



MACHIAVELLI versus SILICON VALLEY; MEDIA VERSUS TECHNOLOGY

Why the hydrail train is arriving so late.



Birmingham Centre for
Railway Research and Education
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hydrail education project



Mooreville hydrail initiative

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The Difficulty of Change

Niccolo Machiavelli 1469-1527

It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle than to initiate a new order of things.

For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arising partly from fear of their adversaries, who have the laws in their favor; and partly from the incredulity of mankind, who do not truly believe in anything new until they have actually had experience of it.

Thus it arises that on every opportunity for attacking the reformer, his opponents do so with the zeal of partisans, the others only defend him halfheartedly, so that between them he runs great danger.

TOTAL MARKET OPPOSITES:



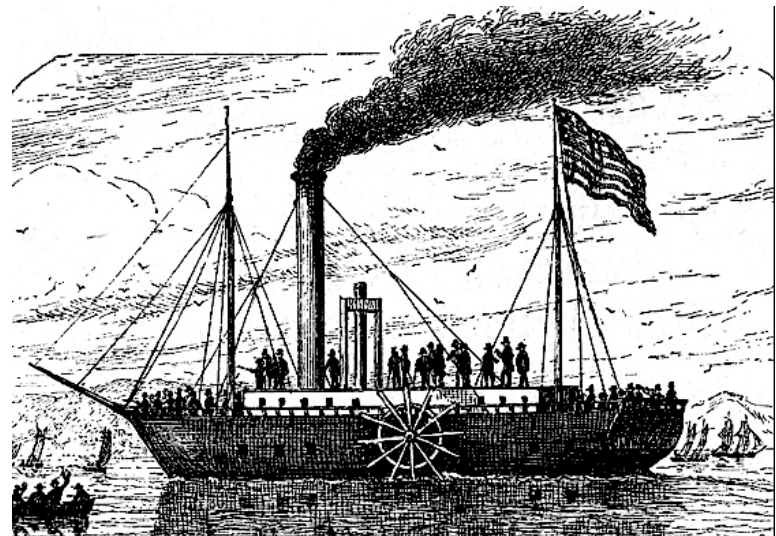
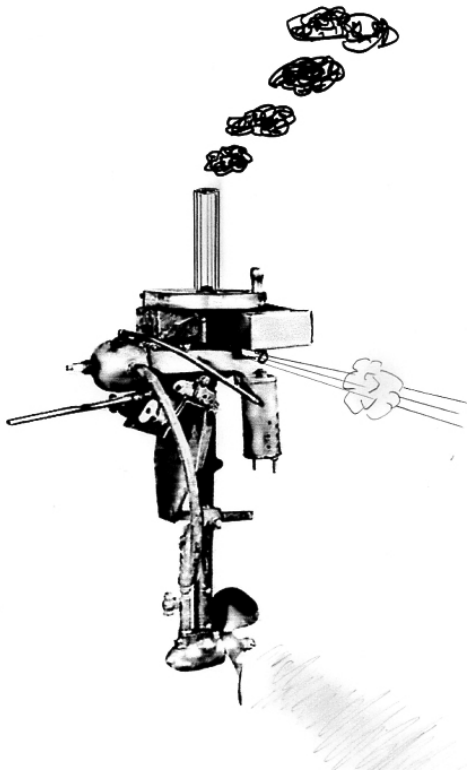
- RETAIL
- HIGH VOLUME
- LOW UNIT COST
- SHORT DESIGN LIFE
- "CHANGE FAST OR YOU DIE"

- TO GOVERNMENT, INDUSTRY
- LOW VOLUME
- HIGH UNIT COST
- VERY LONG DESIGNED LIFE
- "CHANGE FAST AND YOU DIE"



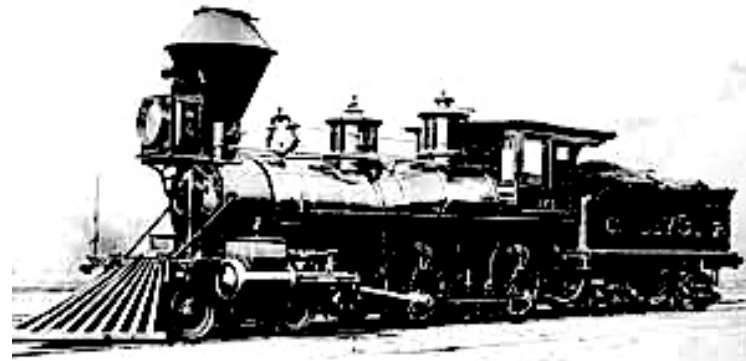
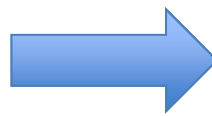
THE INDUSTRIAL "ARROW OF TIME"

THE STEAMBOAT WAS **NOT** AN OFFSHOOT OF AN EARLIER
RETAIL STEAM OUTBOARD MOTOR.



THE INDUSTRIAL “ARROW OF TIME”

THE STEAM LOCOMOTIVE DID **NOT** EVOLVE FROM A
RETAIL STEAM BUGGY.



Electric **trains** came over a decade **before** the first electric **cars**.

Steam **trains** came 65 years **before** steam **cars**.

Diesel **trains** came 50 years **before** diesel **pumps** at convenience stores.

So why would *anyone* expect hydrogen **cars** to appear **before** *hydrogen (hydrail) trains?*

WHAT IS THE ORIGIN OF THIS MEDIA-MYTH ?

*“HYDROGEN IS A CAR
TECHNOLOGY THAT’S STILL A
LONG WAY IN THE FUTURE.”*



*"HYDROGEN IS A CAR TECHNOLOGY THAT'S
STILL A LONG WAY IN THE FUTURE."*

- Railway vendors don't advertise on TV or in newspapers.
- Technology writers are the first to go when media downsize.
- Reporters have a pool of "USUAL SUSPECTS" sources in industry, for whom all change is a menace to long in-place plant life. "**Never heard of it** (true)." "**Won't work** (false)"
- Reporters, unfamiliar with science, are afraid to quote anyone other than "USUAL SUSPECTS" to whom they can point if there's controversy.
- "Trains are dull. No one want to hear/read about them."

Speed of acceptance of long-life technology innovations like hydrail is a function of *type of government* :

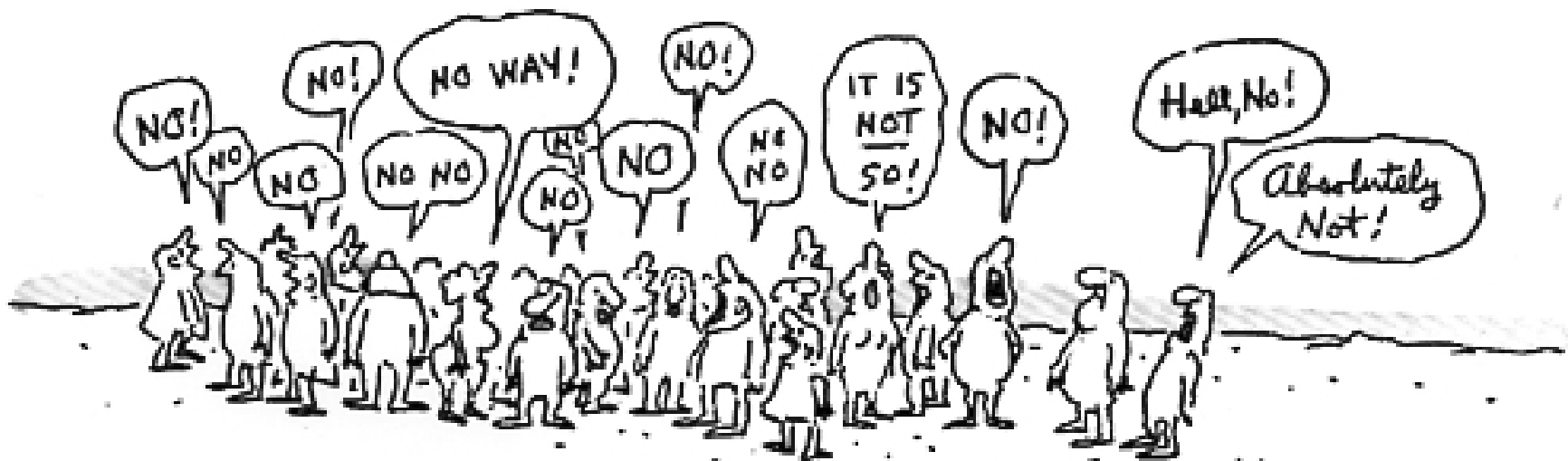
PURE MARKET ECONOMY:

- S L O W
- MANY BRAKES, ONE ACCELERATOR
- THE “MACHIABELLI” RESISTANCE
- THE “LONG-LIFE PLANT” RESISTANCE
- THE “NAÏVE MEDIA” RESISTENCE

CENTRALLY-MANAGED ECONOMY:

- NOT SO SLOW
- “MAKE IT SO. THE COUNTRY NEEDS IT.
- “YES, *SIR.*”

PURE MARKET ECONOMY:



CENTRALLY MANAGED ECONOMY:



BOOTH

So...how do **you** help “punch a hole in the newsprint curtain” to **make hydrail visible**?

- 1) Realize the **YOU** are among the very few people on earth who “get” hydrail. If **you** don’t cause the **public** to learn about hydrail, no one else can...or will.
- 2) Realize that **your being here today** means you have at least some **personal** career stake in hydrail’s evolving more rapidly...

- 3) Educate the senior management in your organization about where hydrail is going ...and *why*.
- 4) Take time to inform the *non-technical* public information people (who write press releases about your work) about the “big hydrail picture” and the accurate facts. They are *your* window on the world.
- 4) The Internet rules! Make sure **the word “hydrail”** appears in **all** press releases about your product so **others can find**, support and eventually **purchase** your work!

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Chamber of Commerce

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