





What People, and Trees, Think About Utility Tree Pruning

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Directional Pruning



...



Directional pruning like this...



...can maintain trees and streets like this



Can even plant larger trees under lines...



...and maintain them from an early age with directional pruning



...and maintain them from an early age with directional pruning (12 years after previous slide)



Directional Pruning Issues

- Tree issues
- People Issues
 - Aesthetics (Vs & Ls)
 - Other perceptions



Tree Issues (What do trees "think" about directional pruning?)

- Wounds and wound healing/sealing
- Loss of foliage and food reserves
- Sprouting
- "Sunscald" injury
- Balance
- DP in previously topped trees

Wounds and Wound Healing/Sealing

- Any pruning creates wounds
- Wound healing/sealing takes energy
- Wounds allow for decay
- DP wounds much less damaging than topping
- Use natural target pruning (NTP)



Loss of Foliage and Food Reserves

- Tree loses some food making capability & stored food with removal of leaves and stems
- Worse with catch-up pruning than with regular maintenance
- Affects “on the edge” trees more
- DP removes less than topping
- ANSI A300 recommends removal of no more than 25% of foliage in a year



Sprouting

- Pruning stimulates sprouting, sprout growth
- Sprout growth makes tree food situation worse temporarily, until tissue is productive
- DP (with NTP) minimizes sprouting compared to topping
- Leaving slower growing sprouts reduces resprouting and softens appearance



Sunscald Injury

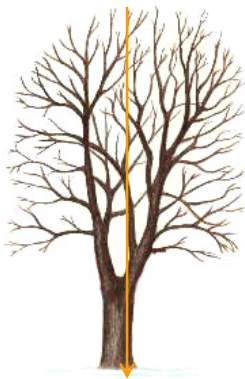
- Tissues exposed by pruning can be injured by sunlight
- Not sure mechanism; winter injury?
- Likely on species that shows winter trunk injury (e.g. Norway maple)
- Leaving interior foliage can help – shades stem



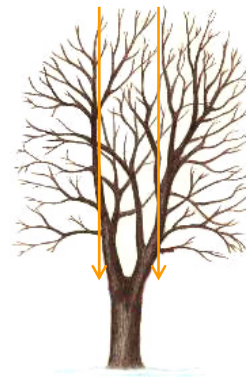
Balance

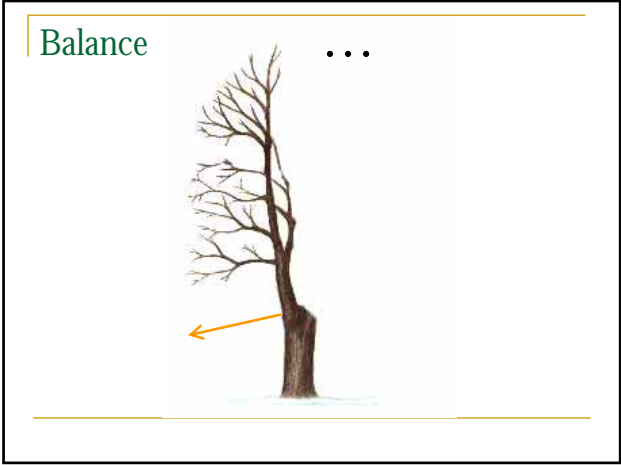
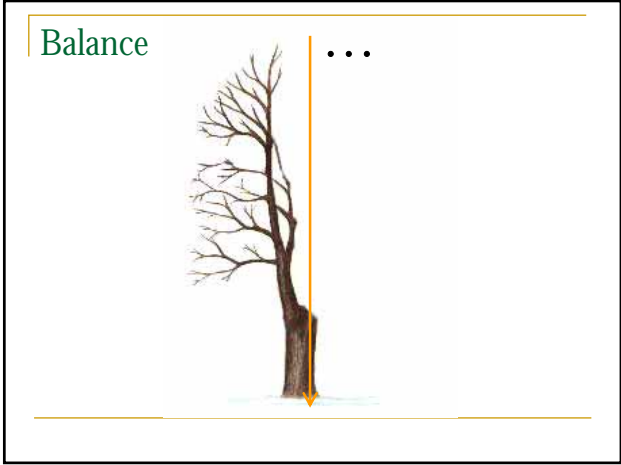
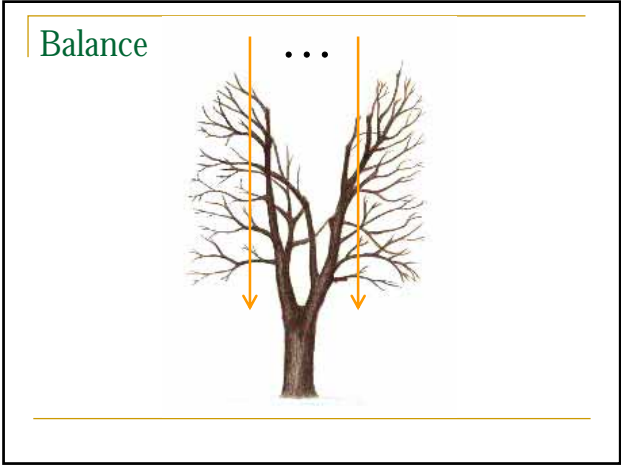
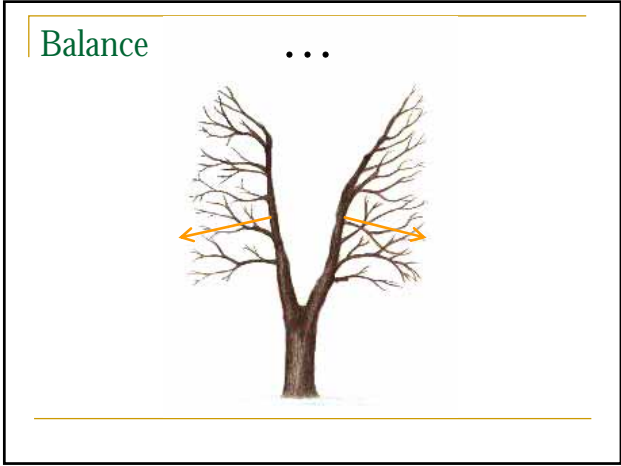
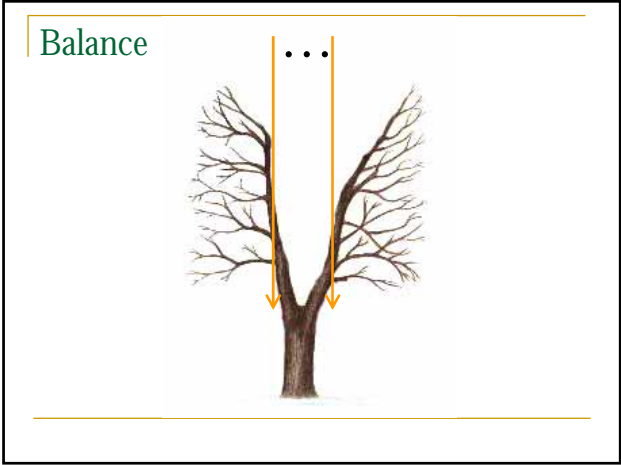
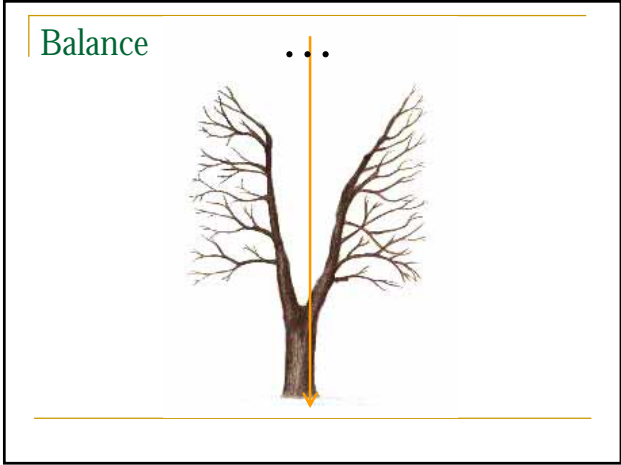
- Pruning changes center of gravity/balance, but reduces weight
- Only a problem if soundness of junctions of heavy limbs is an issue, or root system soundness with one sided pruning
- Tree compensates (reaction wood) over time

Balance

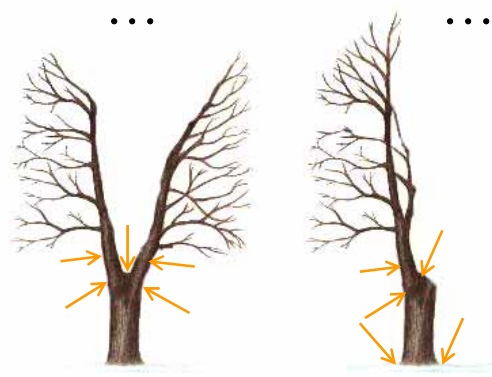
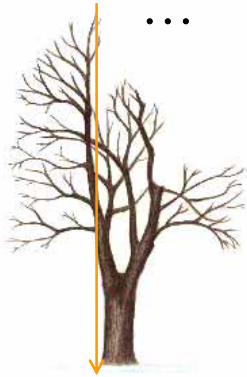


Balance

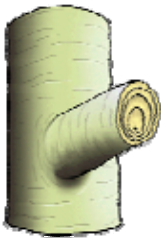




Balance



Reaction Wood



Tension Wood,
Angiosperms



Compression Wood,
Gymnosperms

DP in Previously Topped Trees

- Multiple leaders come from topping cuts; prune to one or a few
- Watch for signs of failure as remaining leader grows
- With previous severe topping strongly consider removal

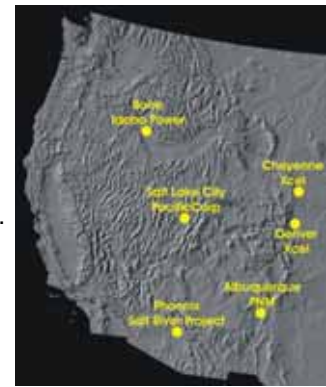


People Issues: The Role of Education in Acceptability of Directional Pruning in Utility Line Clearance

- Funded by the Tree Fund
- Objectives to find out:
 - What people know about tree pruning and care.
 - What people know and think about utility tree pruning, directional pruning in particular.
 - Effects of an educational brochure on knowledge and attitudes.
 - Willingness to pay for burying lines.

Methods

- Mail survey of randomly selected households in 6 interior West cities.
- Investor-owned utilities except SRP.
- All Tree Line USA, Tree Cities USA.
- Largest cities in 6 states.



Methods

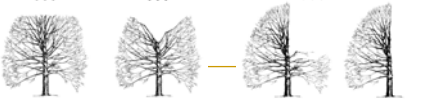
- Conducted early 2004.
- Dillman method (mailing, reminder, repeat mailing).
- 2100 mailed, 1786 delivered, 384 returned.
- 21% response rate; called 10% of non-respondents to identify characteristics of non-response.

Survey Instrument

- 9 page booklet; introductory letter; 3 sections.
 - Tree care practices and issues
 - Utility pruning/trimming, directional pruning
 - Background information, demographics
- Half with brochure, half no brochure.

Brochure

- “Trees and Power Lines” from USU Extension.
- Asked them to read it first; explains:
 - Tree/power line conflicts.
 - Problems with topping for clearance.
 - Directional pruning concepts and appearance.
 - Tree removal and replacement.
- Included diagrams of tree appearance.



Results

- Do people care?
- What do people know/feel about topping, tree care? (won't look at further)
- What do people know/feel about utility pruning?
- What is the effect of education?

Results – Do people care?

- Yes; people think highly of urban trees and their health and welfare.
- 75% had thought a moderate amount or less about utility tree pruning (25% quite a bit or a great deal)
 - Could explain relatively low response rate.

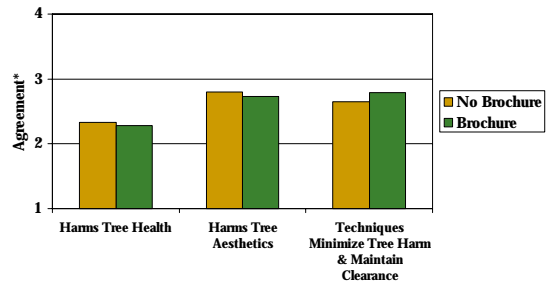
Results – What do people know/feel about utility pruning?

- Asked to indicate who prunes trees around utilities and why. (won't look at further)
- Asked to indicate agreement with 16 statements about trees and utilities.
- Asked to indicate their willingness to pay to bury lines.
- Asked to rate appearance of directionally pruned vs. topped trees.

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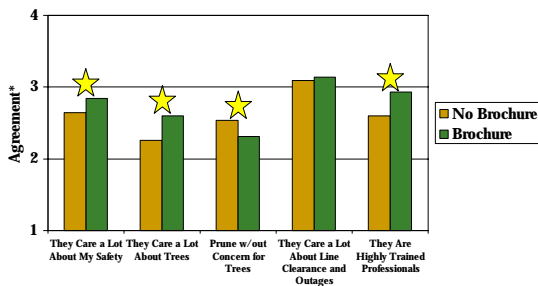
Agreement with Statements about Harm to Trees from Utility Pruning in Their Area



*1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Q26a,b,j,j

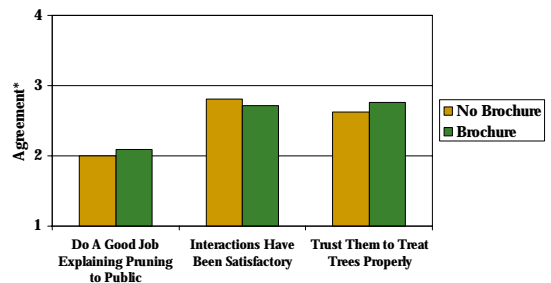
Agreement with Statements About People Who Do Utility Pruning (Care, Training)



*1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Q26e,f,g,h

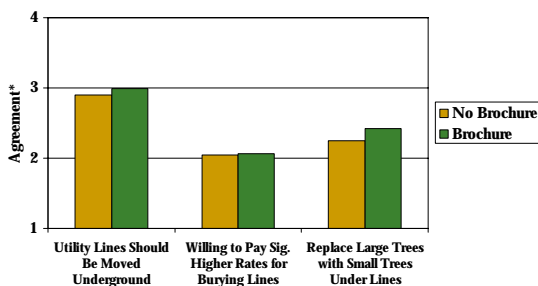
Agreement with Statements About People Who Do Utility Pruning (PR, Trust)



*1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Q26i,m,o

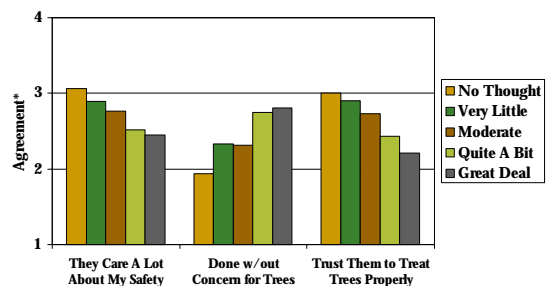
Agreement with Statements About Burying Lines and Small Trees



*1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Q26k,p

Agreement with Trust-Care Statements by Amount of Thought About Utility Pruning



*1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree

Q26e,l,o

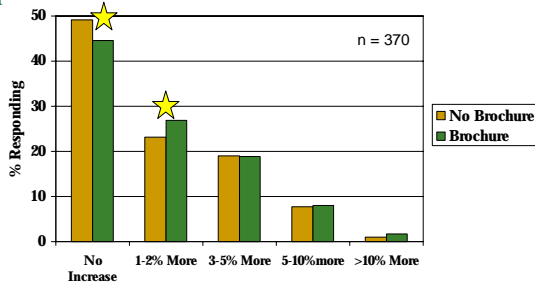
Utility Pruning Knowledge and Attitudes Summary – Tree/Utility Statements

- People feel that:
 - Utility pruning doesn't harm tree health but does harm aesthetics.
 - Utility pruners care most about keeping lines clear.
 - Companies don't do a good job explaining pruning to the public.
 - Some disagreement that large trees should be removed.
- Those who have thought a lot about utility pruning are less trusting.
- Brochures increased trust; greatly increased agreement that pruners are highly trained professionals.

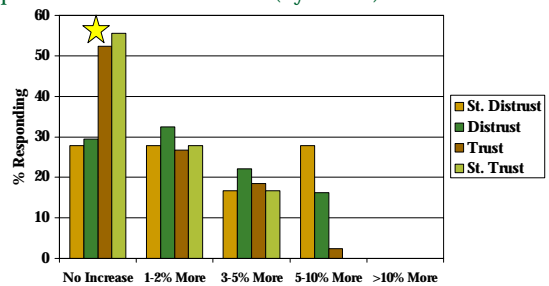
Results – What do people know/feel about utility pruning?

- Asked to indicate who prunes trees around utilities and why.
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- Asked to indicate their willingness to pay to bury lines.

How much more would you be willing to pay for burying utility lines so trees won't have to be pruned for line clearance?



How much more would you be willing to pay for burying utility lines so trees won't have to be pruned for line clearance (by trust*)?



*Trust people who do utility line pruning to treat trees properly.

Utility Pruning Knowledge and Attitudes Summary – Burying Lines

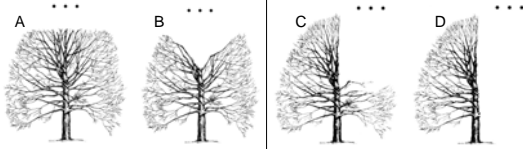
- Want lines moved underground.
- Half are willing to pay higher rates.
- *Less willing if trust is greater.*
- Brochure made them more likely to be willing to pay a small amount for burial.

Results – What do people know/feel about utility pruning?

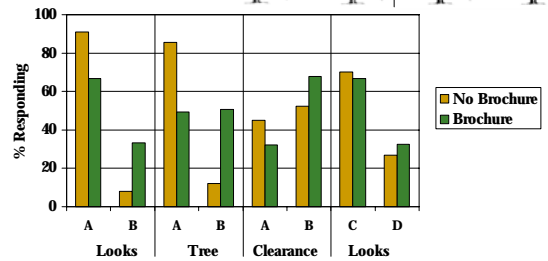
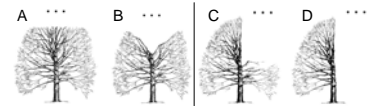
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Which Do You Prefer?

- Prefer the look of A or B?
- Which is best for the tree (A or B)?
- Which is best for line clearance (A or B)?
- Prefer the look of C or D?

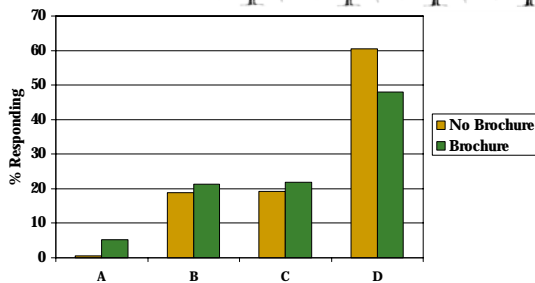
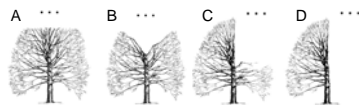


Rate Which Is Best For...



Q30b-d

Rate Which Looks Worst



Q30f

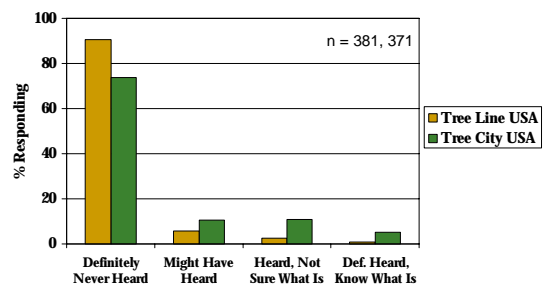
Utility Pruning Knowledge and Attitudes Summary – Rating Tree Appearance

- Like the look of topping.
- Don't like the look of directional pruning & think it's bad for the tree.
- Ls and one-sides worse than Vs.
- Brochure made them rate directional pruning appearance higher and topping lower.
 - Still only 1/3 think directional pruning looks good.

Other Results – Recognition Programs

- Tree Line USA – NADF recognizes utilities that demonstrate practices that protect and enhance urban forests.
- Tree City USA – NADF recognizes cities for having active, quality urban/community forestry programs.

Are you familiar with...?



Q28.40

What is the effect of education?

- Education should have 2 outcomes:
 - 1. People know more.
 - 2. People are more sure about their knowledge.
- Takes both to get action and appropriate behavior.
- Brochure influenced attitudes and could help change behavior; also made people more sure of themselves.

Why should we care?

ELECTRIC UTILITY WANTS TO RIP OUT 100-YEAR-OLD TREES
Talk of the Morning

Small town in a power struggle

By CHRISTOPHER SMART

K...The folks in this quaint mountain town are fighting road over plans that would cut down old trees along Main Street to make way for a new high-voltage transmission line. "They think we're a bunch of country hicks who have no brains at all," said Beverly Hennis of the plan that would require cutting trees on her property. "But I told them they have a fight on their hands. I was born and raised here and I'm gonna fight."

Hennis said she and her neighbors noticed wooden stakes planted in their yards in July but didn't know what they portended. "Then [a representative] came to my house and said they wanted me to sign an agreement because the power poles were coming in."

Mayor Lewis Marchant concedes that the city could have asked more questions when power company executives requested a permit to upgrade the line. "Maybe we were a little bit naive," the mayor said. "But I really"



Kelly and David Green of part of the city's Main Street would guess killing a number of old trees. The trees, such as the willow behind the Greens, have been offering protection from the street traffic hole.

Why should we care?

Power Trimmers

Sadly, it's that time of year again, and the big trucks are on the prowl. While we can't do anything about damage done by Mother Nature, surely someone could do something about the destruction wrought by contract "tree trimmers." While they say they've been trained, the question is, trained in what?

When looking around the valley at the grotesque and unnatural shapes of many of the trees they "trim," you can't tell if the mutilation was done by the trimmers or one of our infrequent and infamous tornadoes.

Please, somebody, do something!

KAREN GARRETT

Why should we care?

"We are lifetime residents of _____ and have enjoyed a beautiful urban forest for many years. In the past, utility pruning was done to only those branches obstructing the lines. Recently we have seen horrible mutilations to formerly beautiful high canopy trees along our streets, in our backyards and in our parks. Any help you can offer to save our urban forest has our vote! **GO GET THEM!!**"

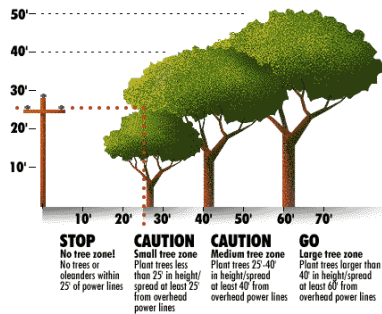
Why should we care?

- The public and customers care.
- We have work to do; understanding people helps us do that work.
- Can avoid being the bad guys.
 - Foresters became the bad guys when harvesting timber on public lands by standing on science and "what's technically, biologically right"; now it's hard to get anything done.
 - Utility arborists can go that way, or can give ground in some cases to get what they want in other cases.

Why should we care?

- Right tree in the right place won't always work.
 - Can't always get rid of large trees under lines.
 - Shouldn't always get rid of large trees under lines.
 - Directional pruning shouldn't always be the last tool we use.

Right Tree, Right Place Gone Wrong



Why should we care?

- Need “social license” to do our work.
 - May have legal right to prune, remove trees.
 - May not have enough public acceptance to allow it.

What can we do? How can we increase acceptance of directional pruning?

- Education and outreach work:
 - Can improve perceptions of you & acceptance of your actions.
 - Maybe involve an impartial party.
 - Use posting and pre-notification with a simple brochure.
 - Use Tree Line USA status.
- Counter incorrect notions about topping.



What can we do? How can we increase acceptance of directional pruning?

- Do it right – train crews properly.
- Have crews look and act professional – they are the utilities’ “face” to the public.
- Allow for directional pruning as a reasonable option; not just tree removal & small tree planting.



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