

The Role of Margin in Health and Sustainability

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A New Epidemic

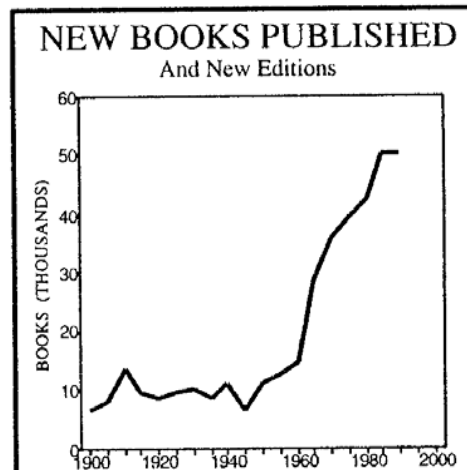
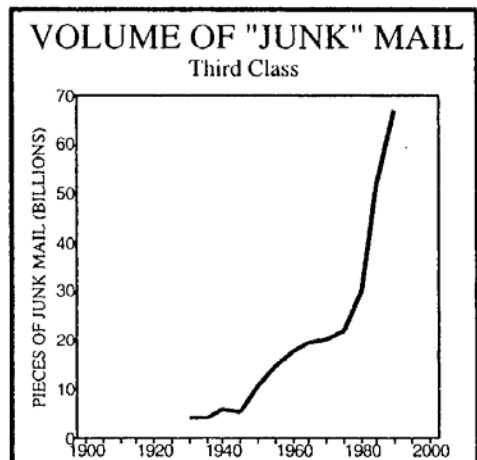
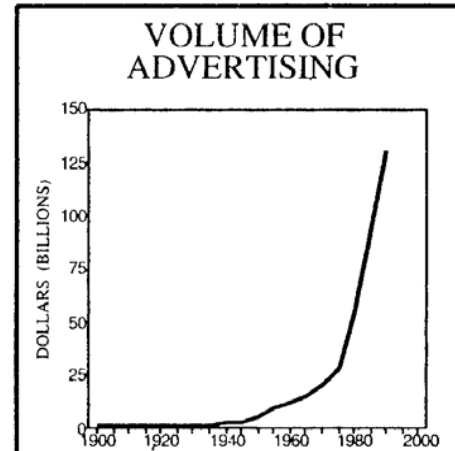
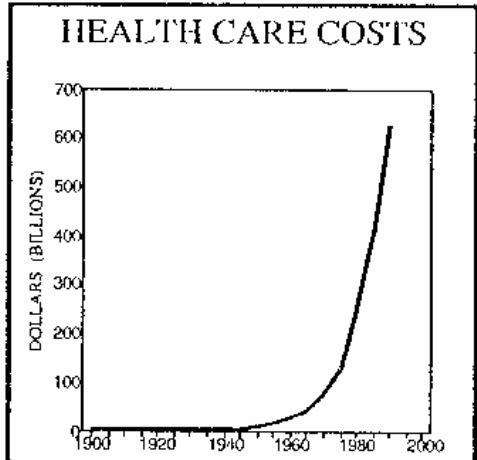
- Signs of the times
- Prediction of the 60's: *boredom*
- Reality of new millennium: *not boredom*
- Signs and symptoms

Historically Unprecedented

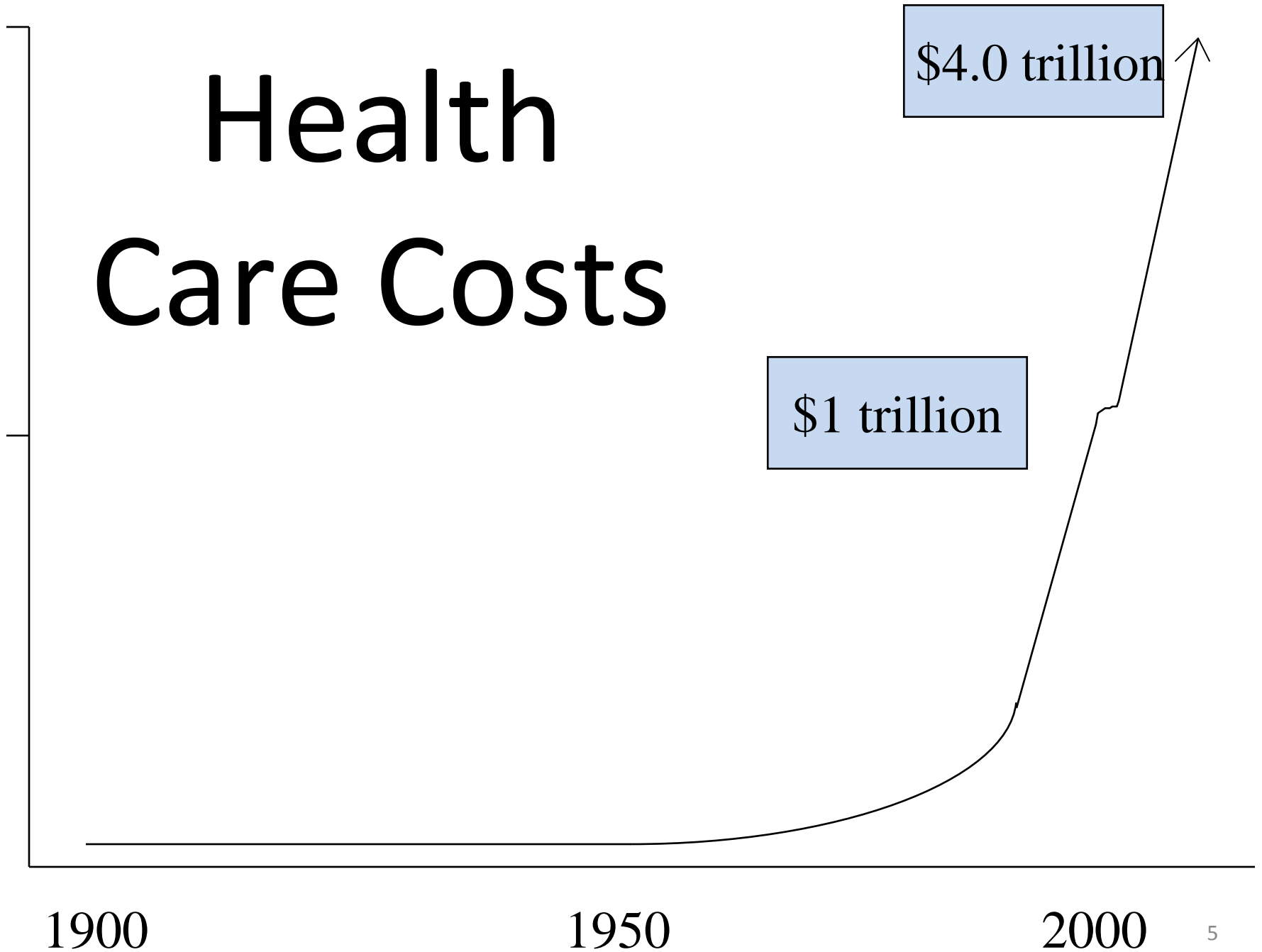
- The math is dramatically different
- Exponential change
 - ❖ J curves, S curves

J, S Curves; Turning Point

1992 graphs, updated



Health Care Costs



Historically Unprecedented

- Always underestimated
 - ❖ Fold paper 40x, 100x
 - ❖ Count to a million, trillion

Historically Unprecedented

- Mismatch between
 - our day-to-day linearity
 - and
 - world-system exponentiality
- What is responsible?

Progress

Progress

- **Differentiation** (proliferation, combination, discovery, invention, etc.)
- Always results in . . .
 - ❖ *more and more*
 - ❖ *of everything*
 - ❖ *faster and faster*

Differentiation

- A tree, a piece of cloth, a mountain
- Time
- Medical specialties, DSM

Differentiation of Mental Disorders

DSM, # Conditions

- 1952 – 107
- 1968 – 180
- 1980 – 226
- 1994 – 365

Progress

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 - ❖ *faster and faster*

More

- >500 baccalaureate degrees
- 1,100 movies a month w/ satellite dish
- 450 English language versions of Bible
- 30,000 different products in grocery store
- 55,000 configurations of Starbucks coffee
- >>500 billion documents Internet
- 10 hours of media exposure/day

More

- PDR: 3,500 pgs (2007); 300 pgs (1948)
- 2,000-4,000 MEDLINE citations added/day
- Read 2 healthcare related articles/day → 1,000 yrs behind
- 845 million MEDLINE searches in 2007
- 5,020 journals; > 16 million journal references

More

- 110 Medical Specialty Societies (AMA site)
- 6,000 'rare' conditions, National Office for Rare Diseases
- >> diseases, laboratory tests, procedures, billing codes
- Rick Moranis

More

- Balance, self-care, sustainability are moving targets
- Nearly all the forces of modernity are imbalancing
- Human physiology/homeostasis *demand*s balance: hyper and hypo are painful, expensive words

Progress Axiomatically Leads To...

- Stress/Change
- Complexity
- Speed
- Intensity
- Overload

Stress/Change

➤ Definition (among many):

*Our physiologic adaptation to
change*

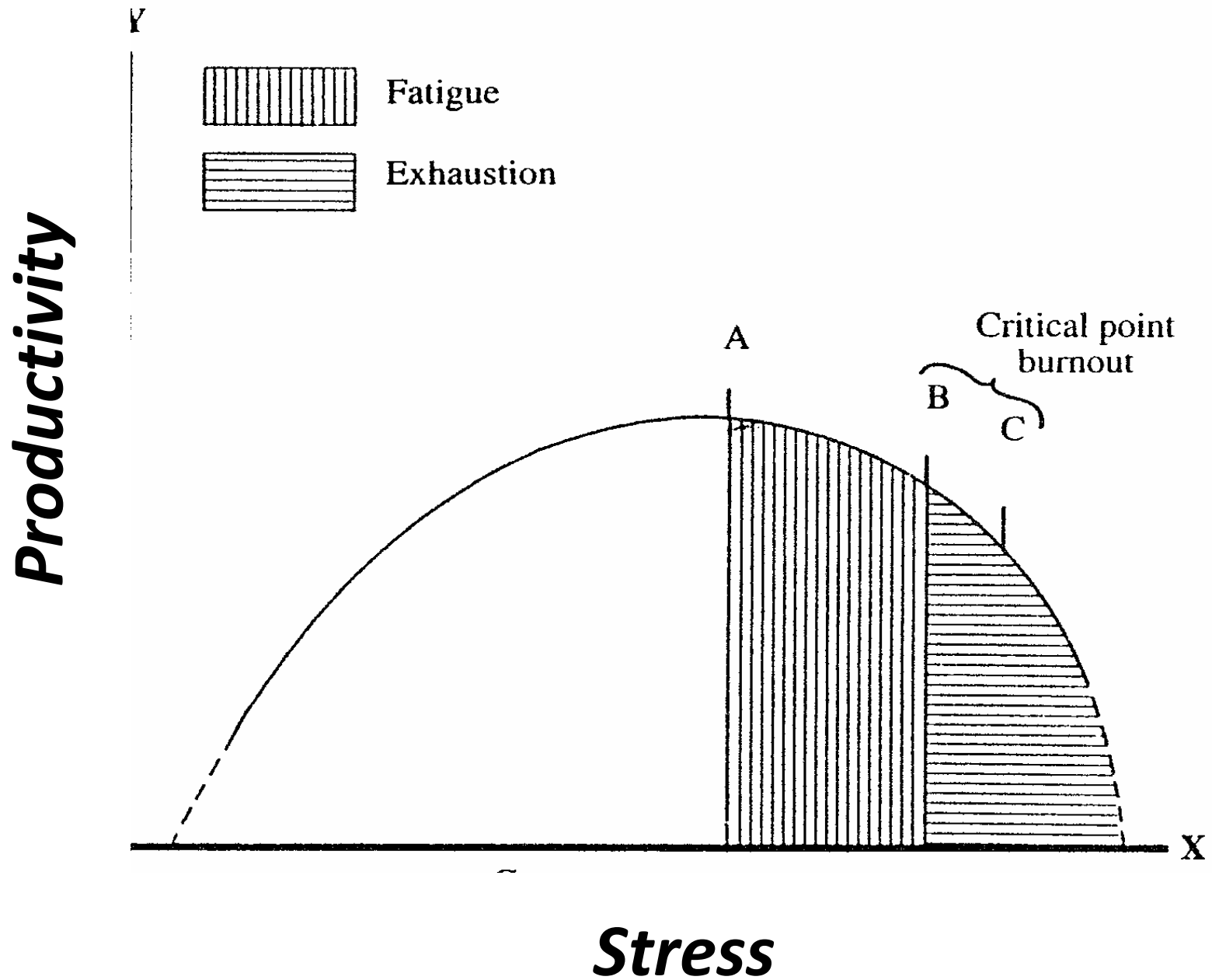
Stress/Change

- Definition (among many):

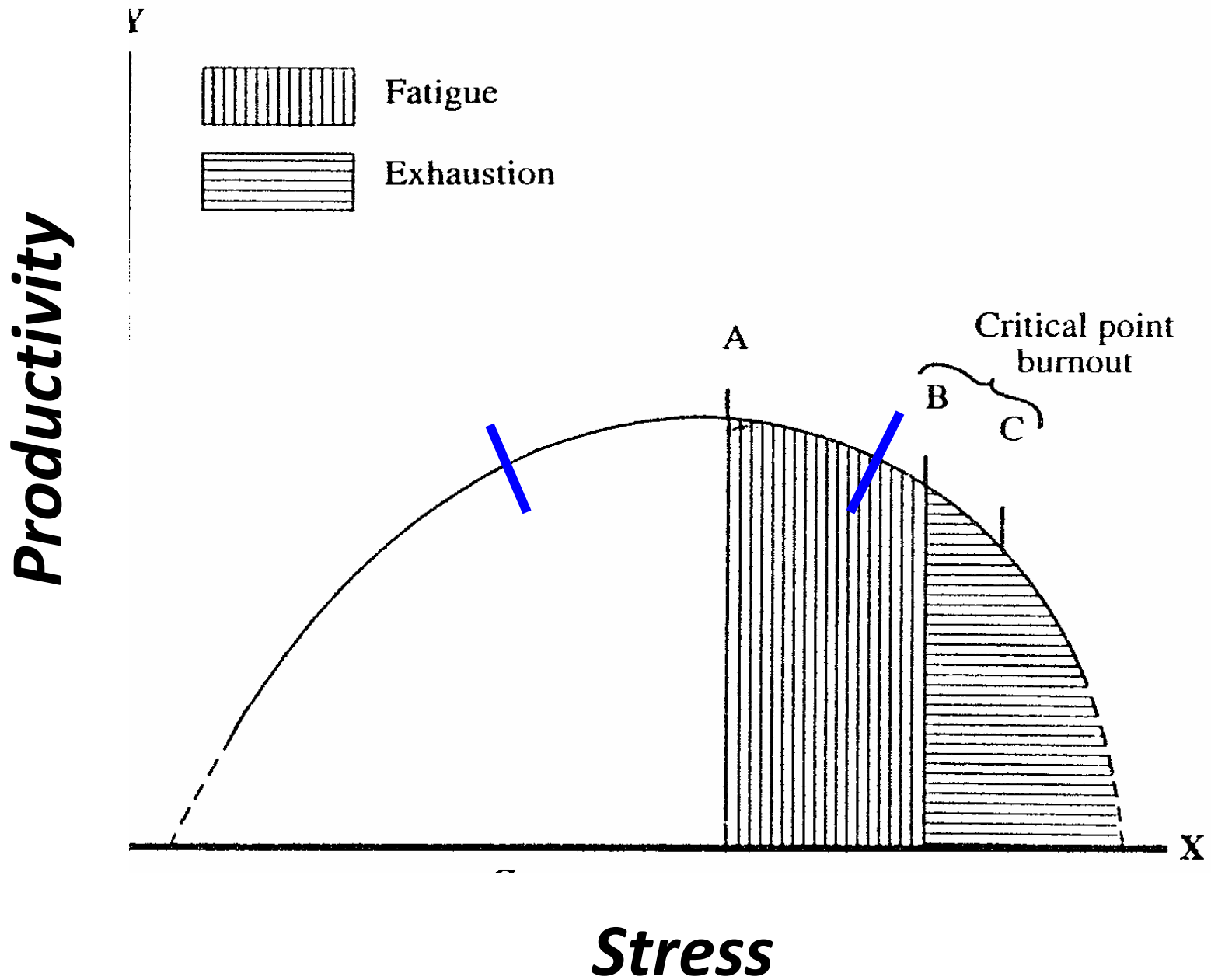
Our physiologic adaptation to change

- Good, bad, small, or large change
- No stress, low stress, hyperstress

Human Function Curve



Human Function Curve



At Stake

- Productivity
- Longevity
- Morale
- Creativity
- Innovation
- Excellence
- Sustainability
- Efficiency
- Passion
- Service

Change/Stress

- There has been more change since 1900 than in all of recorded history prior.
- More change next 20 years than the past century. *The Futurist*
- In the next 100 years there will be 20,000 years of progress. Ray Kurzweil

Change/Stress

- *Future Shock* - Toffler
- *Nothing defines our age more than the furious and relentless increase in the rate of change* – Arthur M. Schlesinger, Jr.
- Job churn - In 2005, 40% changed jobs (55 mil)
- Wm Manchester 1935 vs. 1985

Change & Health Care Costs

There will be more and more people living longer and longer with more and more chronic diseases taking more and more medications that are ever more expensive using more and more technology with higher and higher expectations in a context of more and more attorneys.

Average % Increase in Health Insurance Premiums Compared to Other Indicators, 1988-2007

Year	Overall inflation	Workers earnings	Premium increase
1988	3.9	3.1	12.0
1989	5.1	4.2	18.0
1990	4.7	3.9	14.0
1993	3.2	2.5	8.5
1996	2.9	3.3	0.8
1999	2.3	3.6	5.3
2000	3.1	4.0	8.2
2001	3.3	4.0	10.9
2002	1.6	2.6	12.9
2003	2.2	3.0	13.9
2004	2.3	2.1	11.2
2005	3.5	2.7	9.2
2006	3.5	3.8	7.7
2007	2.6	3.7	6.1

Change and Medicine

- We are trapped in a double context
 - ❖ Cultural change
 - ❖ Healthcare change

Three Reactions to Unprecedented Change

The Perelman Reaction

I don't know where we are going, or how we'll get there, but when we get there, we'll be there, and that's something even if it's nothing.

S. J. Perelman

The Overload Response

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The Whitlow Retreat

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Complexity

- Progress flows toward complexity
- Any engineer can make something complex
- The average American must learn to operate 20,000 pieces of technology

Complexity

- Complexity as a specific entity of concern in medicine
- *I don't think life is more complex. It seems simpler to me.*
- MD who tried to simplify her life
- Lipids

Speed

- Automatically increasing speed
- A speed limit to life?
- Fast, faster, too fast
- Hyperliving
- 89 yr old patient

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Intensity

- Torque, tightly wound
- Muscle tone, mental vigilance
- Thesis: Restorative rest requires relaxation to a set point

Intensity

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Intensity

- Per hour
 - ❖ e.g., 20 patients per hour
- Per day
 - ❖ e.g., 20 hours a day
- Per consecutive string
 - ❖ e.g., 200 consecutive days
- Peggy Noonan

Overload

- What does it look like?

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Overload

- A science/psychology of human limits
 - ❖ Objective vs. subjective
 - ❖ Keep it objective
- Only so many details . . .
 - ❖ Then disorganization or frustration
- Short-term overload unavoidable

Definition of Overload

*A state of **chronic** overage that leads to **dysfunction** in at least **one** important area where **life** requires a **'decent minimum.'***

Common Symptoms

- Apathy, withdrawal, depression
- Irritability, anger, hostility
- Frustration, disorganization
- Mistakes, chaos
- Fatigue, exhaustion, burnout
- Moral failure, relational problems
- Risk taking, excessive self-medication
- Abnormal sleeping or eating patterns
- GI & CV symptoms, headaches

Migraine Headache Medications- preventative

ANTIHYPERTENSIVES

Alpha-2 Agonists:

Clonidine, aka Catapres
Guanfacine, aka Tenex

ACE Inhibitors:

Benazepril, aka Lotensin
Captopril, aka Capoten
Enalapril, aka Vasotec
Fosinopril, aka Monopril
Lisinopril, aka Zestril, Prinivil
Moexipril, aka Univas
Perindopril, aka Aceon
Quinapril, aka Accupril
Ramipril, aka Altace
Trandolapril, aka Mavik

Migraine Headache Medications- preventative

Beta Blockers:

Acebutolol, aka Secral

Atenolol, aka Tenormin

Betaxolol, aka Kerlone

Bisoprolol, aka Zebeta, Emconcor

Cartelol, aka Cartrol

Labetalol, aka Normodyne, Trandate

Metoprolol, aka Lopressor

Nadolol, aka Corgard

Penbutololm aka Levatol

Pindolol, aka Viskin, Syn-Pindolol

Propranolol, aka Inderal

Timolol, aka Blocadren

Migraine Headache Medications- preventative

Calcium Channel Blockers:

Amlodipine, aka Norvasc

Bepridil, aka Vascor

Diltiazem, aka Cardizem, Tiazac

Felodipine, aka Plendil

Flunarizine, aka Sibelium (Canada)

Isradipine, aka DynaCirc

Nicardipine, aka Cardene

Nifedipine, aka Adalat, Procardia

Nimodipine, aka Nimotop

Nisoldipine, aka Sular

Verapamil, aka Calan, Verelan, Isoptin

Other Antihypertensives:

Guanfacine, aka Tenex

Mirtazapine, aka Remeron

ANTIHISTAMINES:

Cyproheptadine, aka Periactin

Pizotifen, aka Sandomigran (UK)

Migraine Headache Medications- preventative

ANTIDEPRESSANTS

Tricyclic Antidepressants:

Amitriptyline, aka Elavil (discontinued), Endep

Amoxapine, aka Asendin

Clomipramine, aka, Anafranil

Desipramine, aka Norpramin

Doxepin, aka Sinequan

Imipramine, aka Norfranil, Tofranil

Nortriptyline, aka Pamelor, Aventyl

Protriptyline, aka Vivactil

Trimipramine, aka Surmontil

MAOI Antidepressants:

Isocarboxazid, aka Marplan

Phenelzine, aka Nardil

Tranylcypromine, aka Parnate

Migraine Headache Medications- preventative

Selective serotonin reuptake inhibitors (SSRIs):

Citalopram, aka Celexa

Escitalopram oxalate, aka Lexapro

Fluoxetine, aka Prozac

Fluvoxamine, aka Luvox

Paroxetine, aka Paxil

Sertraline, aka Zoloft

Selective serotonin and norepinephrine reuptake inhibitors (SSNRIs):

Duloxetine hydrochloride, aka Cymbalta

Other Antidepressants:

Bupropion, aka Wellbutrin, Zyban

Mirtazepine, aka Remeron

Trazodone, aka Desyrel

Venlafaxine, aka Effexor, Effexor XR

ADHD Selective Norepinephrine Reuptake Inhibitor:

Atomoxetine HCl, aka Strattera

Migraine Headache Medications- preventative

ARTHRITIS MEDS

Cox-2 Enzyme Inhibitors:

Celecoxib, aka Celebrex

Valdecoxib, aka Bextra

NEURONAL STABILIZING AGENTS

Carbamazepine, aka Tegretol

Clonazepam, Klonopin

Clorazepate, aka Tranxene

Divalproex, aka Depakote

Gabapentin, aka Neurontin

Levetiracetam, Keppra

Lamotrigine, aka Lamictal

Oxcarbazepine, Trileptal

Tiagabine, aka Gabitril

Topiramate, aka Topamax

Valproate Sodium, aka Depacon

Zonisamide, aka Zonegran

Migraine Headache Medications- preventative

Ergot Alkaloid:

Methylergonovine, aka Methergine

Leukotriene Blockers:

Montelukast, aka Singulair

Zafirlukast, aka Accolate

Zyleuton, aka Zyflo

Other:

Baclofen, aka Lioresal

Botulinum Toxin Type A, aka Botox

Dietary Supplements:

Coenzyme Q10

Feverfew

Butterbur, aka Petadolex

Magnesium

Vitamin B2

5-HTP

Lecithin

Melatonin

Margin

- The space between our load and our limits
- Our reserves
- The opposite of overload
- $\text{Power} - \text{Load} = \text{Margin}$

Margin: Examples

- Airline scheduling
- Traffic
- The loading of ships
- Overuse syndromes
- The margins of a book
- Power grids

Margin Is Where We...

- Recharge our batteries
- Recover our health
- Rest our bodies and our spirits
- Nourish our relationships
- Think deeply about priorities

Margin vs. Overload

- On the **unsaturated** side it's **possible** to be open and expansive
- On the **saturated** side it's **impossible** to be open and expansive. The rules change

Margin & the Military

U.S. Army Medical Research and Materiel Command

- OPTEMPO
- PERSTEMPO
- Retention
- Recruitment
- Morale
- Mistakes
- Fatigue
- Surge capacity
- Sustainability
- Human performance
- Army reserves
- Limited lift
- Sleep watch

80% vs. 100% vs. 120%

Restoring Margin: General Infrastructure

Rx 1 Be intentional

Rx 2 Accept and respect limits

Rx 3 Take personal responsibility

Rx 4 Adjust expectations

Rx 5 Unclutter

Restoring Margin: General Infrastructure

Rx 1 Be intentional

History is something that happens to people; what happens is always different from what people would rather have done.

Claude Levi-Strauss, French anthropologist

Restoring Margin: General Infrastructure

Rx 2 Accept and respect limits

- Not a sign of failure but of maturity
- MDeity syndrome
- Stoicism, hyper-productivity

Restoring Margin: General Infrastructure

Rx 3 Take personal responsibility

- Own your own life and decisions
- Accept responsibility for self-care
- *The loss of **felt** choice is not the same as the loss of actual choice.* (Dr. Larry Crabb)

Restoring Margin: General Infrastructure

Rx 4 Adjust expectations

- Expectation overload drives the train
- The *escalation of the norm* is followed by a *normalization of the escalation* that then becomes *the new normal*
- *Unrealistic expectations are but premeditated resentments*

Restoring Margin: General Infrastructure

Rx 5 Unclutter

- We use 20% of what we own but we maintain 100% of what we own
- Clutter distracts and dilutes
- Journals? Birthday party?

Restoring Margin: Top Ten

Rx 1 Tame technology (accessing tech, TV)

Rx 2 Selectively & periodically disconnect

Rx 3 Say No to non-priorities

Rx 4 Define/defend boundaries

Rx 5 Slow the pace; Rest

Restoring Margin: Top Ten

Rx 1 Tame technology (accessing tech, TV)

- Time saving technologies don't
- Compress, consume, devour time
- Email, cell phones, Blackberry, faxes...
- Television

Restoring Margin: Top Ten

Rx 2 Selectively & periodically disconnect

- In the past, there was a closure on the end of every day, every week
- Turn off the circuit breaker; power outage
- Hotel; Lie fallow; Retreat

Restoring Margin: Top Ten

Rx 3 Say No to non-priorities

- *This company needs focusing. Focusing doesn't mean saying yes. Focusing means saying no.* Steven Jobs
- A matter of math
- Say No or: multitasking, ↑speed, ↓sleep, ↓relationships

Restoring Margin: Top Ten

Rx 4 Define/defend boundaries

- A perimeter around personal spaces
- Not rudeness or selfishness, but self-care
- A person has right to establish atmosphere in own home

Restoring Margin: Top Ten

Rx 5 Slow the pace; Rest

- Fast OK; faster OK; too fast *not* OK
- Relearn how to be unbusy
- Rest is not a waste of time
- The ethical requirement of Generals
- Everything we do, we do better well-rested

Restoring Margin: Top Ten

Rx 6 Simplify

Rx 7 Cultivate contentment

Rx 8 Control spending and debt

Rx 9 Nourish relationships

Rx 10 Get sufficient sleep, nutrition,
exercise

Restoring Margin: Top Ten

Rx 6 Simplify

- Everything we own owns us
- Einstein's suits
- Quaker neighbor
- A walk to Dairy Queen
- Use *free three*: laughter, music, nature

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Restoring Margin: Top Ten

Rx 7 Cultivate contentment

- No threshold of satiety provable in economic theory. John K. Galbraith
- *Give a man everything he wants and at that moment, everything will not be everything.* Immanuel Kant

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Restoring Margin: Top Ten

Rx 8 Control spending and debt

- Debt service a punishing taskmaster
- Sign in loan office window
- We see too much, want too much, buy too much, owe too much . . .
- Credit cards, impulse buying, possession endpoint; Rx Fast

Restoring Margin: Top Ten

Rx 9 Nourish relationships

- Human population laboratory: Good friends are good health
- The disclosure effect; Empathy
- Zerrissenheit— torn-to-pieces-hood
- NYSE, Amish

Restoring Margin: Top Ten

Rx 10 Get sufficient sleep, nutrition, exercise

- Sleep-deprived
- Overnourished
- Deconditioned

The modern world has had far too little understanding of the art of keeping young. It's notion of progress has been to pile one thing on top of another, without caring if each thing was crushed in turn. People forgot that the human soul can enjoy a thing most when there is time to think about it and be thankful for it. GK Chesterton

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