

# codestock

## TIME IS TRYING TO KILL YOU



@joshgretz

github/jgretz



Today, we are going to talk about  
handling dates with MomentJS

Who is the talk for?

Who am I?

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# Josh Gretz

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- ❖ CTO at Truefit
- ❖ @joshgretz
- ❖ [github.com/jgretz](https://github.com/jgretz)



A couple of things to get out of  
the way ...

```
152 }
153 
154 -(RegistryMap*) getMapRegisteredForKey: (NSString*) key {
155     return [mapRegistry valueForKey: key];
156 }
157 
158 -(instancetype) objectForKey: (NSString*) key {
159     // if we have an object, return it
160     id object = objectRegistry[key];
161     if (object)
162         return object;
163 
164     // see if we have a mapped class to create
165     RegistryMap* map = [self getMapRegisteredForKey: key];
166     if (map) {
167         // define follow map logic (used for both potential maps - called class and override class)
168         __block Container* _self = self;
169         void(^followMap)(RegistryMap*, id obj) = ^(RegistryMap* m, id obj) {
170             if (!m || !obj) {
171                 return;
172             }
173 
174             if (m.onCreate)
175                 m.onCreate(obj);
176 
177             if (m.cache)
178                 [_self put: obj];
179         };
180 
181         // create object
182         object = [self create: map.classType];
183 
184         followMap(map, object);
185         followMap([self getMapRegisteredForKey: NSStringFromClass(map.classType)], object);
186 
187         return object;
188     }
189 
190     // check conventions
191     for (ContainerConvention* convention in conventions) {
192         if ([convention respondsToEvent: MapClass]) {
193             Class mapType = [convention mapKey: key];
194             if (mapType)
195                 return [self objectForClass: mapType];
196         }
197     }
198 
199     // nothing found
200     return nil;
201 }
202 
203 -(instancetype) objectForClass: (Class) classType {
204     return [self objectForClass: classType cache: NO];
205 }
206 
207 -(instancetype) objectForClass: (Class) classType withPropertyValues: (NSDictionary*) dictionary {
208     id object = [self objectForClass: classType];
209 
210     for (id key in dictionary.keyEnumerator) {
211         id value = dictionary[key];
212         if (!value)
213             continue;
214 
215         [object setValue: dictionary[key] forKey: key];
216     }
217 
218     return object;
219 }
```





Take a second to think  
about what we get  
to do as a job





Pokémon

TM





“We are the music makers,  
And we are the dreamers of dreams”

- *Willy Wonka (Gene Wilder)*

On with the show,  
let me frame today ...

42

The Answer to the Ultimate Question of Life,  
The Universe, and Everything

Narrator: There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable.

There is another theory, which states that this has already happened.

**-Fit the Seventh of the radio series, on Christmas Eve, 1978:**

I don't have all of the answers,  
but I hope to spark questions

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A little of my  
backstory

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<http://www.truefit.io>

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# Truefit

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We create new software products that  
people love.



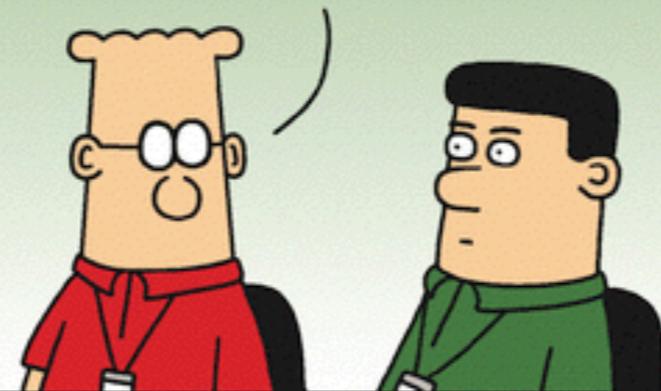
I worked A LOT ...

I'M WORKING  
SIXTY HOURS  
A WEEK.



Dilbert.com DilbertCartoonist@gmail.com

WOW. YOU MUST BE  
A TERRIBLE EMPLOYEE  
IF YOU HAVE TO WORK  
LONG HOURS JUST TO  
KEEP YOUR JOB.



8-3-15 © 2015 Scott Adams, Inc. /Dist. by Universal Uclick

I WAS HOPING YOU  
WOULD RESPECT MY  
WORK ETHIC.

WRONG  
TABLE.

<http://dilbert.com/strip/2015-08-03>

We had some issues

**do your TIME sheets if  
you EVER want to see  
your PAYCHECK again.**

som~~e~~ecards  
~~RANSOM~~CARDS

# **TIMESHEETS...**



## **HOW DOES ONE TIMESHEET ONE'S TIME LOGGING**

There has to be a better way!

## RELATED TOPICS

[Science, Engineering, and Technology](#)[Technology](#)[Software and Applications](#)[Computer Programming](#)

# How do you make programmers work 60-80 hours per week?

Programmers in our startup usually put 8 hours and go home. I keep reading stories about 80+ hour weeks. How do you make them work longer hours? Do we have to pay overtime? We gave few of them some equity, but it doesn't seem to work.

[Re-Awake](#)

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Comments 28+

## 100+ Answers

**Sean Canton, Built 11 startups, 5 as CTO**

Upvoted by Eric Bowersox, Two decades a software engineer

First, does everyone in your startup, especially the founders and people with real skin in the game, get there before the programmers and leave after they do? It's insulting to demand that someone does something that is not part of the organizational culture.

Second, are the programmers micromanaged to oblivion, or do they have ownership of their parts of the feature set? It's insulting to demand that a person channel their craft at the whimsey of a pointy-haired boss who doesn't know WTF is going on.

Third, when you say equity, do you mean 0.01% or 'ghost shares'? That's not real equity. It's insulting to demand 2x the productivity for a ticket to a shitty lottery payoff.

Fourth, you are demanding an unlimited abundance of difficult knowledge work, which cuts into a person's personal time, energy and life outside of work, which damages their health, relationships and professional growth. That's insulting on a base level, but to expect them to do it regularly, for months and without pay, to meet your uninformed ideal of how a startup should be, is frankly disgusting.

Finally, you can't make someone work longer hours and expect any sort of quality product. You inspire them to work longer hours.

## RELATED QUESTIONS

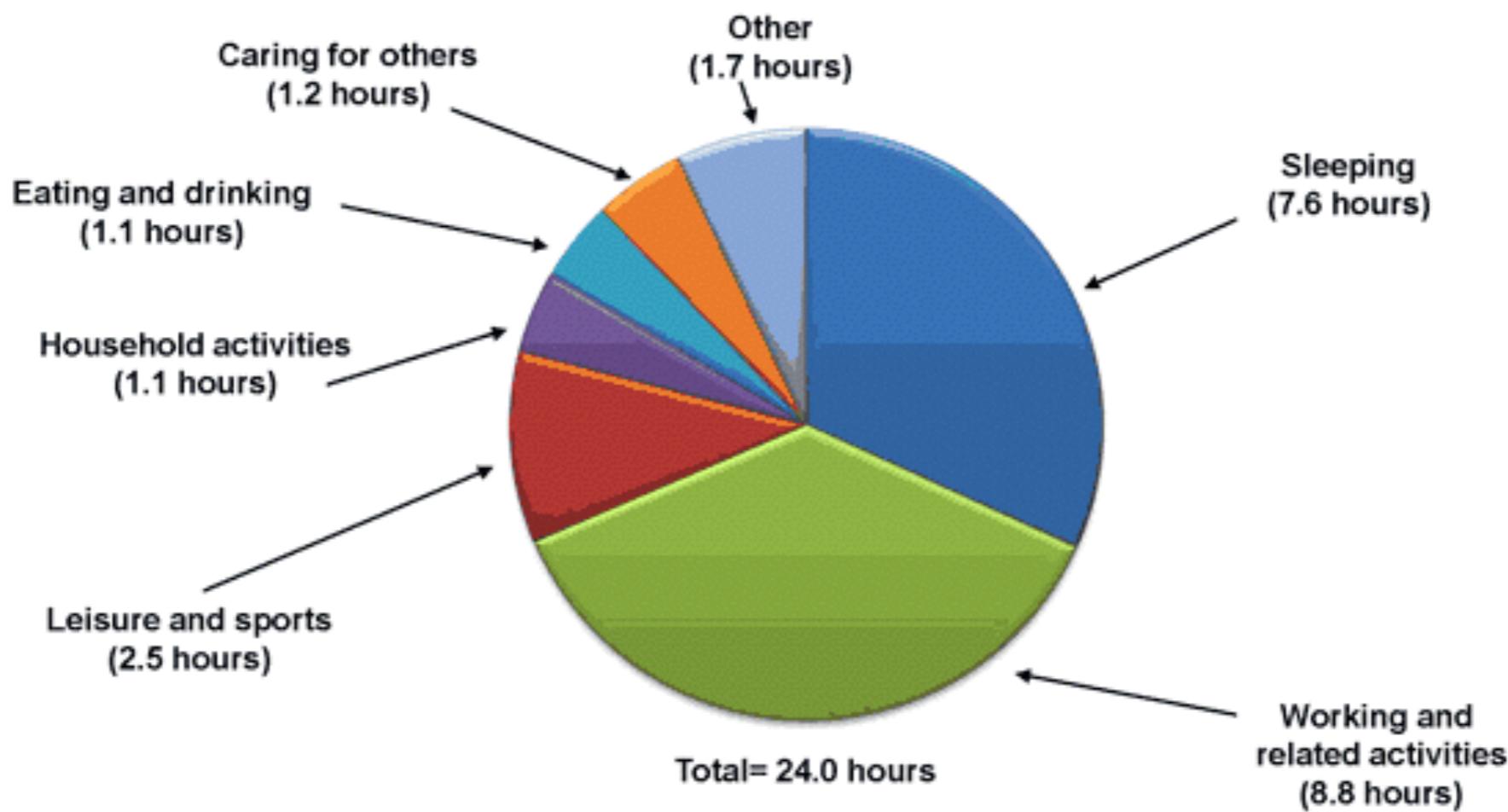
[What makes some programmers lazy at work?](#)[How much do programmers in India make per hour?](#)[I'm working 80-hour weeks but my team makes me feel like it's never good enough. Should I leave my startup?](#)[How much should programmers and developers read per week?](#)[Why do people still pay 50-200 dollars an hour for programmers from the US and Europe when there are so many programmers f...](#)[Will working with R make me a better programmer?](#)[On one hand we have people saying that it is a very bad idea to make programmers work 60-80 hours a week and on the other ...](#)[How many hours per week does a programmer work to build a software program?](#)[Why do programmers work with dark backgrounds?](#)[How can I make \\$100,000 a year working from home less than 40 hours a week?](#)

When Musk came into the meeting room where I'd been waiting, I noted how impressive it was for so many people to turn up on a Saturday. Musk saw the situation in a different light, complaining that fewer and fewer people had been working weekends of late. "We've grown f\*\*king soft," Musk replied. "I was just going to send out an e-mail. We're f\*\*king soft."

*Elon Musk (Tesla, SpaceX and the Quest for a Fantastic Future)*

# Stats

## Time use on an average work day for employed persons ages 25 to 54 with children



NOTE: Data include employed persons on days they worked, ages 25 to 54, who lived in households with children under 18. Data include non-holiday weekdays and are annual averages for 2011. Data include related travel for each activity.

SOURCE: Bureau of Labor Statistics, American Time Use Survey

Why do we bill time?

“Because that’s how we make money”

- *Anonymous Former Colleague*

“The most damaging phase in the language is: It’s always been done that way”

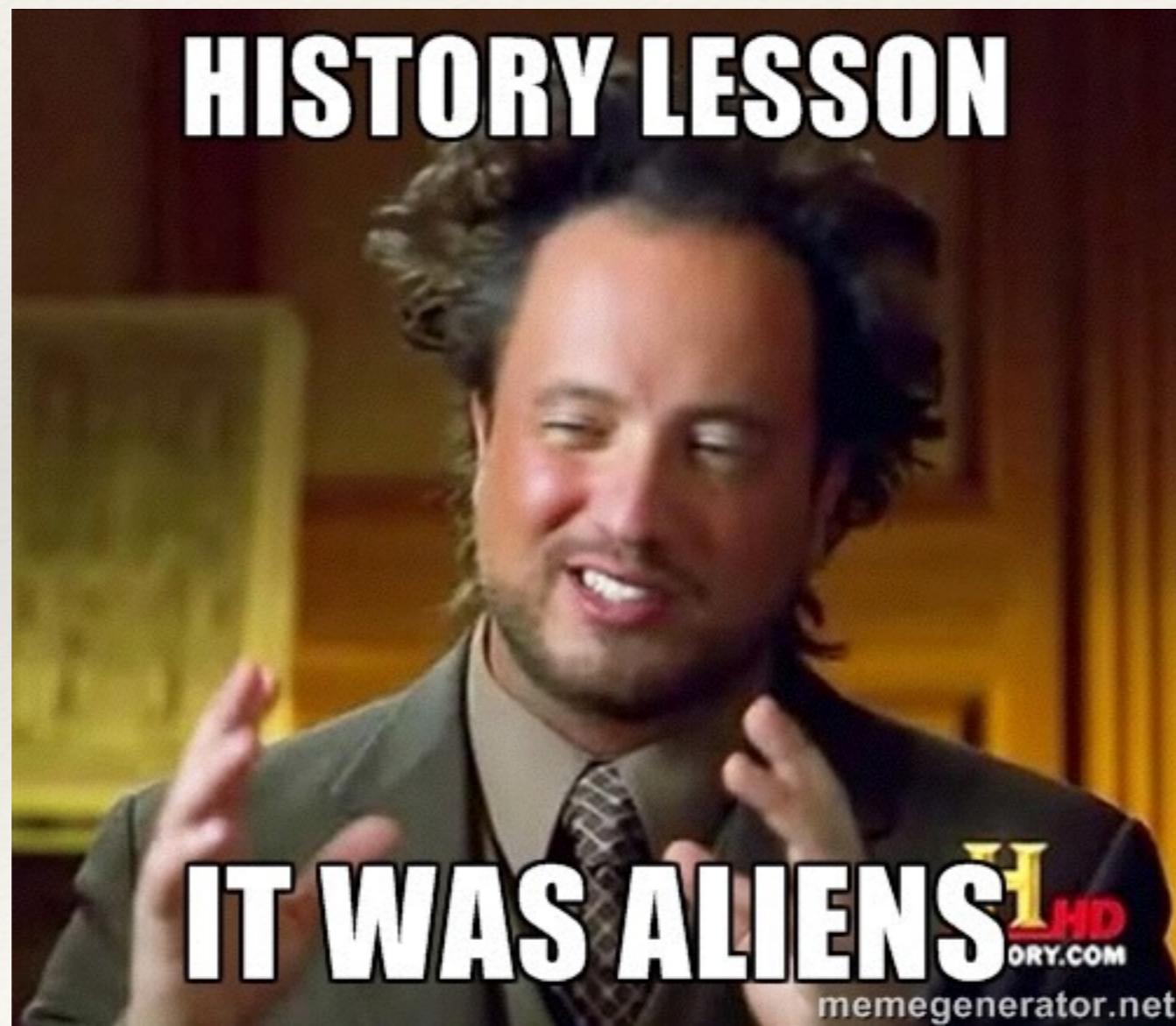
*–Grace Hopper*

Thought Experiment Time ...

Pretend there are  
5 monkeys in a cage



# Time for a History Lesson



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# 8 Hour Day

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- ❖ This was meant to be a respite, not a measurement
  - ❖ From an era when 10-16 hours was the norm
- ❖ 1817: Robert Owen - “Eight hours labour, eight hours recreation, eight hours rest.”
  - ❖ It took until 1847 for England to reduce it to 10 hours for women and children
- ❖ Came to the US in 1937 as part of the New Deal

*Father of Scientific Management*

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# Frederick W. Taylor

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“The best management is a true science, resting upon clearly defined laws, rules, and principles, as a foundation. And further to show that the fundamental principles of scientific management are applicable to all kinds of human activities, from our simplest individual acts to the work of our great corporations, which call for the most elaborate cooperation.”

*—Frederick Taylor (in a letter to Theodore Roosevelt)*

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# Frederick Taylor

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- ❖ Midvale Steel
- ❖ Broke down work to the smallest possible task to extract maximum efficiency
- ❖ Principles of Scientific Management
  - ❖ Written based on observations of improving the manufacturing of pig iron, brick laying, and installation of ball bearings in bikes

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# Frederick Taylor

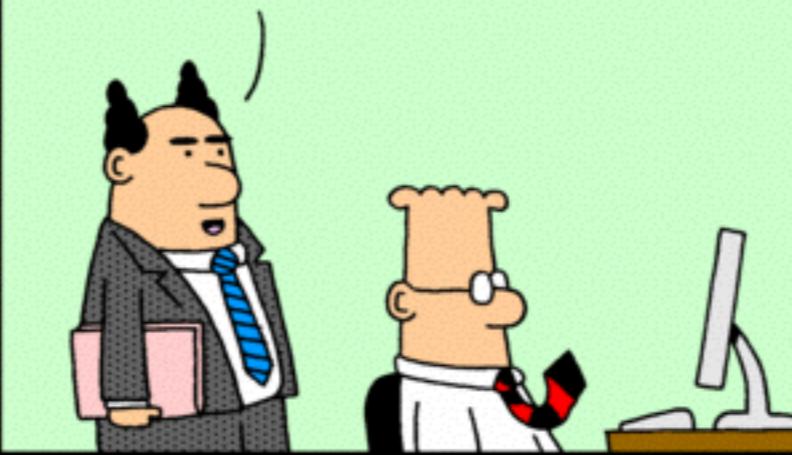
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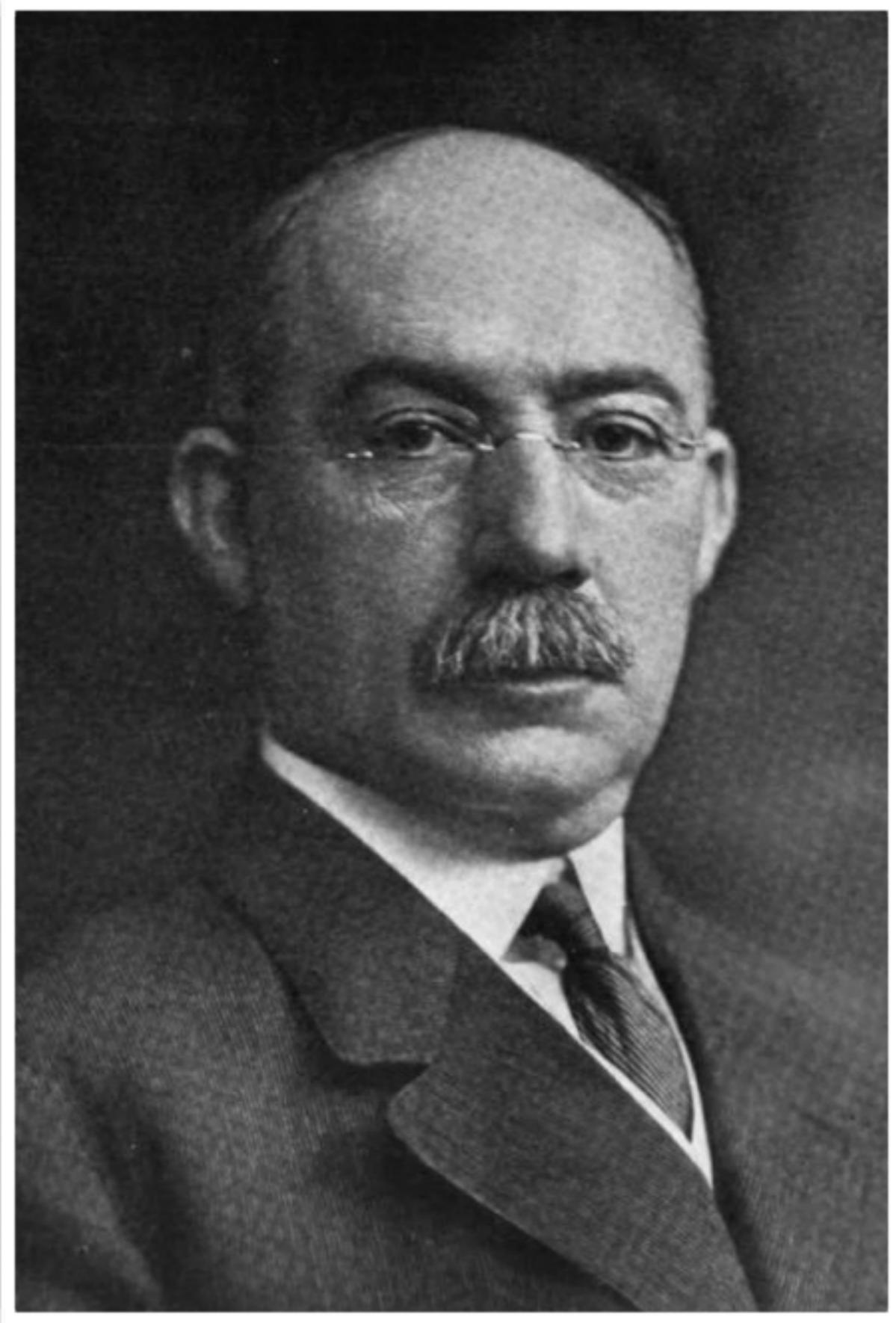
- ❖ Replace rule-of-thumb work methods with methods based on a scientific study of the tasks.
- ❖ Scientifically select, train, and develop each employee rather than passively leaving them to train themselves.
- ❖ Provide "Detailed instruction and supervision of each worker in the performance of that worker's discrete task"
- ❖ Divide work nearly equally between managers and workers, so that the managers apply scientific management principles to planning the work and the workers actually perform the tasks.

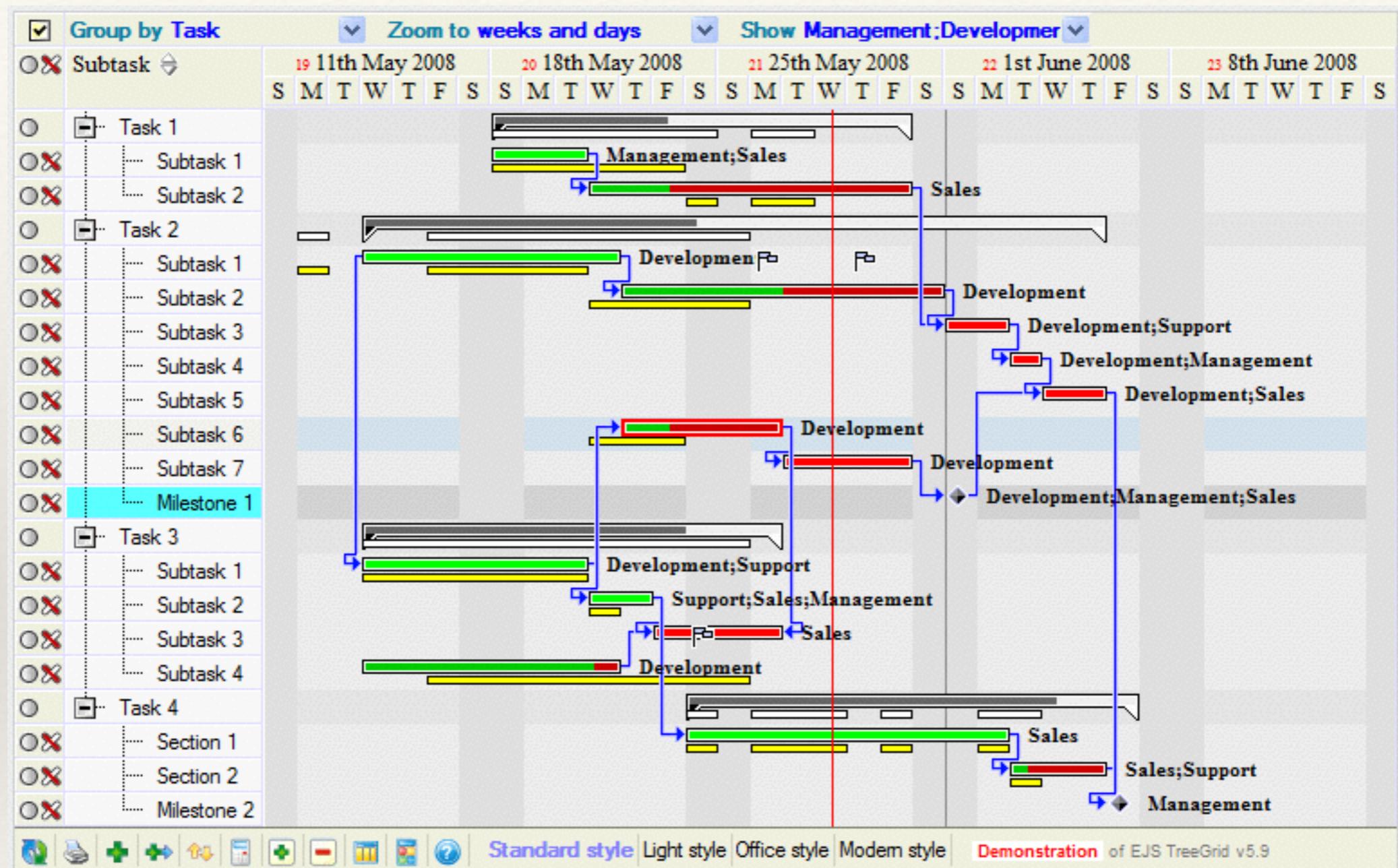
“I can say, without the slightest hesitation, that the science of handling pig-iron is so great that the man who is physically able to handle pig-iron and is sufficiently phlegmatic and stupid to choose this for his occupation is rarely able to comprehend the science of handling pig-iron”

*—Frederick Taylor (to congress)*

THE VISIONARY  
LEADERSHIP WORK  
IS DONE. HOW LONG  
WILL YOUR PART  
TAKE?



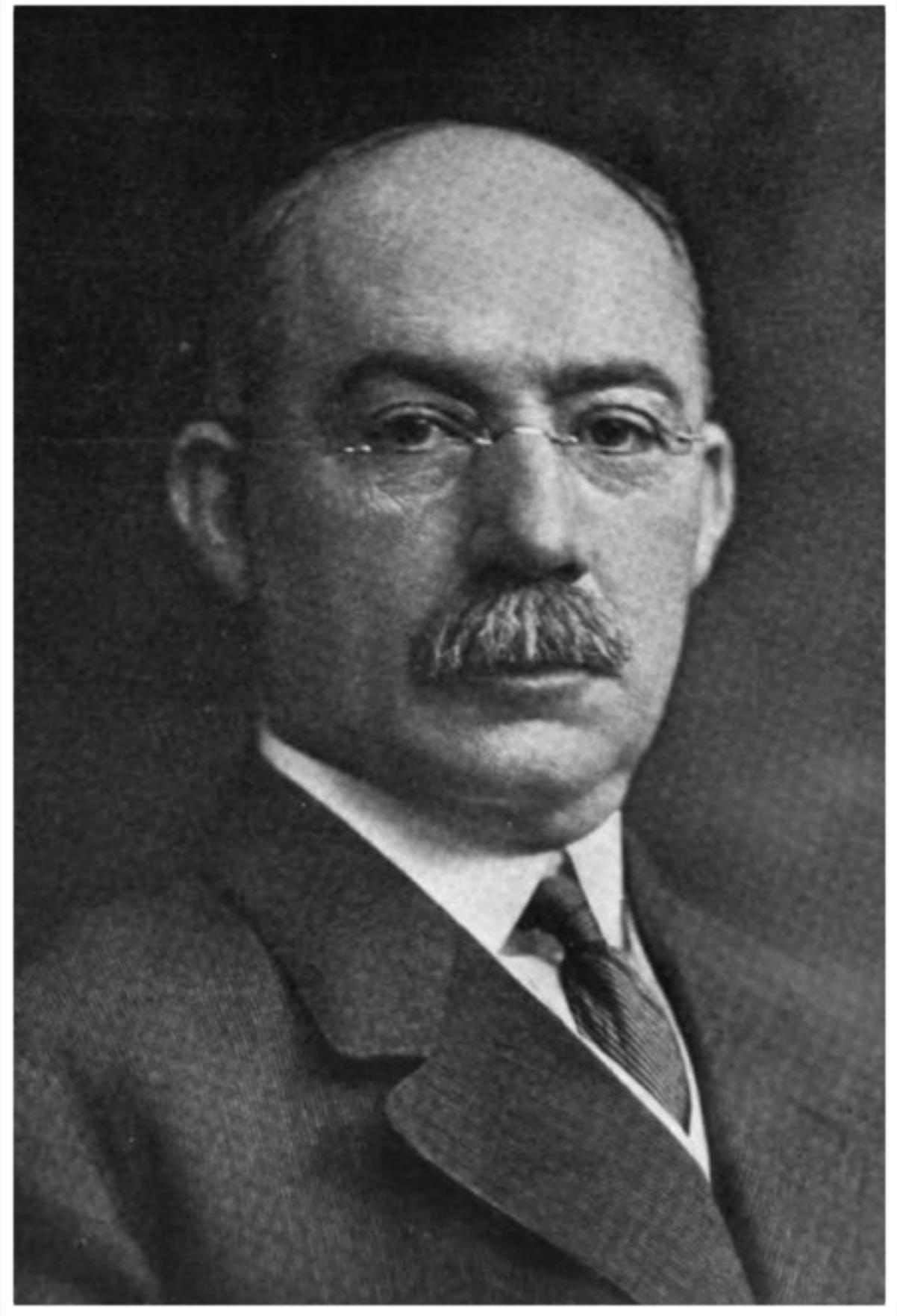




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# Henry Gantt

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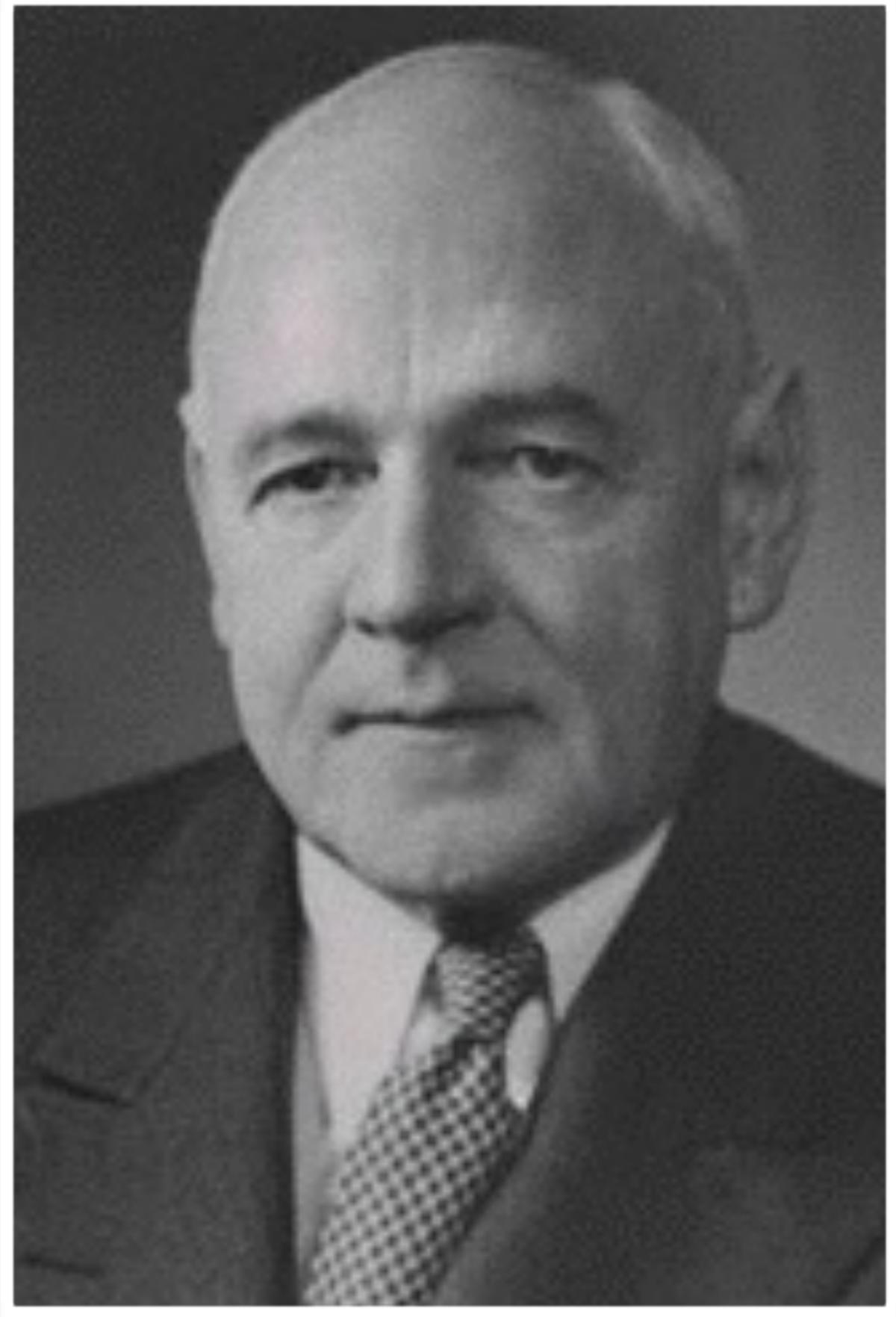
So that was manufacturing, which at the time was really the work of “creation”

It's how things were made

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# F. Donaldson Brown

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# F. Donaldson Brown

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- ❖ Dupont ROI Calculation in 1914
  - ❖ Originated as a method of cost accounting for gun powder
- ❖ Became the backbone of the accounting industry

These ideas from the early  
20th century became the standard  
taught in business schools  
throughout the 1950s and 1960s

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# Reginald Heber Smith

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# Reginald Heber Smith

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- ❖ Harvard Business School
  - ❖ Influenced by Principle of Scientific Management
  - ❖ Implemented a system of time sheets defined by 6 minute increments
- ❖ Smith's Law office Organization
  - ❖ Published by the American Bar Association in 1940

“The service the lawyer renders is his professional knowledge and skill, but the commodity he sells is time”

*—Reginald Heber Smith*

**THAT'S ALL VERY INTERESTING,  
BUT...**

**...SO WHAT?**

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# Reginald Heber Smith

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- ❖ Up to 1950, most bar associations had fee schedules for services
- ❖ In 1950, we had a problem ...
  - ❖ Smith's book suddenly became popular, and the bar started encouraging firms to switch

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# So we've covered

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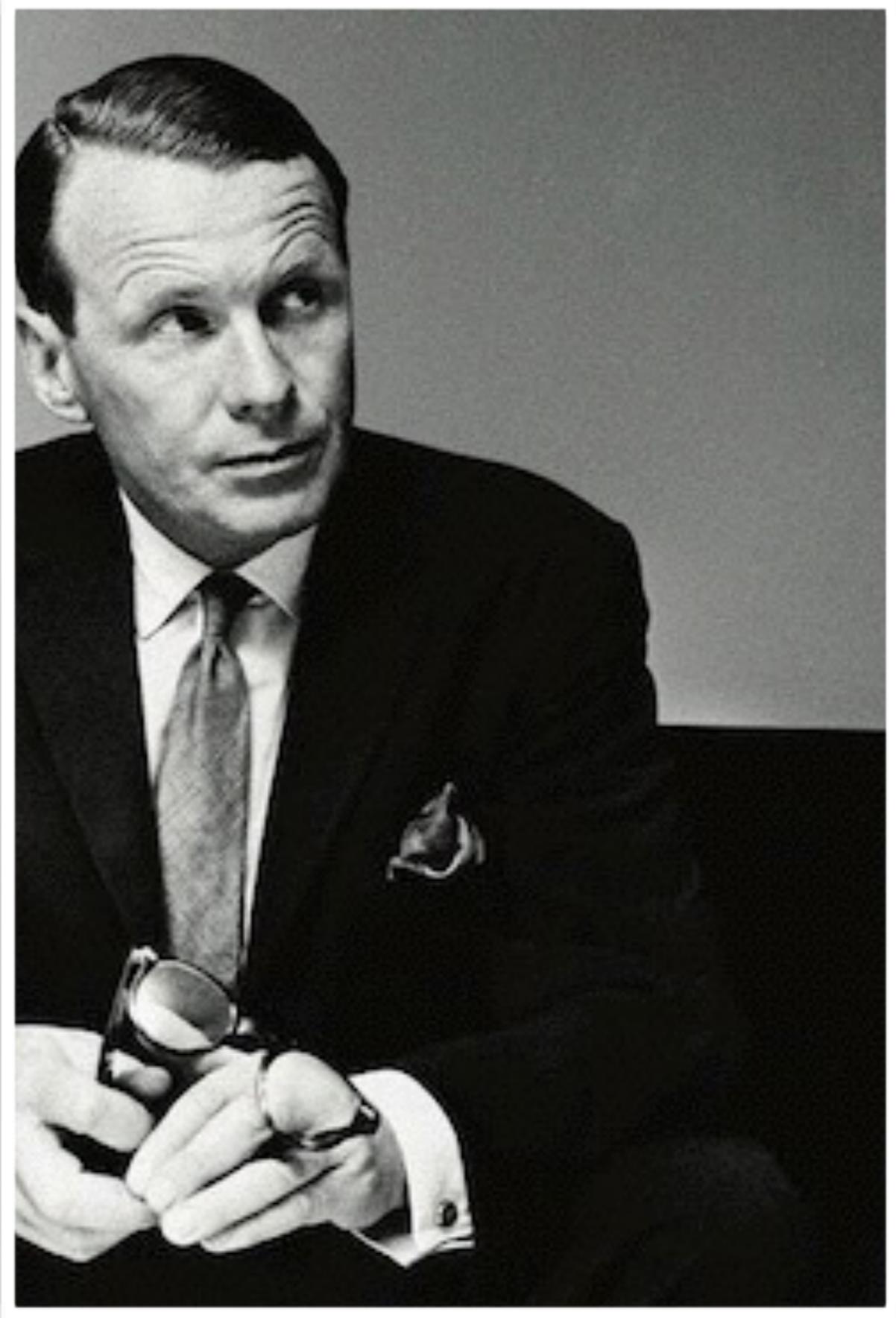
- ❖ Manufacturing
- ❖ Accounting
- ❖ Law

*The Father of Advertising*

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# David Ogilvy

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# David Ogilvy

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- ❖ Traditionally agencies were paid on a commission of the media the client bought
- ❖ In 1962, Shell was dissatisfied with its current agency - JWT (J. Walter Thompson)
- ❖ Ogilvy agreed to be paid on a fee for work basis
  - ❖ Commissions and Fees in Mad Men
  - ❖ Ogilvy was so successful over 1960 - 1980, that many firms began following his model

“I pioneered the fee system, but I no longer care how I get paid provided I make a reasonable profit”

- *David Ogilvy*

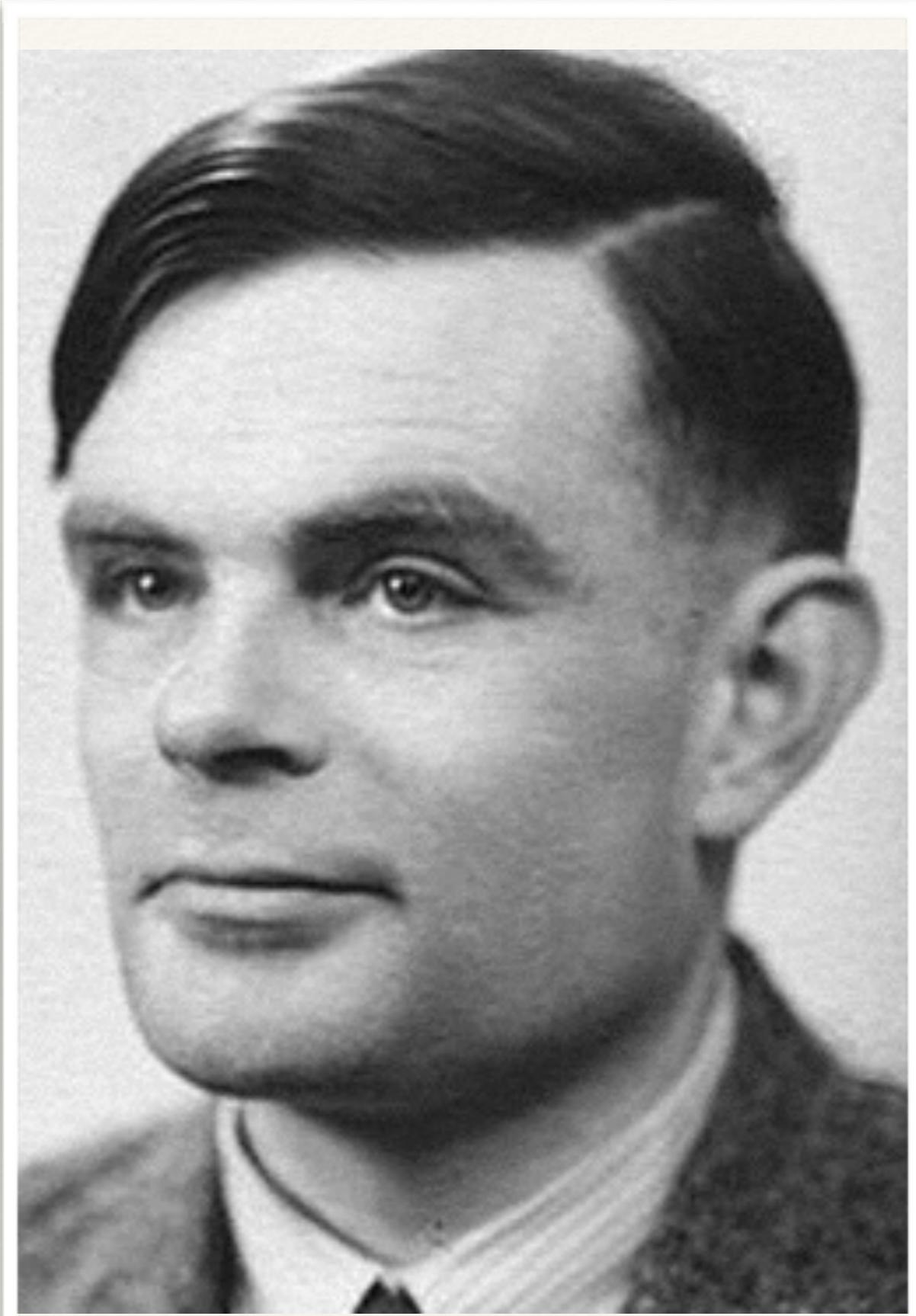
# Meanwhile Back At The Ranch ...



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# Alan Turing

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“We shall need a great number of  
mathematicians of ability ... there will probably  
be a good deal of work of this kind to be done.”

– *Alan Turing*

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# Growth of Computers

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- ❖ 1940-1950: 1 - 5 computers
- ❖ 1954 - 1960: IBM sold ~140 computers
- ❖ Mid-1960s: IBM sold > 10,000 computers
- ❖ During the late 60s: > 50,000 PDP-8s were sold
- ❖ Just kept growing .....

These new “programmers”  
brought the measurements of  
productivity they already knew  
with them.

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# Summing up the Past

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- ❖ 8 hour day / 40 hour week was meant to be a cap, not a minimum
- ❖ Scientific Management was built for pig iron manufacturing
- ❖ Cost Accounting was built for gun powder creation
- ❖ Fee base on hours was popularized to win an ad deal

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# Summing up the Past

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- ❖ Due to the explosive growth of computers, people from all disciplines were thrown into “programming”
- ❖ They needed to account for the work somehow, so they took what they knew from previous roles ...
  - ❖ Top-down breakdown of tasks
  - ❖ Estimate and measure projects and tasks in hours
  - ❖ Hourly rates



*We are*  
**HERE**

Now What?

# Effects of Selling Time

- ❖ You die, duh ... I mean its the title of the talk ...



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# Natural Limit Of Selling Time

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- ❖ There is a finite amount of hours you can work
  - ❖  $24 * 7 = 168$  hours per week
- ❖ This limits your production
  - ❖ aka the money you can earn

So we work more, which leads to ...

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# Diminishing Returns

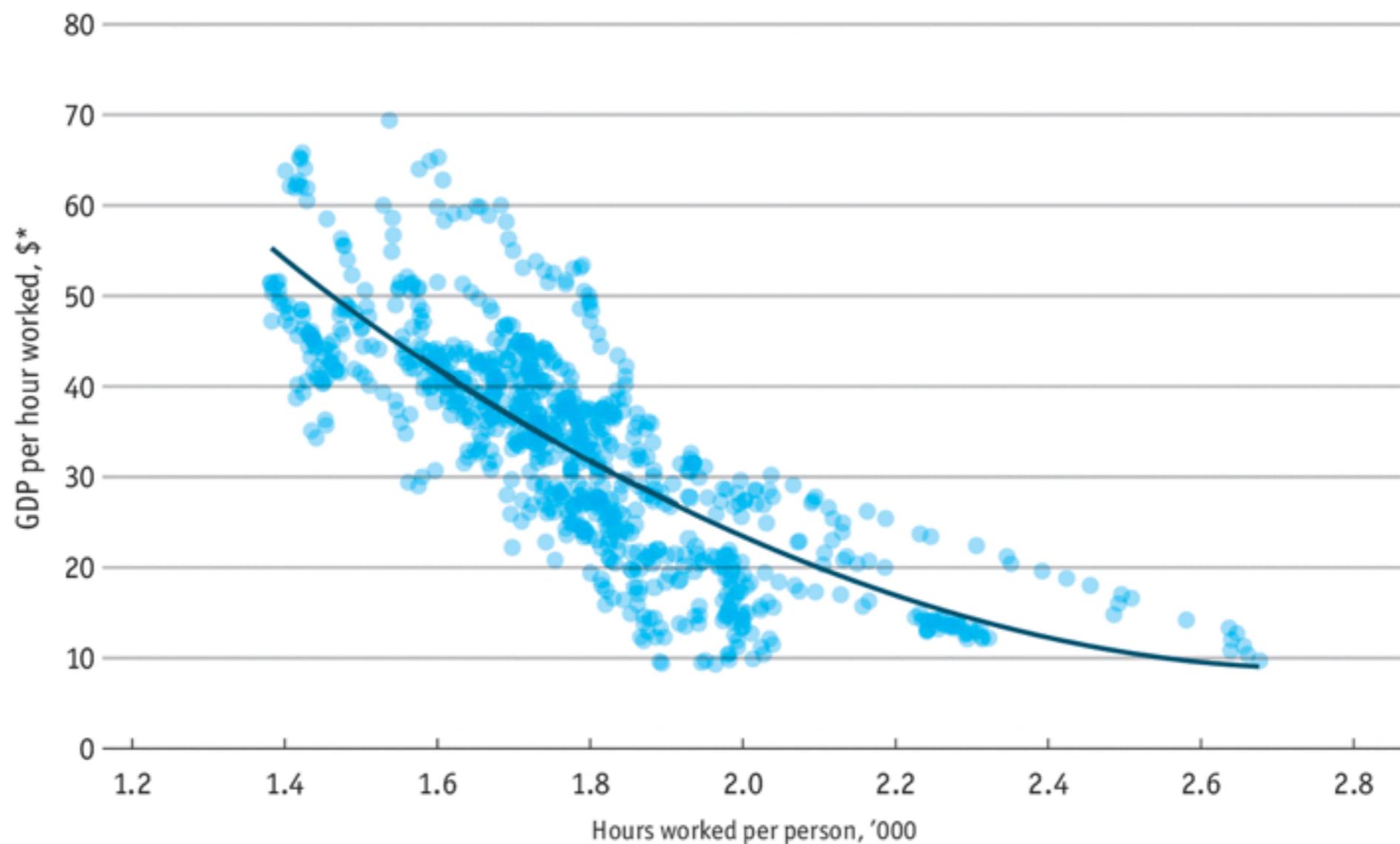
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- ❖ The law of diminishing returns states that in all productive processes, adding more of one factor of production, while holding all others constant will at some point yield lower incremental per-unit returns
- ❖ We've all seen from experience, the more tired you are, the more bugs you create

# Diminishing Returns

## Off to work we go

Hours worked and productivity, 1990-2012



Source: OECD

\*2005 purchasing-power parity

Economist.com

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# Here are a couple more sources

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- ❖ Proof You Should Get A Life
- ❖ The Research Is Clear: Long Hours Backfire for People and Companies
- ❖ Working More Than Fifty Hours Makes You Less Productive
- ❖ Stop Working More Than 40 Hours A Week

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# Burn Out

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- ❖ According to the Mayo Clinic, ignored or unaddressed job burnout can have significant consequences, including:
  - ❖ Excessive stress
  - ❖ Fatigue
  - ❖ Insomnia
  - ❖ A negative spillover into personal relationships or home life
  - ❖ Depression
  - ❖ Anxiety
  - ❖ Alcohol or substance abuse
  - ❖ Heart disease
  - ❖ High cholesterol
  - ❖ Type 2 diabetes, especially in women
  - ❖ Stroke
  - ❖ Obesity
  - ❖ Vulnerability to illnesses

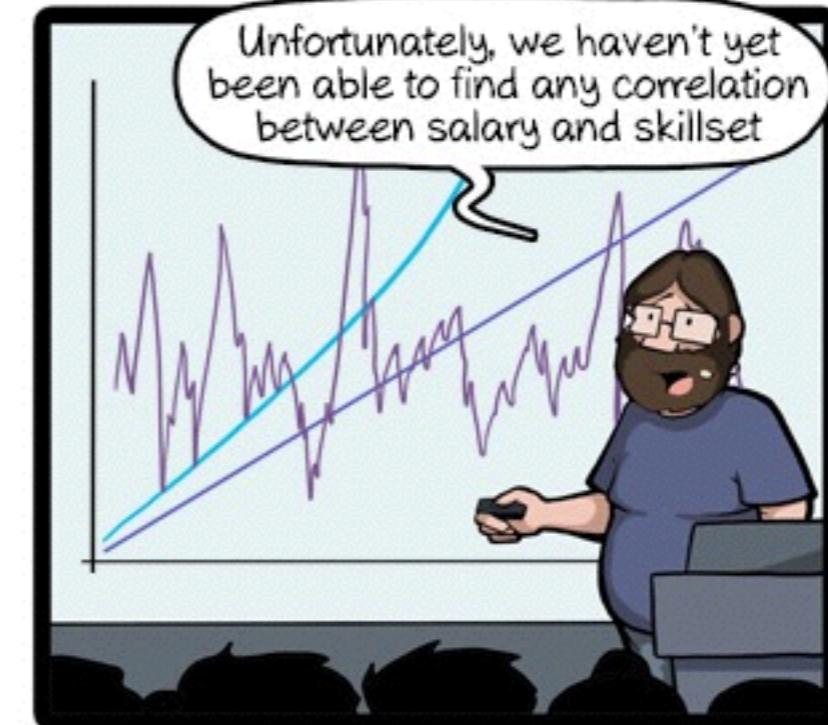
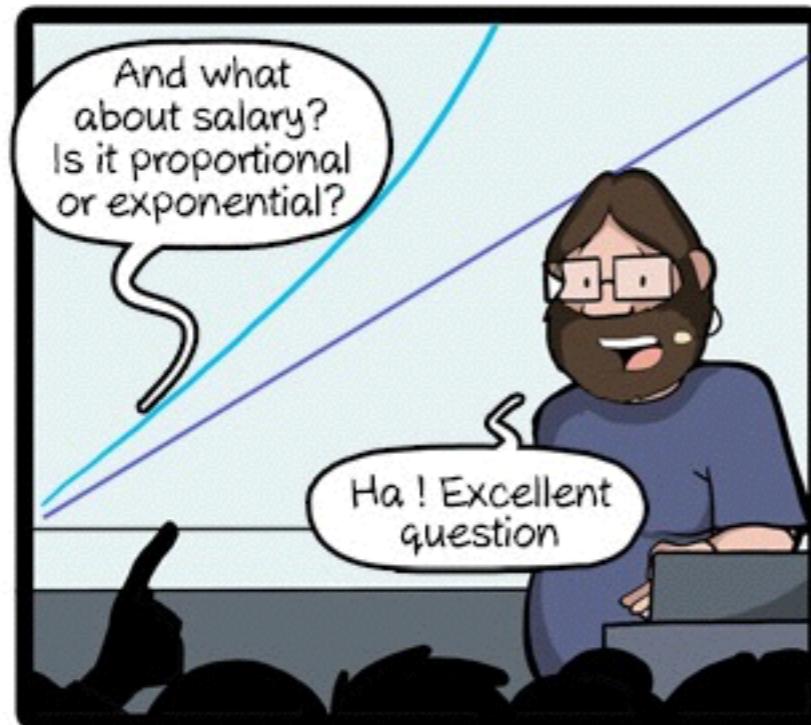
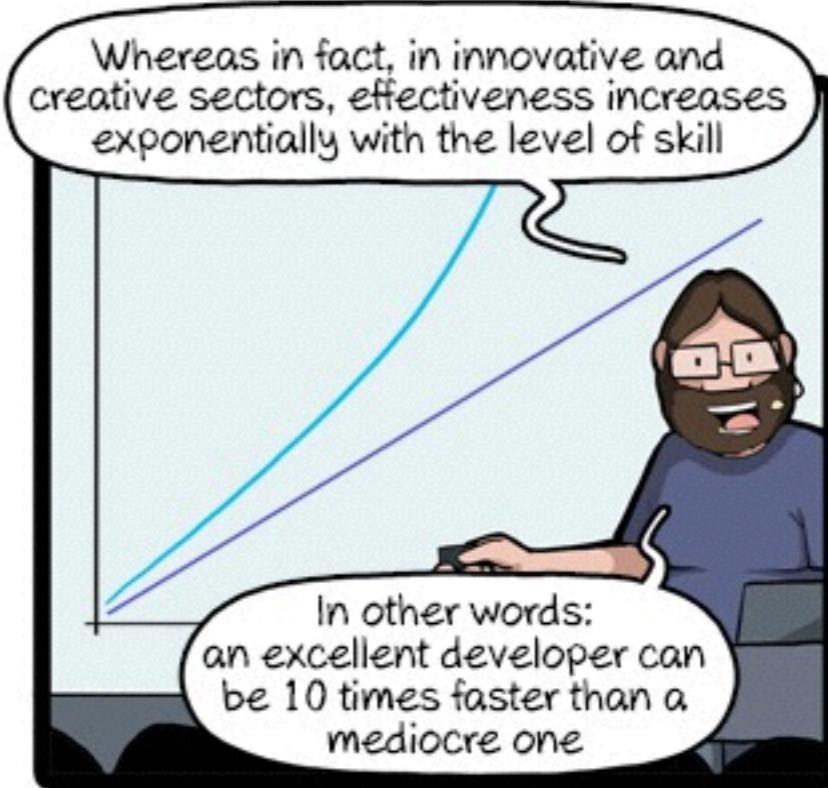
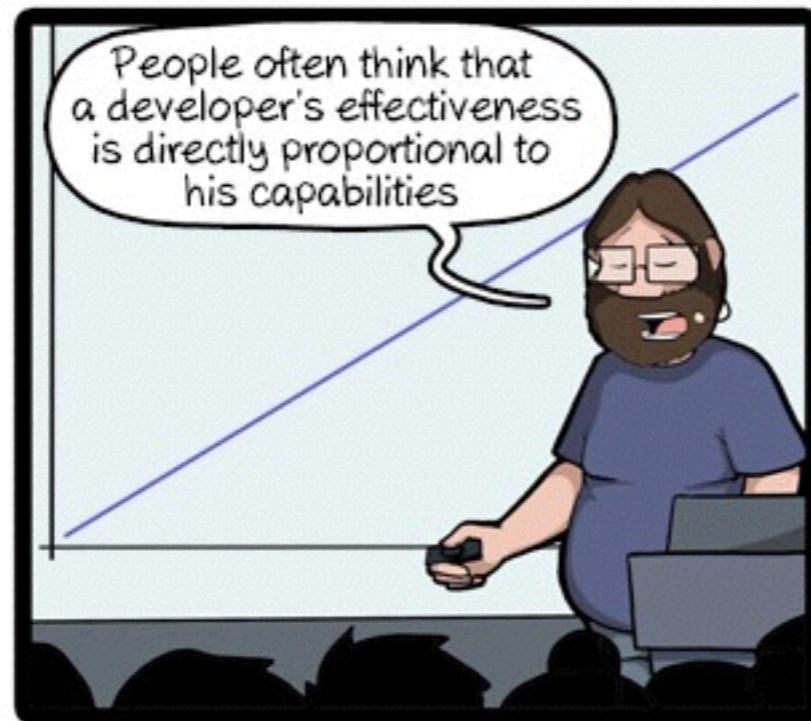


But there are other  
problems too ...

# Scott Ferguson Problem



- ❖ Customers wanted to work with him on T&M because Ferg was fast
- ❖ Customers complained about others who weren't as fast
- ❖ Mismatched Priorities



It kills diversity



What is value?

the regard that something is held to deserve; the importance, worth, or usefulness of something.

*—Webster*

“The last buggy whip factory was no doubt a model of efficiency .... There is nothing so useless as doing with great efficiency something that should not be done at all”

*– Peter Drucker*

We need to measure  
effectiveness  
not  
efficiency

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# Value Based

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- ❖ Price of the project / task / story is based on the actual business value it brings to the client (ROI)
- ❖ Aligns priorities of all involved
- ❖ Frames solutions as an investment rather than cost
- ❖ Requires a higher knowledge of the end business state
  - ❖ Sometimes this isn't possible
- ❖ Requires Training

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# Complexity

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- ❖ Inspired by value based pricing
  - ❖ Attempts to define value by complexity rather than ROI
- ❖ Based on comparing unknown “estimation” to known “history” based on expected complexity
- ❖ Allows customer to make informed decisions on backlog management
- ❖ Hard to think about / high learning curve to internalize



# Review

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- ❖ Much of our way of thinking about the value of what we do is based on theories from the start of the 20th century
- ❖ Creation of Software != Manufacturing of gun powder
  - ❖ You are creative
  - ❖ Defining value by time spent can lead to dangerous outcomes
  - ❖ What you measure defines what you value
    - ❖ Will shape you and your culture
  - ❖ Measure effectiveness for the customer



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# Reference

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- ❖ Let's Kill The Billable Hour
  - ❖ <http://creativemornings.com/talks/jon-lax/1>
- ❖ When Men were Men, Computers were Computers, and Women were Programmers
  - ❖ <https://skillsmatter.com/skillscasts/6389-men-women-computer-programmers>
- ❖ The Billable Hour Must Die
  - ❖ [http://www.abajournal.com/magazine/article/the\\_billable\\_hour\\_must\\_die](http://www.abajournal.com/magazine/article/the_billable_hour_must_die)
- ❖ Why Some Men Pretend to Work 80-Hour Weeks
  - ❖ <https://hbr.org/2015/04/why-some-men-pretend-to-work-80-hour-weeks>
- ❖ Breaking the Time Barrier
  - ❖ <http://www.freshbooks.com/assets/other/Breaking-the-Time-Barrier.pdf>

Thanks for listening!

Any Questions?

@joshgretz