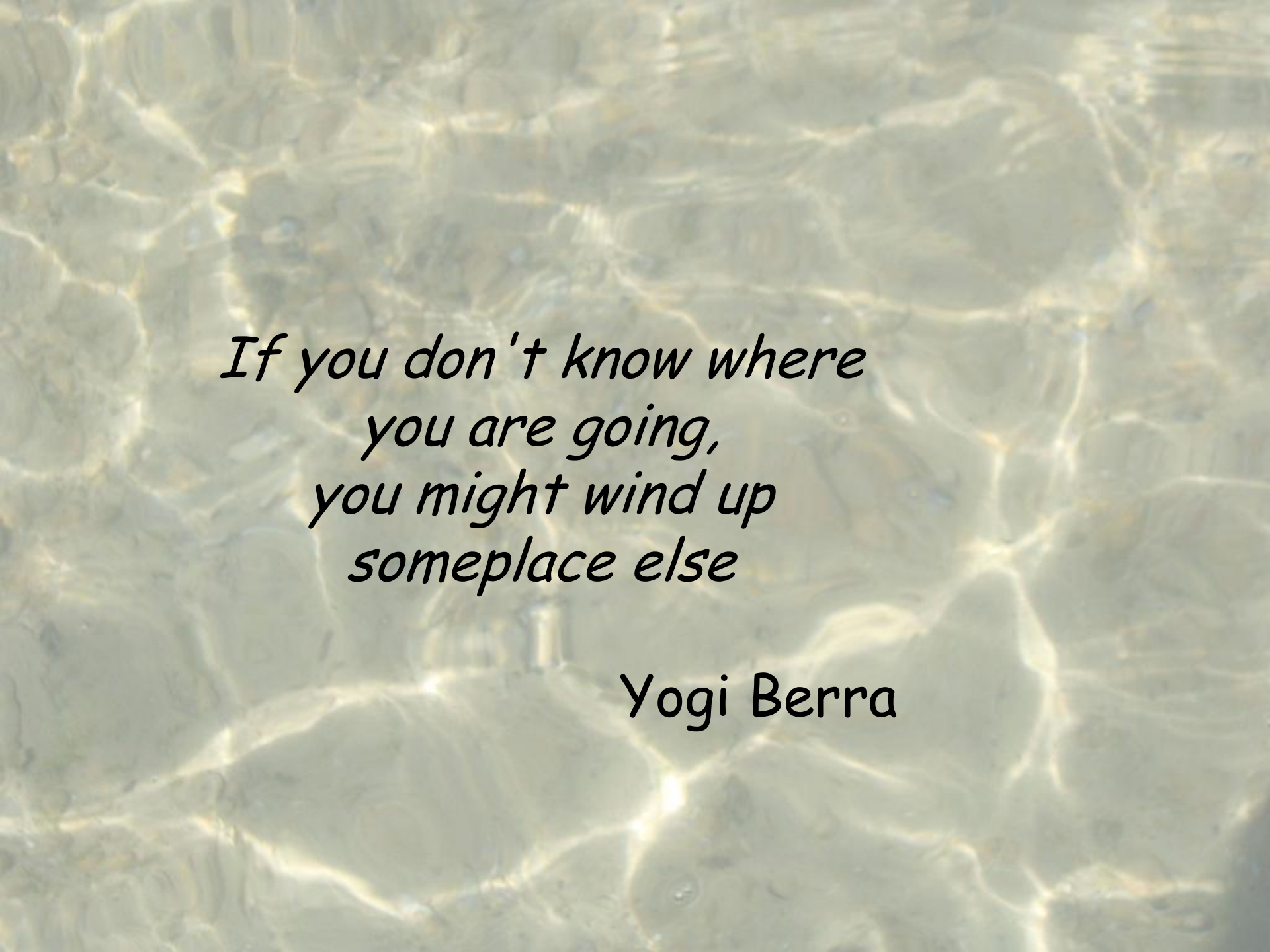
*It's like déjà-vu,
all over again.*

Yogi Berra

Worst case job flow



Yes, this is very silly!



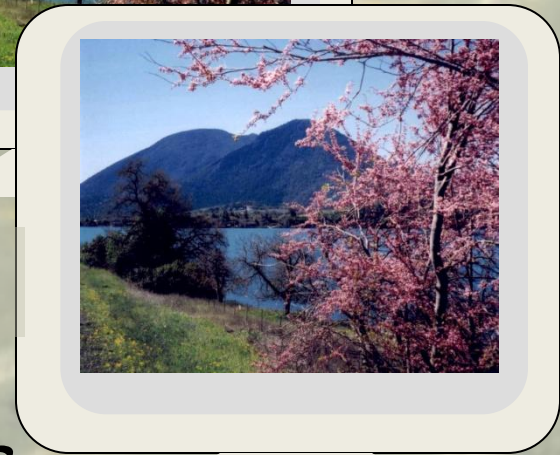
*If you don't know where
you are going,
you might wind up
someplace else*

Yogi Berra

Ink move preview

Softproof display

Image of web



The sky is not blue enough...

Pressman tests an ink move...

Color OK Iterations are virtual

My patent 7,652,792

What to do with an accurate image?

- Remote color OK
- Ink move preview
- Objective color comparison

Objective color comparison

Today

86.3% of color evaluation
is done by eye.

Today

97.4% of all statistics
are made up

*Five fourths of students
have trouble with fractions*

Objective color comparison

Time magazine uses
"print by the numbers"

For editorial pages
but not for ad pages

*In theory, there is no
difference between
theory and practice.*

In practice there is.

Yogi Berra

Objective color comparison

Time magazine uses
"print by the numbers"

For editorial pages
but not for ad pages

Time doesn't care what color Obama is

The background of the image is a close-up, top-down view of water ripples. The light reflects off the surface, creating a complex, organic pattern of bright, shimmering highlights and darker, shadowed areas. The overall color palette is a range of light blues, greys, and whites, giving it a serene and textured appearance.

*I didn't really say
everything I said*

Yogi Berra

Objective color comparison

Why don't they trust the numbers?

- Human instinct
- Colorbars don't predict a match

Objective color comparison

One of my jobs over the next few years

Color accurate
images



Objective
acceptance
criteria

Patent not yet pending

Objective color comparison

*If it's easy for a person to do,
it's hard for a computer*

Fred Schamber

What to do with an accurate image?

- Remote color OK
- Ink move preview
- Objective color comparison
- Web inspection

Web Inspection

Industry trends

- Wider presses
- Higher speed
- More automated
- Smaller crews

Less human
inspection



Greater chance
of bad product
sent to bindery

Web Inspection

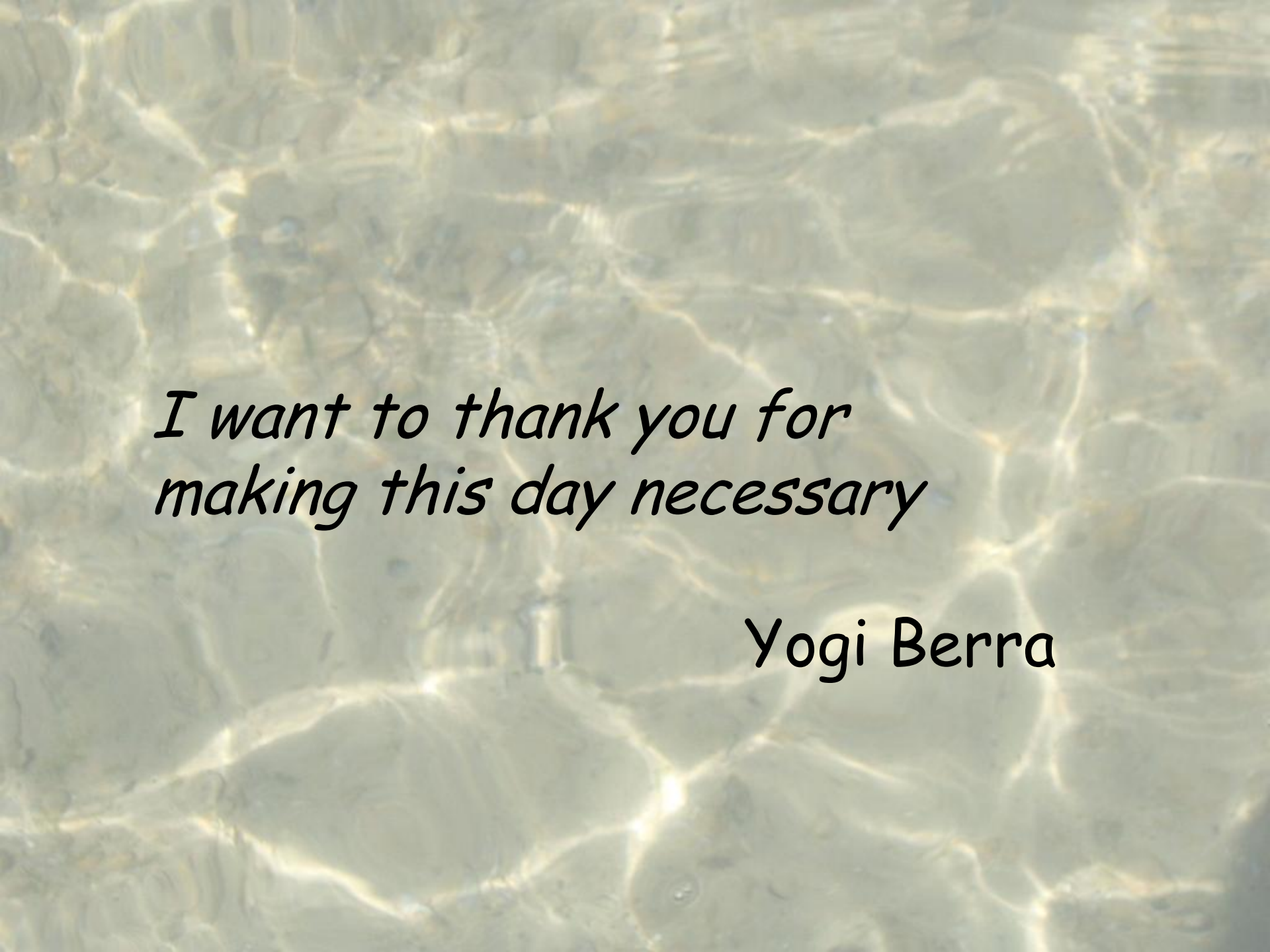
*The main purpose
of web inspection
is to keep us from finding
problems in the bindery.*

Or later!

What to do with an accurate image?

- Remote color OK
- Ink move preview
- Objective color comparison
- Web inspection

What else?



*I want to thank you for
making this day necessary*

Yogi Berra

The background of the image is a close-up, top-down view of water ripples. The light reflects off the surface, creating a complex pattern of bright, golden-yellow highlights and darker, muted greenish-grey shadows. The ripples are irregular and organic in shape, creating a textured, shimmering effect.

*Open
Discussion*

*I wish I had an answer to
that because I'm tired of
answering that question*

Yogi Berra