

Ramblings From the Field of Plumbing

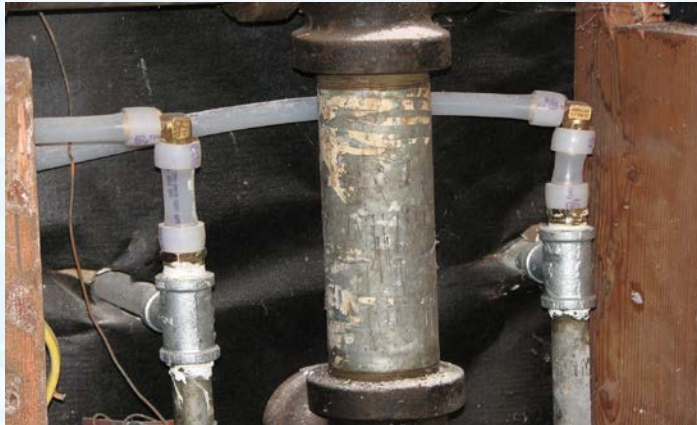


Why me?

- 45+ years in the field
- Not measured data, but visible trends
- Historical and “engineering” perspectives
- Like troubleshooting
- Have white beard, so *must*
- know something!



Silly Plumbing



More silly stuff



Silly ~ Unsafe



Questions/Decisions

- Who are we working for?
- How technical/able are they?
- How do we charge a fair price?
- Do we all row the same direction?
- What work is appropriate?
- How do we prioritize the work?
- What convinces the owner to
- listen to us ?



What matters?

- Trust
- Safety
- User satisfaction
- Good design
- Durability
- Energy performance
- Price



Trust

If there is no trust,
don't do the job.

You'll be hampered
with bad decision-
making.

The grass *looked*
greener!



Getting that Trust

- Prior client
- Referral
- Listen well
- Educate all players
- Do what you say
- Involve them
- Save them money
- If I take care of my clients, I'm taken care of.



Responsibility

Plumber's work
prevents epidemics
like cholera and
saves more lives
than modern
medicine.

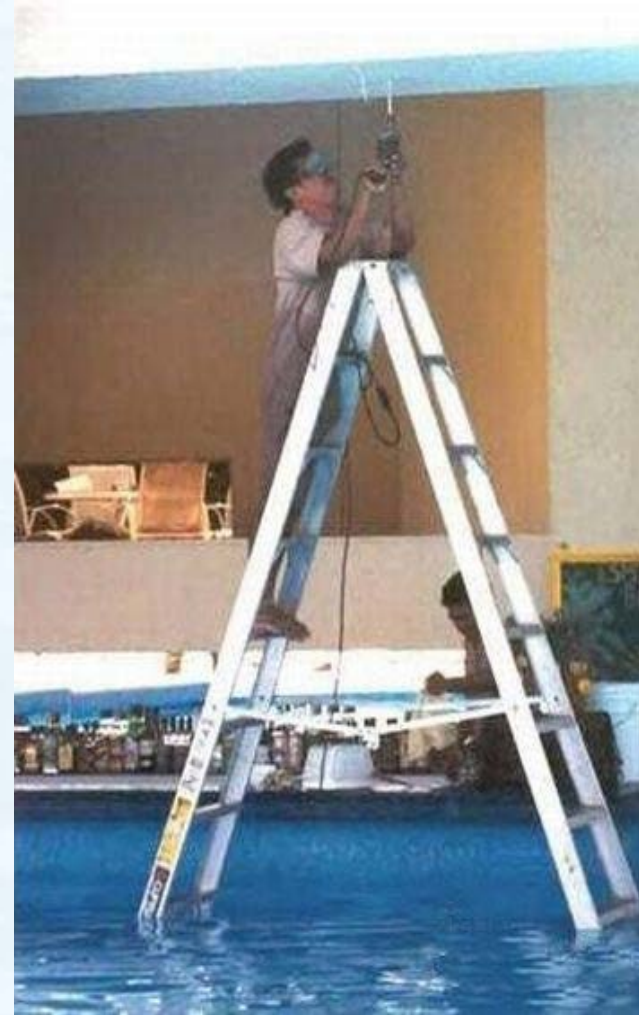
Note that mortality
rates fall when
doctors strike :~o



Sanitation and hygiene has the potential to prevent at least 9.1% of the global disease burden and 6.3% of a

Safety Trumps

- Who knows what's
- safe?
- With trust, you can
- do what's right, not
- just what's cheap
- or expedient.



User Satisfaction = Durable Savings

- Can the user manage the equipment?
- Can they see results? (*eg: hot sediment*)
- Comfort: thermal, noise
- \$ over time.
- Without the above
- no durability.



Energy Performance...

... no need to harp. Durable benefits only if done with the current owner in mind and maintained.

Eg: Same house with techno-geek vs elderly bookkeeper. Would you install the same stuff?



Price \$\$

- Preventing trouble
- Education (*T&P*)
- T&M vs bid: risk, control, \$
- Owner, designer, contractor ~ design-build
- Owners are trained to go low bid ~ retrain
- Good, fast, cheap: “pick two” ?



Design-Build Benefits

- Responsibility does not get watered down.
- With reduced overheads, cost is reduced.
- Quality remains high.
- No finger pointing.
- Less stress.
- No lawyers!



Being Cheap?

- New old stock
- Shopping vs time
- Owner shopping
- Re-purposed
- Used

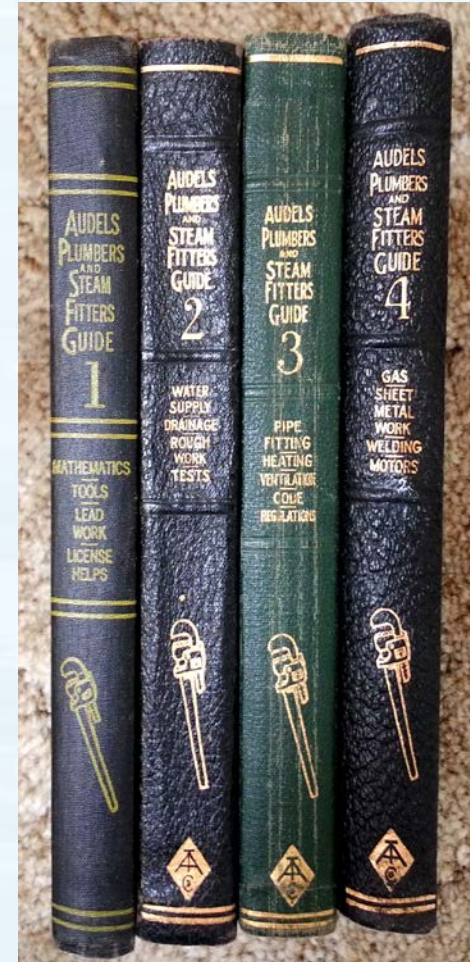
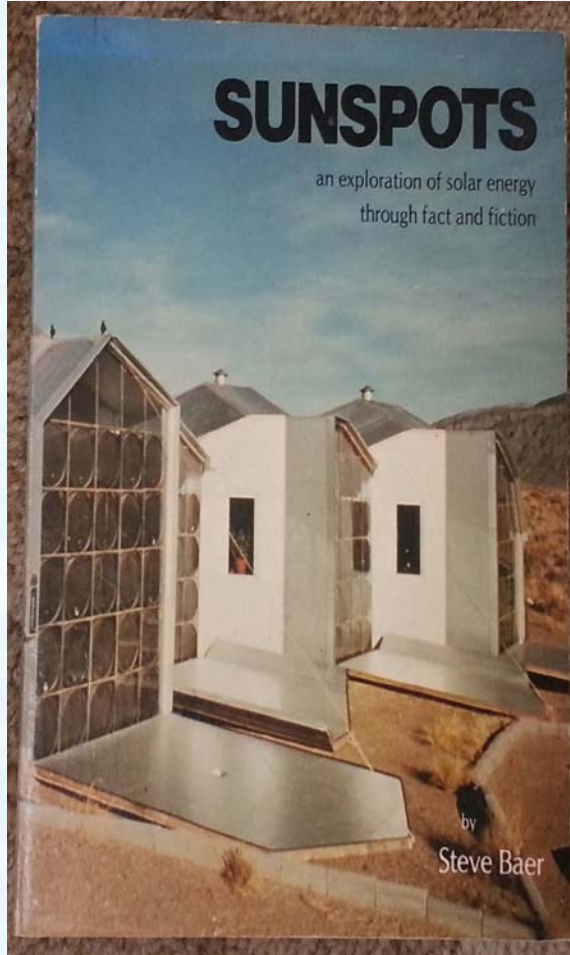
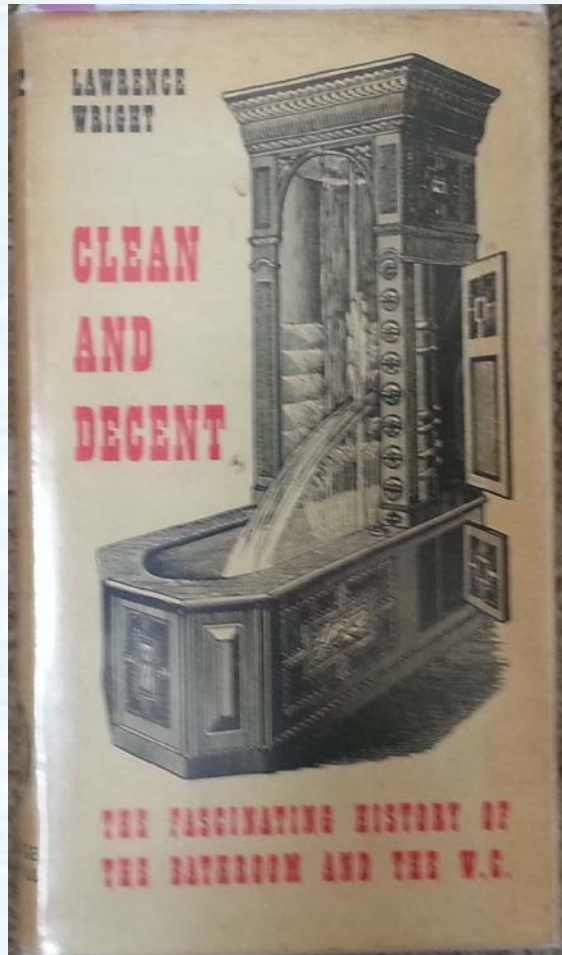


Other Rules

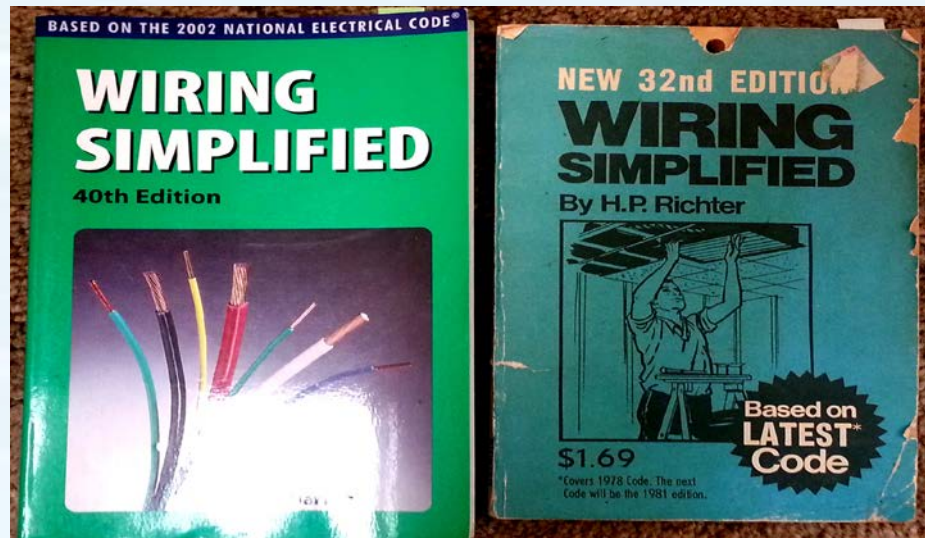
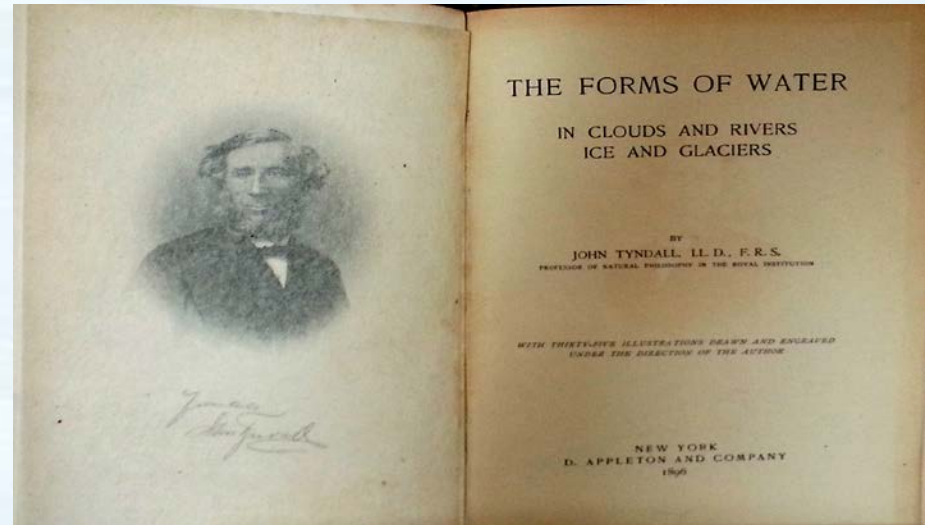
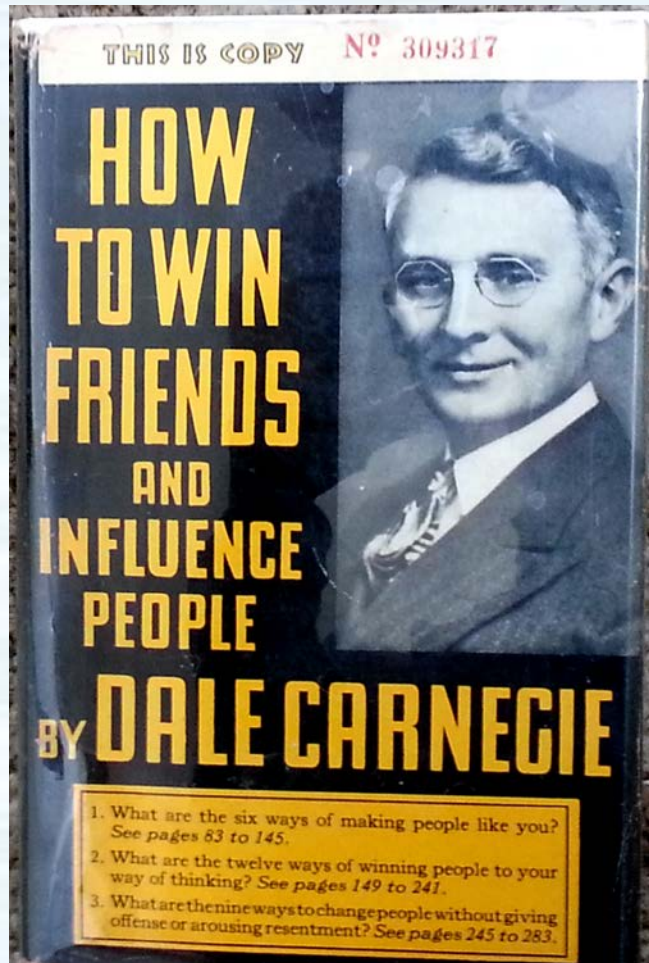
- Hire/fire your client.
- Just in time learning.
- Do your own math.
- Educate others.
- Share/inform your client.
- Listen, but don't be led in your thinking.
- Know about lots of things, but specialize.



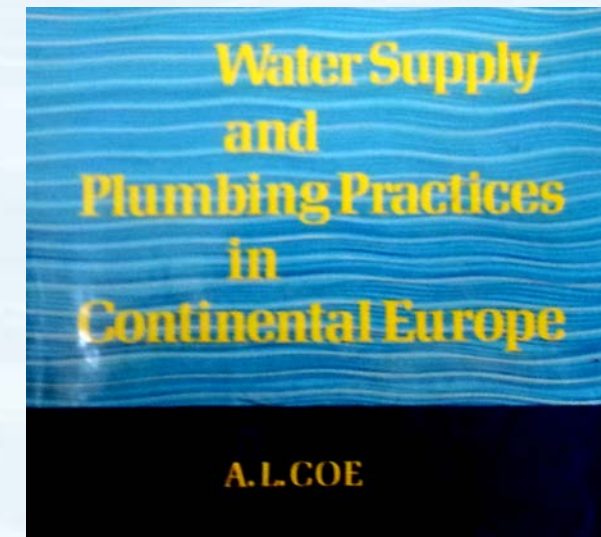
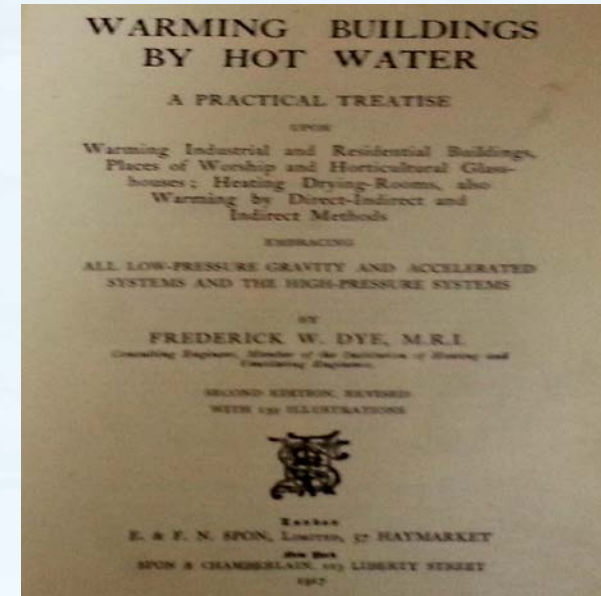
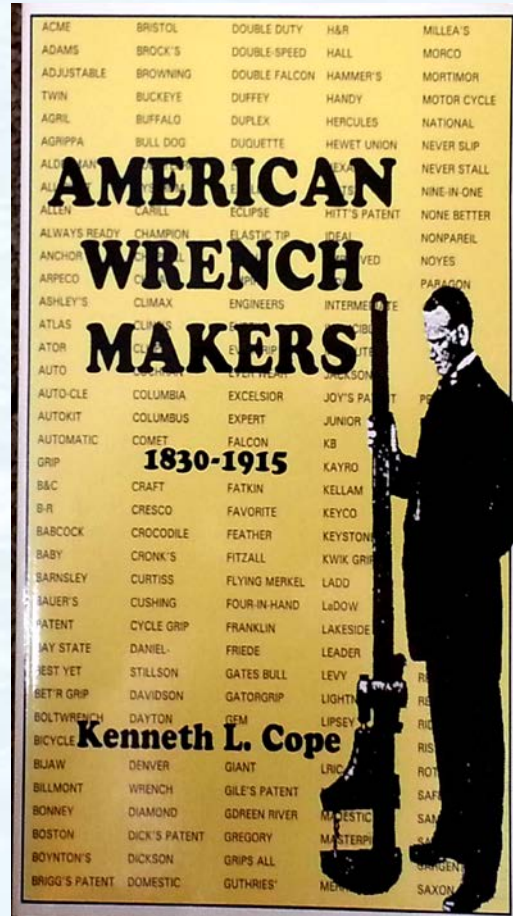
Books are Good!



And More Books.



And Even More.



Some Resources

- addall.com ~ *books*
- waterheaterrescue.com ~ *water heating*
- heatinghelp.com ~ *hydronics*
- buildingscience.com ~ *Joe L*
- nace.org ~ *corrosion*
- copper.org ~ *about copper*
- larryweingarten.com ~ *hmm..*



Plumbing Rules

- Use imagineering to “see” system over time.
- Leave working room for everything.
- Stage the work if needed. (except safety)
- Design for extreme conditions.
- Strive for simple.
- Help flow. (keep Gary happy)



Flow Could be Better...

An Observation

Technical skills are necessary, but knowing something of business and people will allow you to put those tech skills to good use.



? Concerns Around Plumbing

- Corrosion
- Design
- Efficiency
- Extreme conditions
- Flow
- Heat transfer
- Longevity
- Noise
- Owner needs
- Other trades
- Performance
- Safety
- Servicing
- Simplicity

Questions?



Thanks!



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in hot water

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