



From Creativity To Success

Via Risk And Setback: Can You Disrupt Without Disrupting?

John Bandler

Department of Electrical and Computer Engineering, McMaster University
in person and via Zoom, February 6, 2023

<https://tinyurl.com/creativity-success>

ATTENDEES PLEASE:

THIS MEETING IS BEING RECORDED

CAMERAS OFF ALWAYS

**MICROPHONES MUTE
UNLESS ASKING QUESTION**

Zoom Meeting Attendee Display Suggestions

“Hide non-video participants”

in gallery view, side-by-side mode, scale speaker & slide windows by moving the partition between them left-right

Special Acknowledgements

Gregory Atkinson, Mary-Anne Bechamp, Tim Davidson, Rachelle Ho, Natalia Nikolova, Stephan Olaizola, Nicholas Simard, Melissa Skudra, Megan Vierhout, John Vlachopoulos

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Early Initiatives (2012-2014)

J.W. Bandler, “Creativity in the real world: champions, detractors and what certain gurus would rather you didn’t know,” Cafe X, McMaster University, Feb. 26, 2014.

J.W. Bandler, “Explain less, predict more,” TEDx McMasterU, Feb. 2, 2014.

J.W. Bandler, “Awareness, creativity, and creative thinking,” IEEE MTT-S Women in Microwaves, Jan. 18, 2014.

J.W. Bandler, “From creativity to success via risk and setback: an insider’s perspective,” McMasterUTV, 2013.

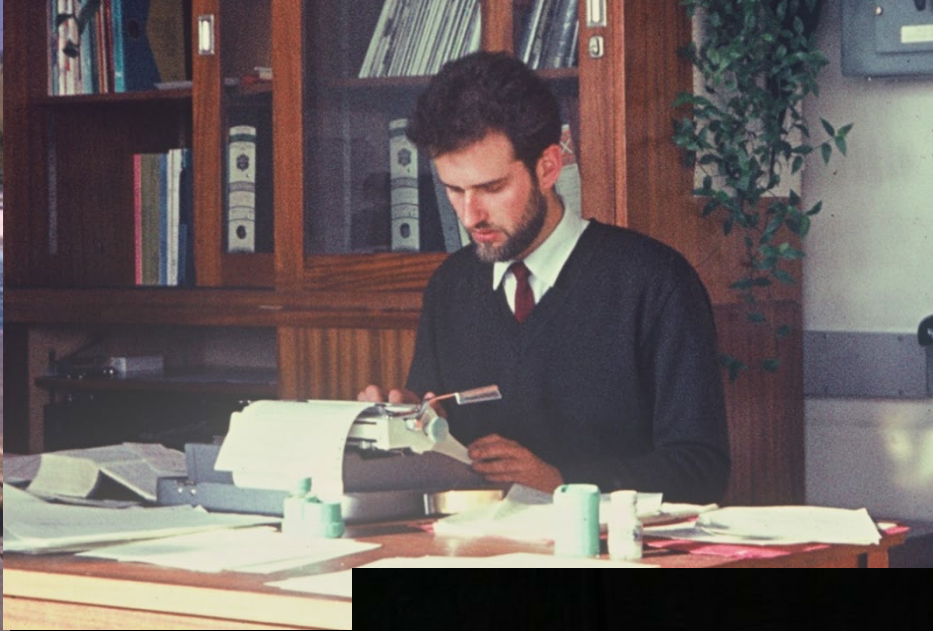
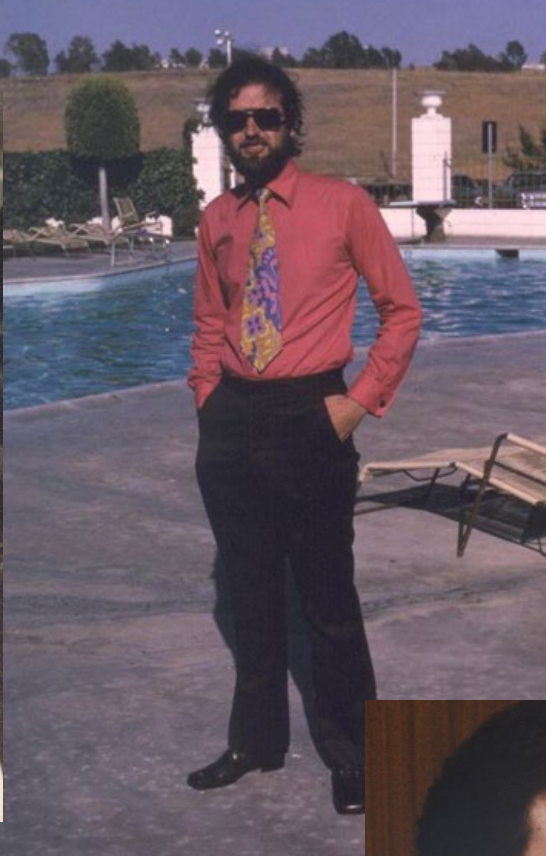
J.W. Bandler, “Human aspects of communication and persuasion: first impressions and subtext,” IEEE.tv, 2012.

+ venues in United States, Canada, China, Iceland

Let's Explain Everything

"If we make up an ad hoc hypothesis for every new case . . . then we can go beyond the present position and we can explain everything and predict nothing."—H.J. Eysenck, ca. 1950







John Bandler

59 Minutes in the Maxwell Suite—A Stage Play

—“And you’re my hostage. Right?”



That The Multitude May Live—A Stage Play

—“I’m alive so that you could die.”



The Trial of Naomi Verne—A Stage Play

—“Jerusalem’s a real place.”



Christmas Eve at the Julibee Motel—A Stage Play

—“That was just so-so sex.”



Two extraterrestrials experience feelings for the first time

THE CAFFEINE RABBIT HOLE

Jaclyn Scobie as LENIK Steph Christiaens as DARA

Music by Emily Wood



A Short Film Written, Produced & Directed by John Bandler

Assistant to the Director: Megan Vierhout

Editor & Technical Consultant: Jeremy Major

Co-Producer: Beth Bandler

Coffee Shop Logo and Promo Image Design & Processing:

Rachelle Ho & John Bandler

www.bandler.com/rabbit

LOOKS CAN BE DECEIVING



Looks Can Be Deceiving



Winnipeg 1968: I stop at a traffic light. Noting my **seatbelt** (rare in those days), a pedestrian leans in and says, “Are you a **dangerous driver?**”

OBJECTIVES

Objectives

understanding the creative process

understanding people

improving research productivity

making the most of time

making the most of money

making a mark

navigating the minefields

Target Audience

the student

the professor

the research team

the budding artist

the budding innovator

the budding entrepreneur

(the administrator, the audience, the public . . .)

“Speak the truth, but leave immediately after.”

—Slovenian Proverb

“Truth Isn’t Truth”

—Rudy Giuliani, 2018



ETHICS IN COMMUNICATION

Are You Persuading . . .

the public

friends and family

technical experts, collaborators

your non-technical boss

donors, funding agencies, . . .

job interviewers

research paper peer reviewers

career advancement committees

a criminal judge, jury . . . ?

Are You Delivering . . .

numbers, graphs, statistics, . . .
your thesis, the gist of your thesis
a technical paper or presentation
a pitch
a Q&A
your prototype, product, process
your next “breakthrough”
yourself (networking, chatting)
your (highly selective) best face?

Are You Misleading Through . . .

distorted graphs

distorted scales

distorted perspectives

insufficient data

selective data

unjustified extrapolation

unjustified causation / correlation

absolute vs. relative numbers

bias, conflict of interest, fraud...?

Are You Coveting . . .

love

fame

fortune

freedom

promotion

power

prestige

relevance

sex . . . ?

You're On An Elevator With . . .

your university president

a reviewer of your recent paper or proposal

a journal editor

the chairman of a prestigious conference program

the chairman of your promotion/tenure committee

what's your optimal course of action?

silence? a cough? a remark on the weather?

excuses for a misdeed?

a "snow job"?

a compliment on his/her scarf or tie?

a professional compliment?

your perfect elevator pitch?

Why Do American Pharma TV Ads Snow You With . . .

fast-talking narrators

distracting background music

smiling humans

fine print, fine print, fine print, fine print, fine print, fine print, fine print, fine print, fine print, fine print fine print, fine print fine print, fine

low contrast text?

What are they hiding?

OK, WHAT ARE YOU HIDING?
AND WHY?

Think . . .

Bill Clinton, Donald Trump

Peter George, McMaster University's then highest paid
Canadian University president
(his \$99,999 lapse: Wikipedia)

Jonathan Pruitt, McMaster University, "data irregularities"
(Wikipedia)

The Art Of Persuasion

“A story persuades because you have to admit both the positive and the negative.”

—Robert McKee



Photo: John Bandler

BUDGET

You And Your Budget

Are your **business** hotels more **expensive** than your vacation hotels?

Do you take **taxis** only on business?

Do you ever pay for a “**business lunch**” out of your own pocket?

Do you over-eat/-drink **on someone else's tab**?

Budget

the small budget

forces initiative and imagination

the mega-budget

a crowd-pleaser

an ego-booster

a resource-waster

the insufficient budget

wastes people

the optimal budget

has yet to be discovered

WHERE DOES YOUR
MONEY COME FROM?

HOW IS IT SPENT?

Who Is This Guy And Why Did He Resign From MIT?



Who Is This Guy And Why Did He Resign From MIT Media Lab?



https://upload.wikimedia.org/wikipedia/commons/thumb/7/77/Joichi_Ito_Headshot_2007.jpg/1920px-Joichi_Ito_Headshot_2007.jpg

**Joichi Ito: he solicited research funding
from Jeffrey Epstein and hid its source**

HOW AN ÉLITE UNIVERSITY RESEARCH CENTER CONCEALED ITS RELATIONSHIP WITH JEFFREY EPSTEIN

New documents show that the M.I.T. Media Lab was aware of Epstein's status as a convicted sex offender, and that Epstein directed contributions to the lab far exceeding the amounts M.I.T. has publicly admitted.

What Will You Be Known For . . . ?

your earth-shattering scientific discovery?

or your highly publicized, highly memorable
moral or ethical lapse?

**SUBTEXT:
IT'S EVERYWHERE!**

Trump to UN General Assembly

“The actions of the criminal regime of Bashar al-Assad, including the use of chemical weapons against his own citizens, even innocent children, shock every decent person. No society can be safe if banned chemical weapons are allowed to spread.”

—Donald Trump, September 19, 2017

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“The actions of the **criminal** regime of Bashar al-Assad, including the use of chemical weapons against **his own** citizens, even **innocent** children, shock every **decent** person. No society can be safe if **banned** chemical weapons are allowed **to spread.**”

—Donald Trump, September 19, 2017

“There is no speech that justifies
mindless violence.”

—Barack Obama, UN General Assembly,
September 25, 2012

“There is no speech that justifies
violence.”

—Barack Obama, UN General Assembly,
September 25, 2012

“There is no speech that justifies
mindless violence.”

—Barack Obama, UN General Assembly,
September 25, 2012

**subtext: my violence
is always calculated**



**SCIENCE CAN BE
DECEIVING TOO**

Scientific Fact Or Sales Talk?

we propose/present/review . . . [**active voice**]

a breakthrough technology . . .

a unified framework . . .

the state of the art . . .

a novel approach . . .

is proposed/presented/reviewed

[**passive voice**]

BIAS



A Firm Conclusion

“And don't forget, we are scientists and engineers. We do not under any circumstances draw firm conclusions from anecdotal incidents.”

—Jim Rautio, *RFGlobalnet*, <http://www.rfglobalnet.com/>



Wishful thinking, Jim!

A Firm Conclusion

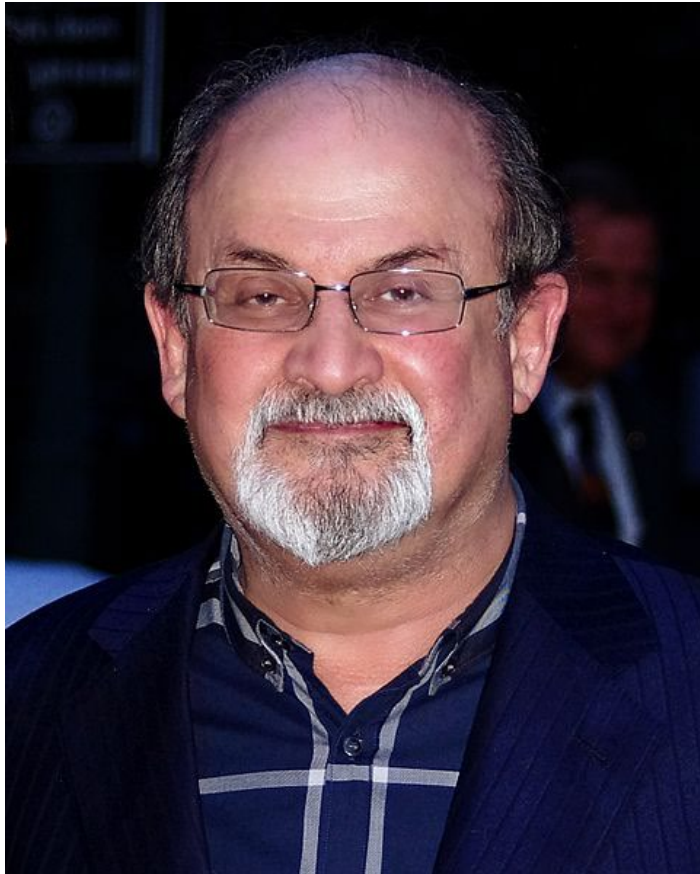
“And don't forget, we are scientists and engineers. We do not under any circumstances draw firm conclusions from anecdotal incidents.”

—Jim Rautio, *RFGGlobalnet*, <http://www.rfglobalnet.com/>

**EVERYONE
HAS AN AGENDA**

Salman Rushdie, Novelist

(CNN, October 7, 2012)



“What all novelists know is that crisis reveals character.”

Just seconds earlier . . .

“I allowed myself to be suckered into this compromise.”

http://en.wikipedia.org/wiki/File:Salman_Rushdie_2012_Shankbone-2.jpg

Bandler, 2012

“I allowed myself to be suckered into this compromise.”

—Salman Rushdie, CNN, October 7, 2012

[subtext]: It's not my fault. Those chaps made me do it. Hey, I just did what everyone would have done.

THE HUMAN MIND

“ΕΝ ΟΙΔΑ ΟΤΙ ΟΥΔΕΝ ΟΙΔΑ.”

—Σωκράτης

“ΕΝ ΟΙΔΑ ΟΤΙ ΟΥΔΕΝ ΟΙΔΑ.”

—Σωκράτης

“The only thing I know is that I know nothing.”

(suggested by John Vlachopoulos, 2012)

The Boundary Regions Of Science

“It is these boundary regions of science which offer the richest opportunities to the qualified investigator”

—Norbert Wiener, *Cybernetics*, MIT Press, 1948

Einstein . . .

“. . . willing to relinquish the traditional explanations
. . . willing to withstand the ridicule of his peers”

—Ray Kurzweil, *How To Create A Mind*, Penguin, 2012, p. 117

QUESTION EVERYTHING

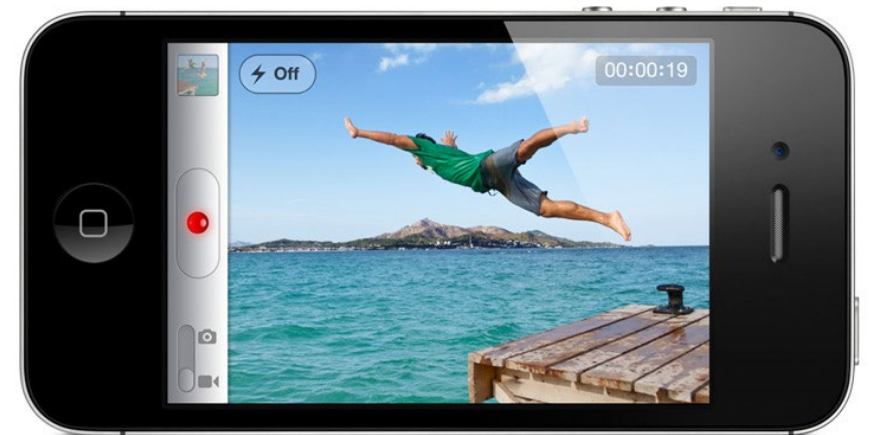
Everyone In New Orleans Owns A Car?

Who noticed on TV the **absence of buses** fleeing New Orleans **before the arrival of Hurricane Katrina**?



—www.snopes.com/katrina/photos/buses.as

**Perhaps Mike Lazaridis
Was Wrong . . .
when he said (in the 1990s)
that RIM had no competitors**



Monumental Failures In Creative Thinking

GM



Nortel

Nokia

BlackBerry



—Google images



response to Hurricane **Katrina**—
response to Typhoon **Haiyan**
response to Hurricane **Maria**
response to Hurricane **Dorian**
Obama's Healthcare.gov website



—www.snopes.com/katrina/photos/buses.as

Insufficient Testing Of Obama's **HealthCare.gov**?

what if, before its rollout, Barack Obama personally explores Healthcare.gov over a cup of coffee?



he doesn't need to
he already has an
insurance plan he likes

Bandler, 2014



and Serge Godin's CGI
stands behind his website

LET'S TALK FRAUD

“You’re an engineer. If your data doesn’t fit the theory, fix the data.”

—One of my teachers
Imperial College of Science and Technology
private communication, circa 1962

theranos

founded in 2013 by 19-year-old Stanford dropout Elizabeth Holmes

promised a vast range of blood tests fast:
only micro amounts of blood

value from \$zero to \$9bn+ to \$zero

<https://en.wikipedia.org/wiki/Theranos>

Bandler, 2018

It's not my fault.
They made me do it.
Hey, everyone does it.

IMPRESSIONS

Your Reputation

(Babiak and Hare, 2006, p. 300)

“ . . . perceptions of you by those in power—that is, your *reputation*—are based on the impressions you make.”

“ . . . your reputation can be destroyed *without your even being aware that anyone has doubts about your competence and loyalty.*”

CASE STUDY



Hany L. Abdel-Malek (S'75) was born in Cairo, Egypt, on January 1, 1949. He received B.Sc. degrees in electrical engineering and in mathematics (both with Honors) from Cairo University, Cairo, Egypt, in 1970 and 1972, respectively, and the Ph.D. degree in electrical engineering from McMaster University, Hamilton, Canada, in 1977.

From 1970 to 1974 he served as an Instructor at the Department of Engineering Physics and Mathematics, Cairo University. He was also a Teaching Assistant at the American University, Cairo, from 1973 to 1974. He was with the Department of Electrical Engineering, McMaster University, Hamilton, Canada from 1974 to 1978. In 1977 he was awarded a Postdoctoral Fellowship by the National Research Council of Canada. His main research interests are in the areas of circuit theory, computer-aided circuit and system design, and optimization techniques. Dr. Abdel-Malek is a member of the Syndicate of Engineers (Egypt).

Hany L. Abdel-Malek: First Impressions (McMaster University, 1974-1977)

his “low” final grade in a control theory course:
the professor’s first impression

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**congratulations after IEEE conference presentations:
impressions on big shots**

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**first impressions on undergraduate students:
a great teacher**

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**his oral Ph.D. comprehensive examination:
spectacular impressions on 3 professors
his still unimpressed control theory professor**

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A PLAYWRIGHT'S EXPERT OPINION

An Expert's Opinion On My Play

The exact repetition of dialogue in one of my plays disturbs an accomplished playwright (writer-in-residence).

This disturbs me.

So, can we discuss an acclaimed play, e.g., *Death of a Salesman* (**this playwright's 20th century benchmark**), using the same yardsticks we applied to my work?

We do.

Arthur Miller's "Death Of A Salesman"

(*The Portable Arthur Miller*, Penguin, 2003)

(p. 121) WILLY: You're not going to see Oliver tomorrow?

BIFF: **I've got no appointment, Dad.**

WILLY: He put his arm around you, and you've got no appointment?

(p. 122) BIFF, *gently*: **I've got no appointment, Dad.**

WILLY, *erupting fiercely*: He put his arm around...?

MEASURING SUCCESS “METRICS”

**BE CREATIVE:
USE ANY FORMULA
THAT FITS YOUR AGENDA!**

Size Matters, So Let's Measure Success By . . .

the number of enrolled students

the size of the department

the size of the team

the number of publications

the volume of citations

the awards received

the number of fellowships

the size of the budget

Size Matters, So Let's Measure Success By . . .

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the awards received

the number of fellowships

the size of the budget

in short, the size of anything that can be counted

Navigating The Minefields

ethics

over-exposure

secrets

confidentiality agreements

contracts

envy

proprietary rights

- the student's thesis

- the professor's work

- pirated books, movies, software

and more

Why Do American Pharma TV Ads Snow You With . . .

fast-talking narrators
distracting background music
smiling humans
fine print
low contrast text?

Why Do American Pharma TV Ads Snow You With . . .

fast-talking narrators
distracting background music
smiling humans
fine print
low contrast text?

Because it works!

BEWARE OF EXPERTS,
TEACHERS, GURUS,
AND PEERS

Beware Of Experts, Teachers, Gurus, And Peers

who see no future in your creative endeavor

who nudge you back to the well-trodden path

who wall you out with secrets

who cheat you with false praise

Beware Of Experts, Teachers, Gurus, And Peers

who see no future in your creative endeavor

who nudge you back to the well-trodden path

who wall you out with secrets

who cheat you with false praise

beware of me!

Early Personal “Setbacks”

my PhD supervisor discouraged my use of computers

certain “experts” and teachers saw no future to my research

McMaster faculty: horrified by my course proposals

at tenure time: “how can we get rid of him?”

to engineers: I’m a mathematician; to mathematicians: I’m an engineer; a no-mans land **niche!**

the engineer’s “feel” haunted me for 30 years

Very Early Disruptions

1965/66: fired tsunami of errors to IEEE MTT editor about a researcher's publications: things escalated; corrections never published; eventually the researcher and I had dinner in Milwaukee

1965: published Electronics Letters article criticizing results by a Mullard (Philips) Research Labs engineer: got offered (accepted) a job at MRL in Redhill (UK) in 1966

mid 1970s: rejected seminal research by mathematician Kaj Madsen: we became longtime collaborators, lifelong friends

RIDICULE



1968. “You couldn’t
interest me in anything.”



1969. At McGill,
rejected on arrival,
before my interview,
and a professor
sabotages my
seminar.



1969. New at McMaster:
“You! Yes, you!
Graduate students
aren’t allowed
in the Faculty Lounge!”

John Bandler: Highlights

1967: a senior academic claims that my proposed research in CAD has been fully explored

1974: experts predict that my work in CAD with tolerances would never prove useful; in **1985**, Raytheon hires me to develop software; in **2004**, I receive the IEEE MTT-S Society's "**Application Award**," in **2013**, the "**Career Award**"

1993: I ask Hewlett-Packard reps to allow me to link my optimization process to "HFSS"; they laugh in my face; in **1997**, HP buys my company; in **2023** I receive the **IEEE Electromagnetics Award**

John Bandler: Highlights

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HFSS +



OSA = "LOL"

If Your “New” Idea Is . . .

instantly understood

instantly acclaimed

Is it really new?

YOUR NEXT BREAKTHROUGH

Your Next Breakthrough
is staring you in the face
but you don't see it

My Sony α77 Features **In-Camera** Special Effects

“Useful or not?”

“No,” says Q.S. Cheng, my collaborator. “Photoshop can do all that.”

Yet



Buys



Instagram

Fast beautiful photo sharing

**a company with no revenue,
for **US \$1,000,000,000.00****

An Expensive Rejection



rejects Brian Acton
and Jan Koum

then buys



for **US \$19,000,000,000.00**

VULNERABILITY

Vulnerability

“Vulnerability is the birthplace of innovation, creativity and change.”

—Brené Brown, Listening to shame, TED.com, 2012



<http://brenebrown.com/>



Combating Fear

of performance, of publication
of conflict, of disruption
of guilt, of shame
of inferiority
of failure, of success

Permission To Fail

FAREED ZAKARIA: You have no business training. You have no business education. What do you think was the key to your success?

SARA BLAKELY (founder of SPANX): . . . my upbringing and my father. And he was very determined growing up to encourage me to fail.

—CNN, August 25, 2013

**THE WELL-TRODDEN PATH
IS CROWDED**

Most People Are Risk Averse

Institutions like to manage “innovation”

because incremental progress is the accepted norm

Institutions like to disrupt creativity

because creativity disrupts institutions

Institutions don't tolerate failure

because failure is hard to sell

Innovation can be blocked. Creativity can't be stopped.

From Creativity To Success Via Risk And Setback

requires

imagination, facilities, opportunity, leadership, naiveté,
hindsight, IQ, charm, favors, money, packaging, branding,
humility, aggressiveness, good luck . . .

plus optimism (the optimism bias)

hard work (the work ethic)

trial and error (the heuristic approach)

pleasure (the hobby factor)

permission to fail . . . creatively

vulnerability (the shame factor)

SPACE MAPPING

Summer 1993, Near Copenhagen. John Bandler Strolls In A Forest With Mathematician Kaj Madsen ...**Space Mapping** Is Born



Korning Kirke, Denmark

—Asbjorn Lonvig, artist

space mapping



The cathedral, Cologne
—historyfish.net

**SPACE MAPPING
EXPLAINS THE ENGINEER'S
MYSTERIOUS "FEEL" MAPPING**

FOR YEARS:
“John, why is your group
the only group
working on space mapping?”

FINAL WORDS

Some Takeaways

just about everything I received awards for, I was discouraged from doing by influential “experts”

what are we denying aspiring innovators now that will make us look unimaginative, quaint at best?

whose work are we ridiculing as outright useless?

The Key To My Success

attracting and (hopefully) inspiring brilliant international collaborators

being persistent in the face of detractors

agonizing over text and subtext

drawing energy from my champions: fortunately there were plenty!

A Direction Not Sanctioned

“Proceeding in a direction not sanctioned by my peers has always proved tough, but the results achieved have almost always been worth the effort.”



—John Bandler


THANK YOU

ECE DISTINGUISHED RESEARCH LECTURE SERIES

MONDAY, FEB 6TH

ENGINEERING
Electrical & Computer Engineering

McMaster University



From Creativity To Success Via Risk and Setback: Can You Disrupt Without Disrupting?

CREATIVITY, innovation, entrepreneurship. These days, touted by researcher and administrator alike. But what leads to success? What portends failure? Imagination, facilities, opportunity, leadership, naiveté, hindsight, IQ, charm, favors, money, packaging, branding, humility, aggressiveness, or perhaps simply good luck: what roles do they play? Can you disrupt without disrupting? How have my views on academia, creativity, risk, entrepreneurship, and personal and professional advancement evolved in the decade since I initiated this lecture? Come and find out.

DR. JOHN W. BANDLER

Award-winning engineer and McMaster professor emeritus, John Bandler, OC, is an educator, entrepreneur, innovator, researcher, artist, speaker, and author of fiction, including stage plays and a short film. He has published 500+ technical papers and pioneered the space mapping technology in 1993. A Fellow of several societies, including the IEEE and the Royal Society of Canada, he has been honoured by a Queen Elizabeth II Diamond Jubilee Medal, and appointed to Officer of the Order of Canada.

MCMASTER UNIVERSITY

ITB A113A/B, 3:30 - 5:00 PM

Visit the Event Series page at www.ece.mcmaster.ca to join by zoom

FEB 2023



**NSERC
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