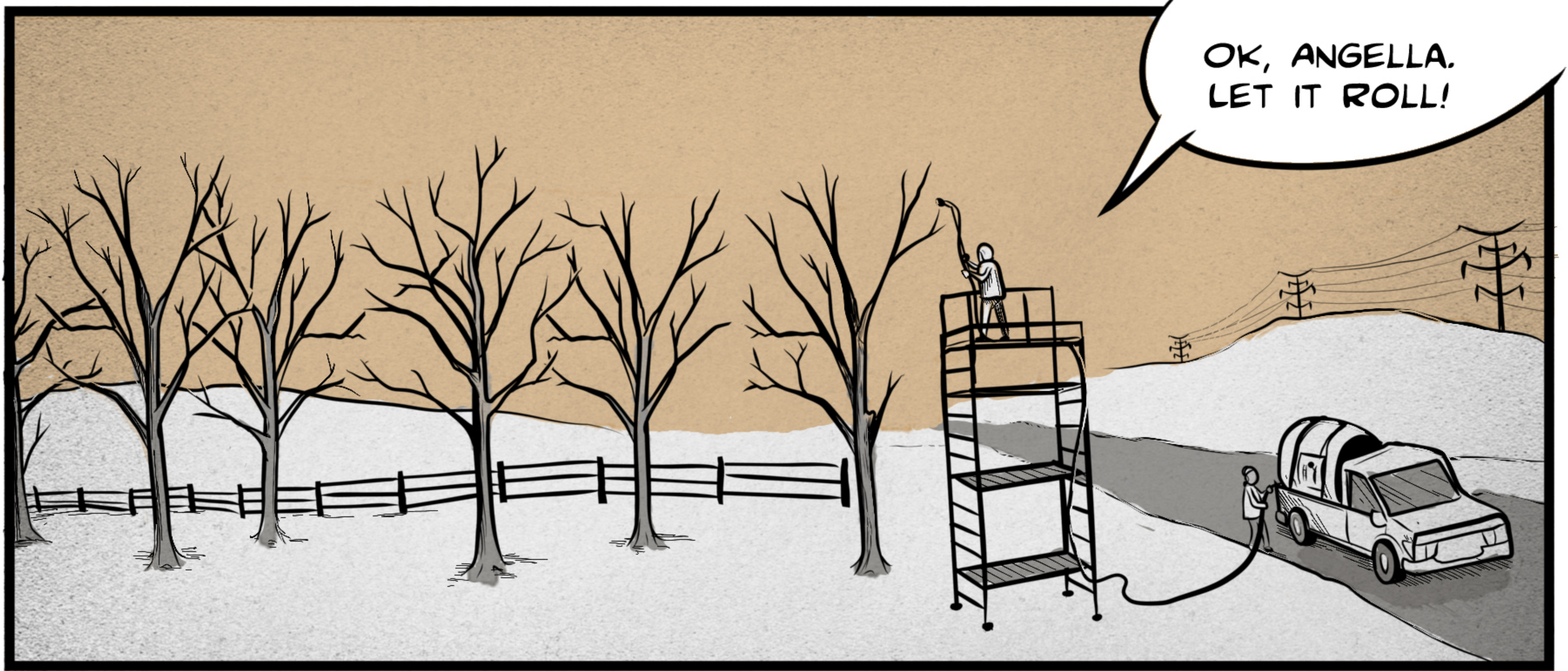


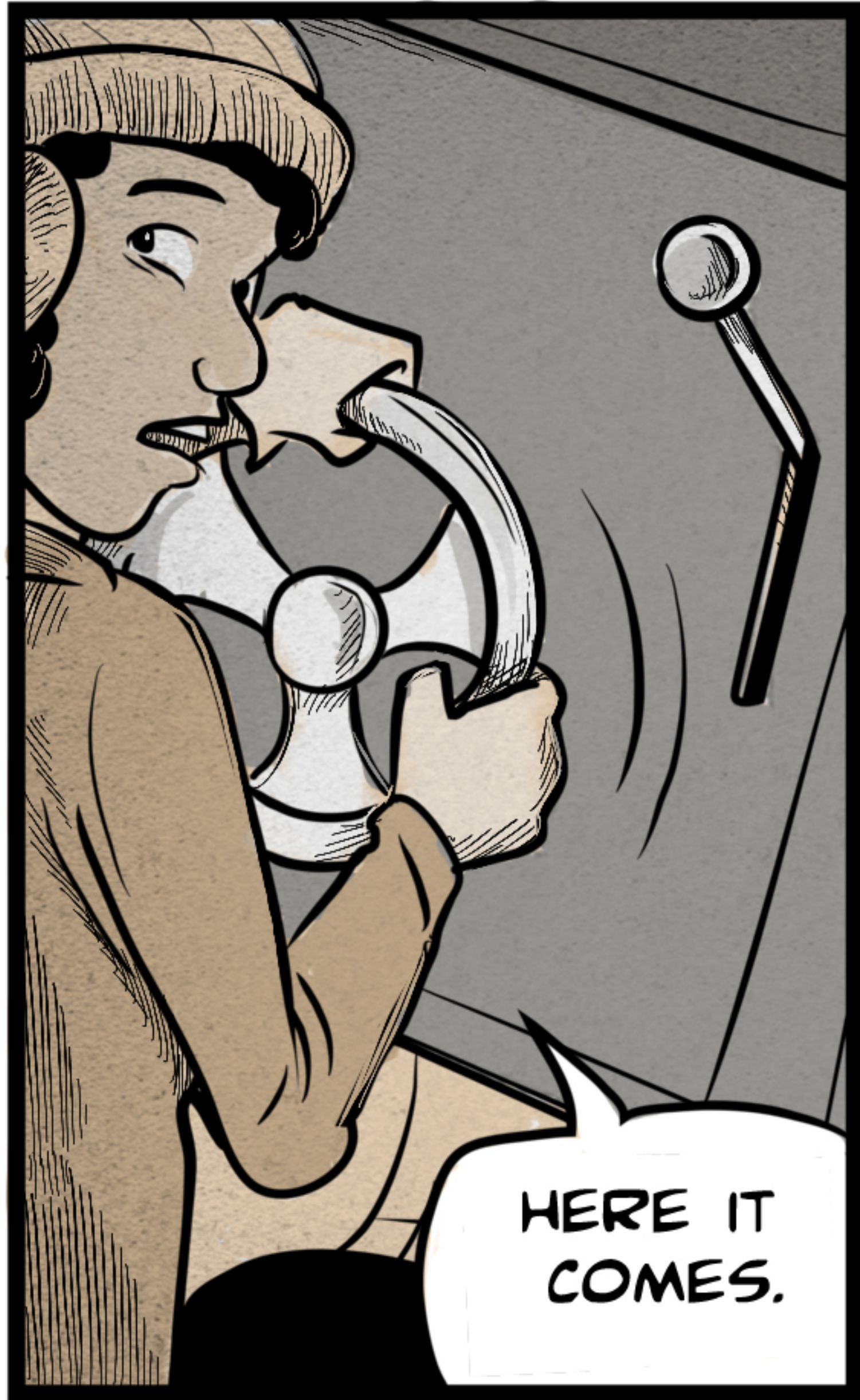
DANNY THE ARBORICULTURE SCIENTIST

TESTING THE
LIMITS

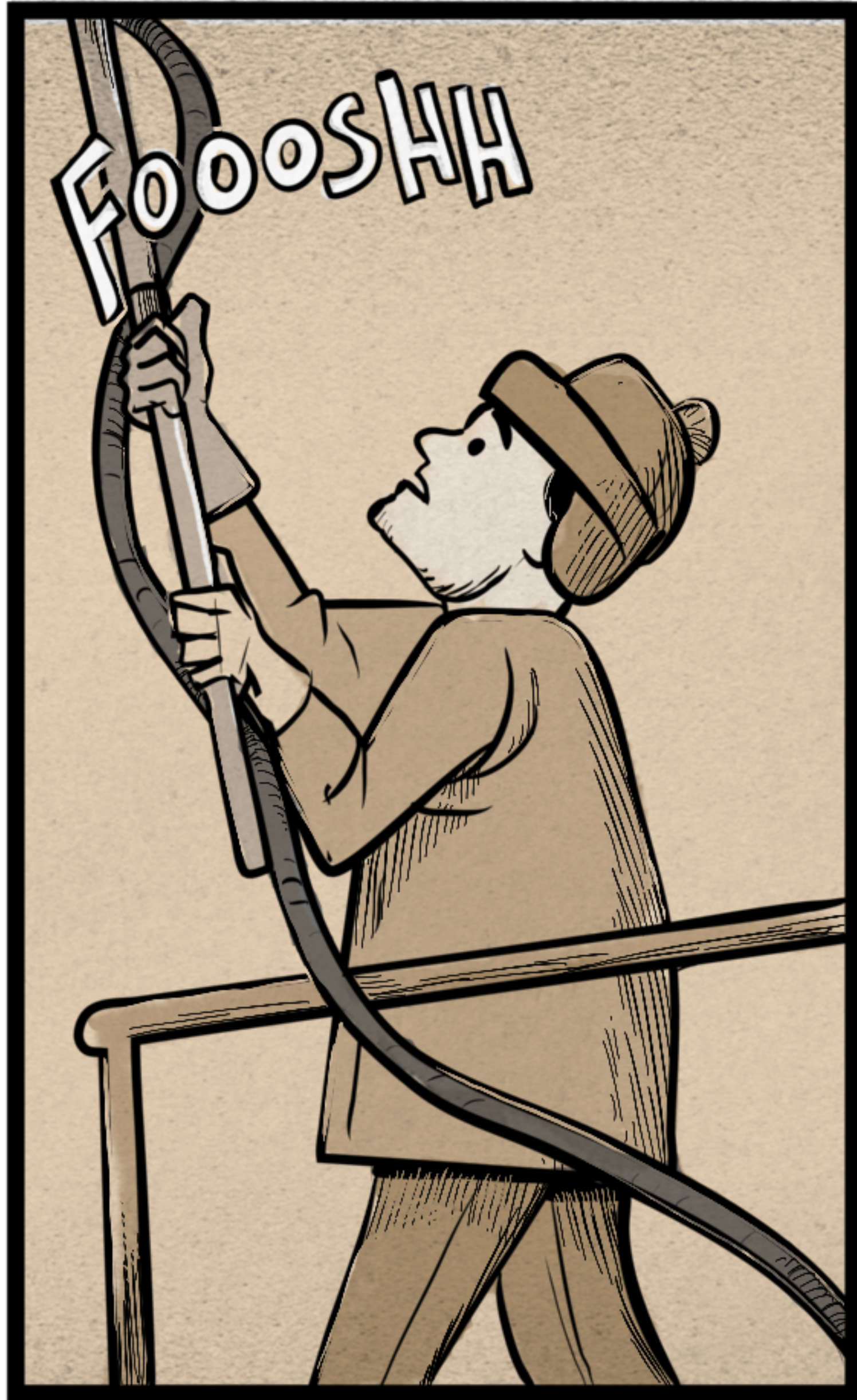
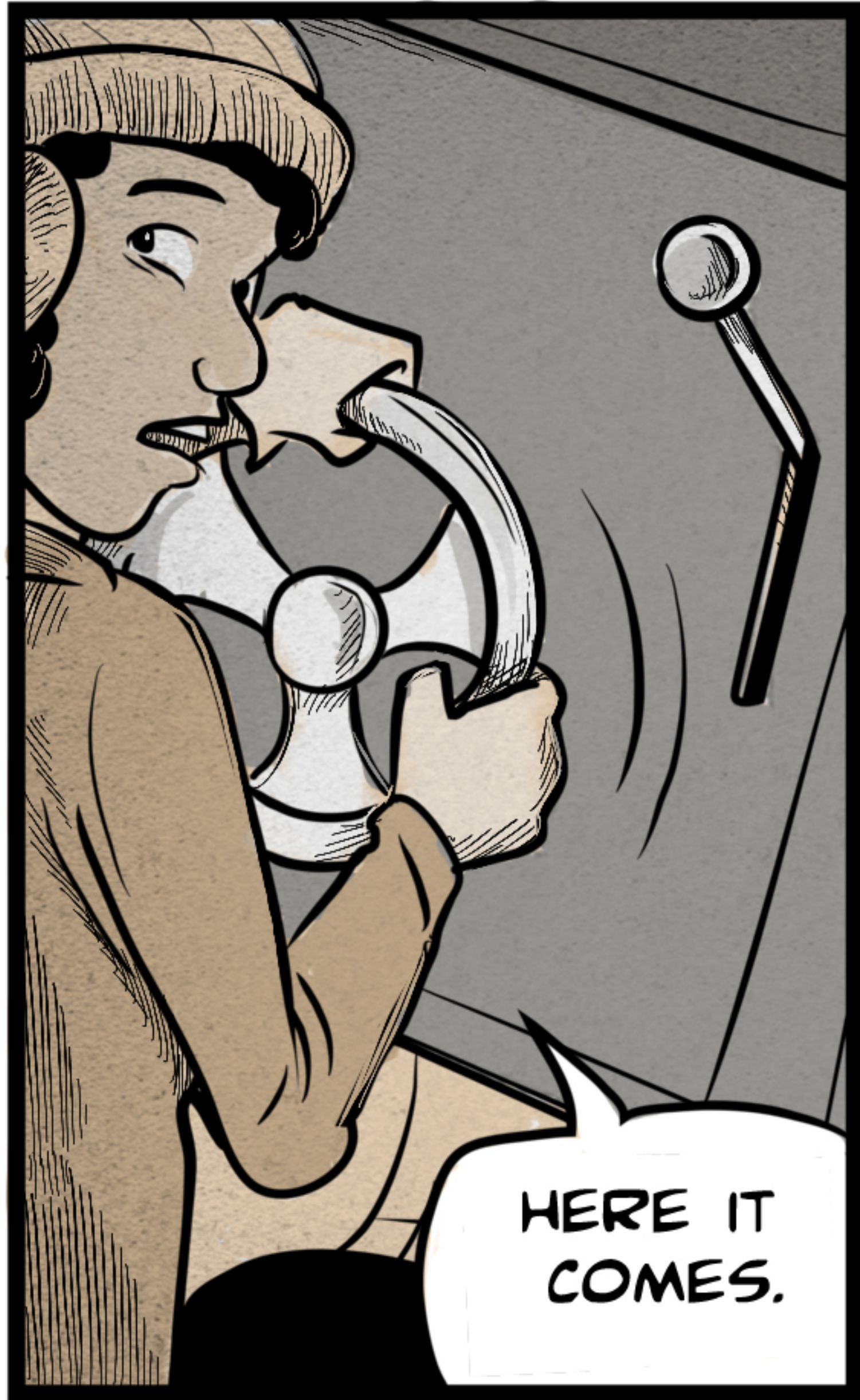


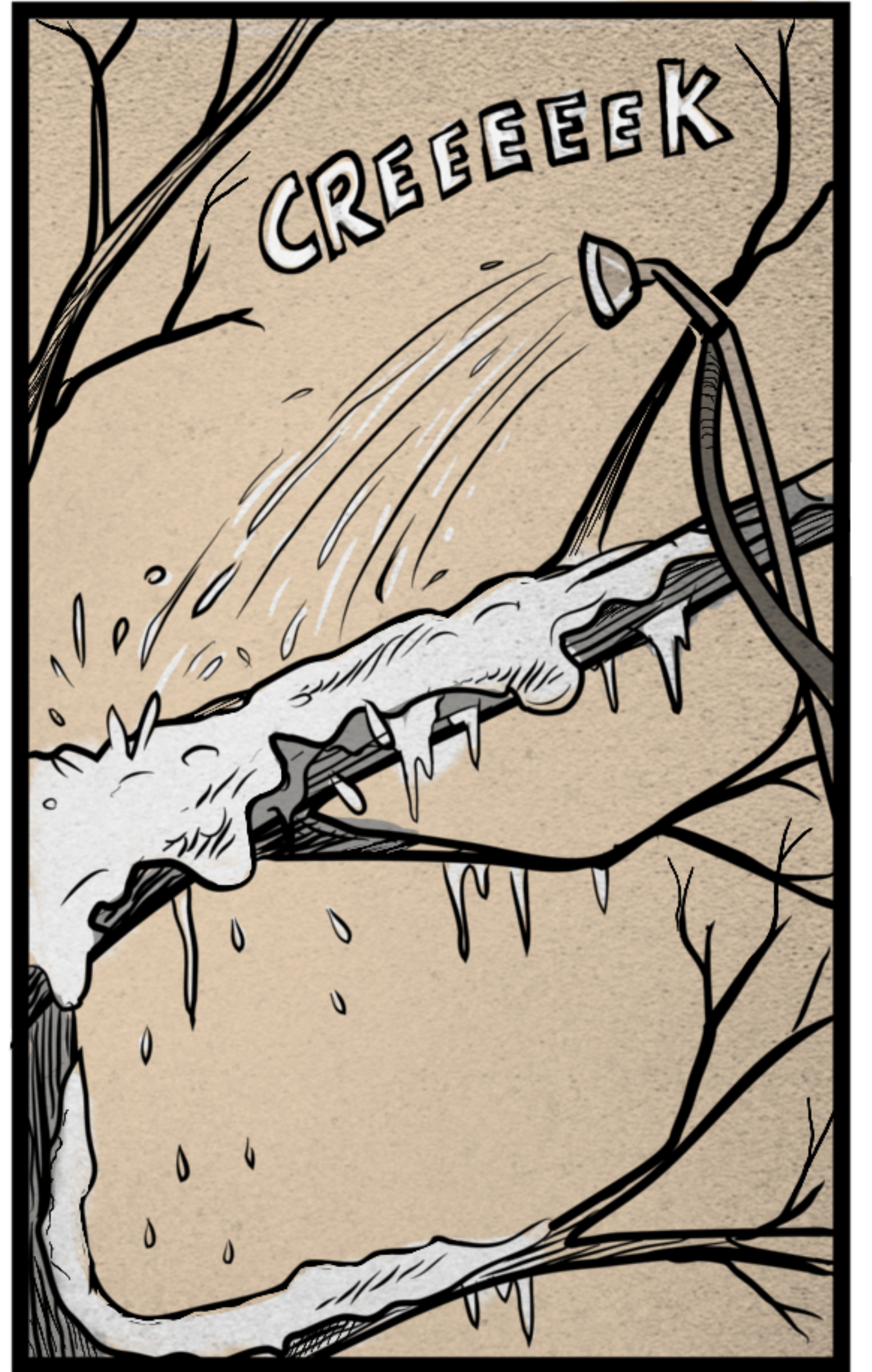
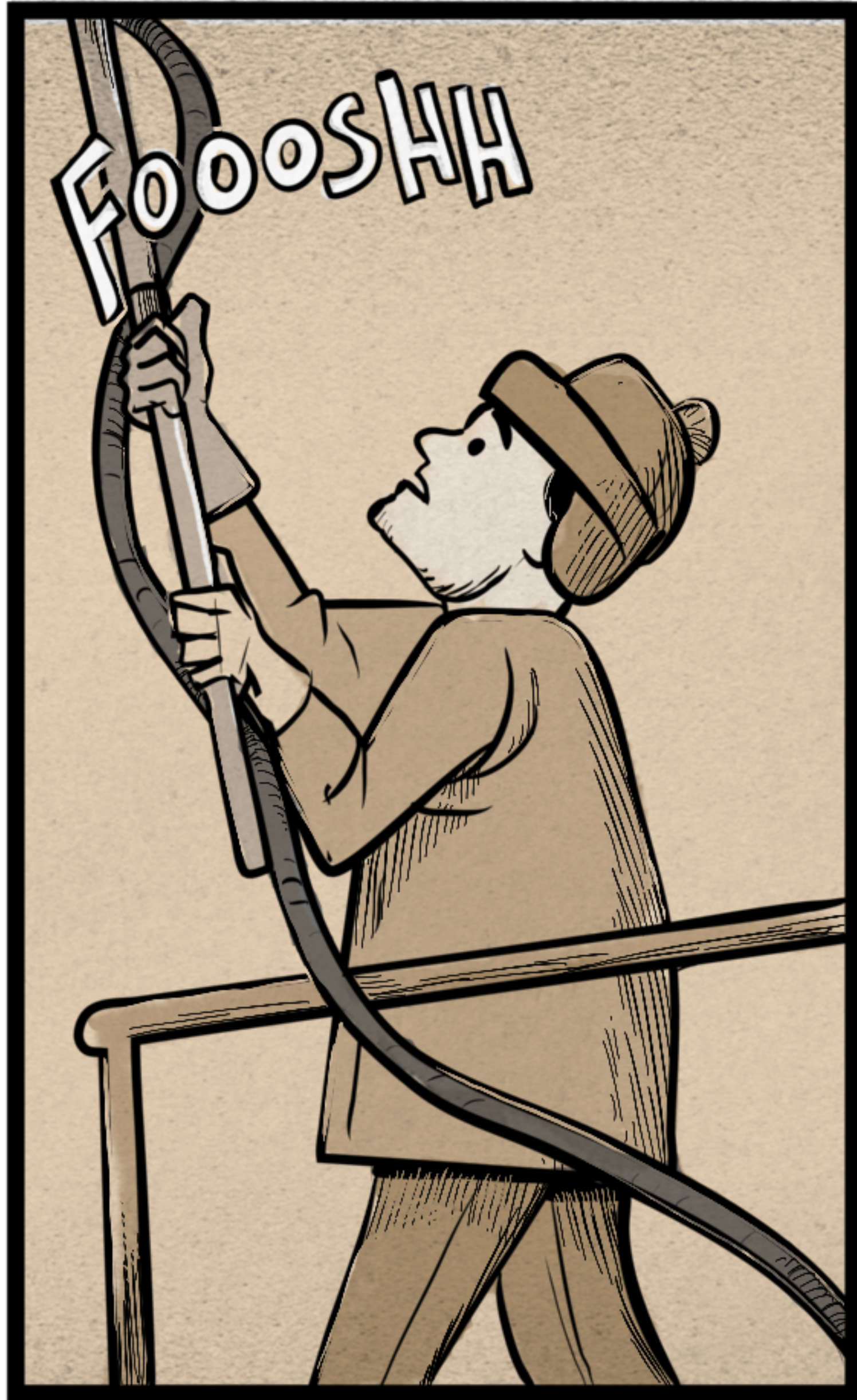
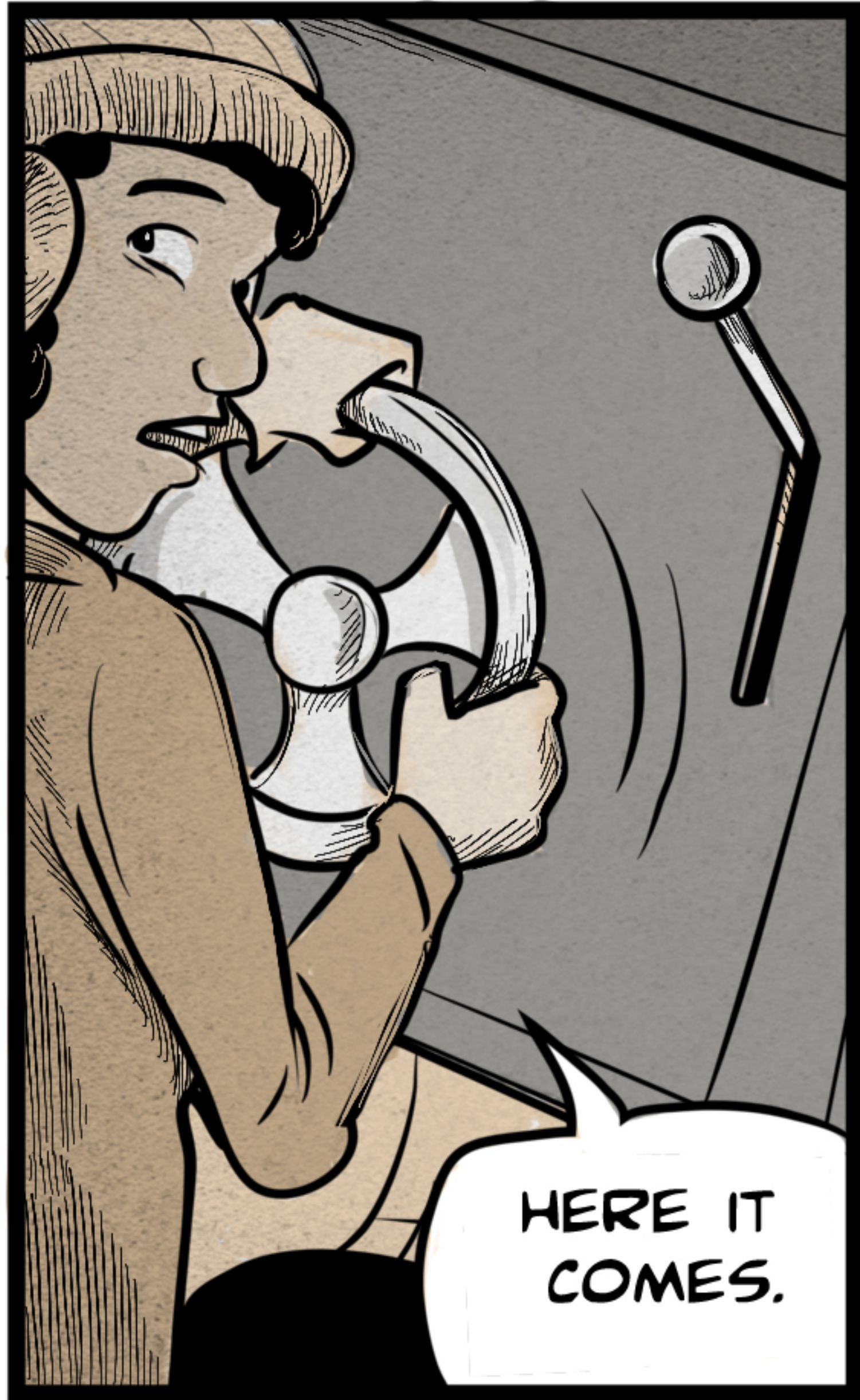
OK, ANGELLA.
LET IT ROLL!

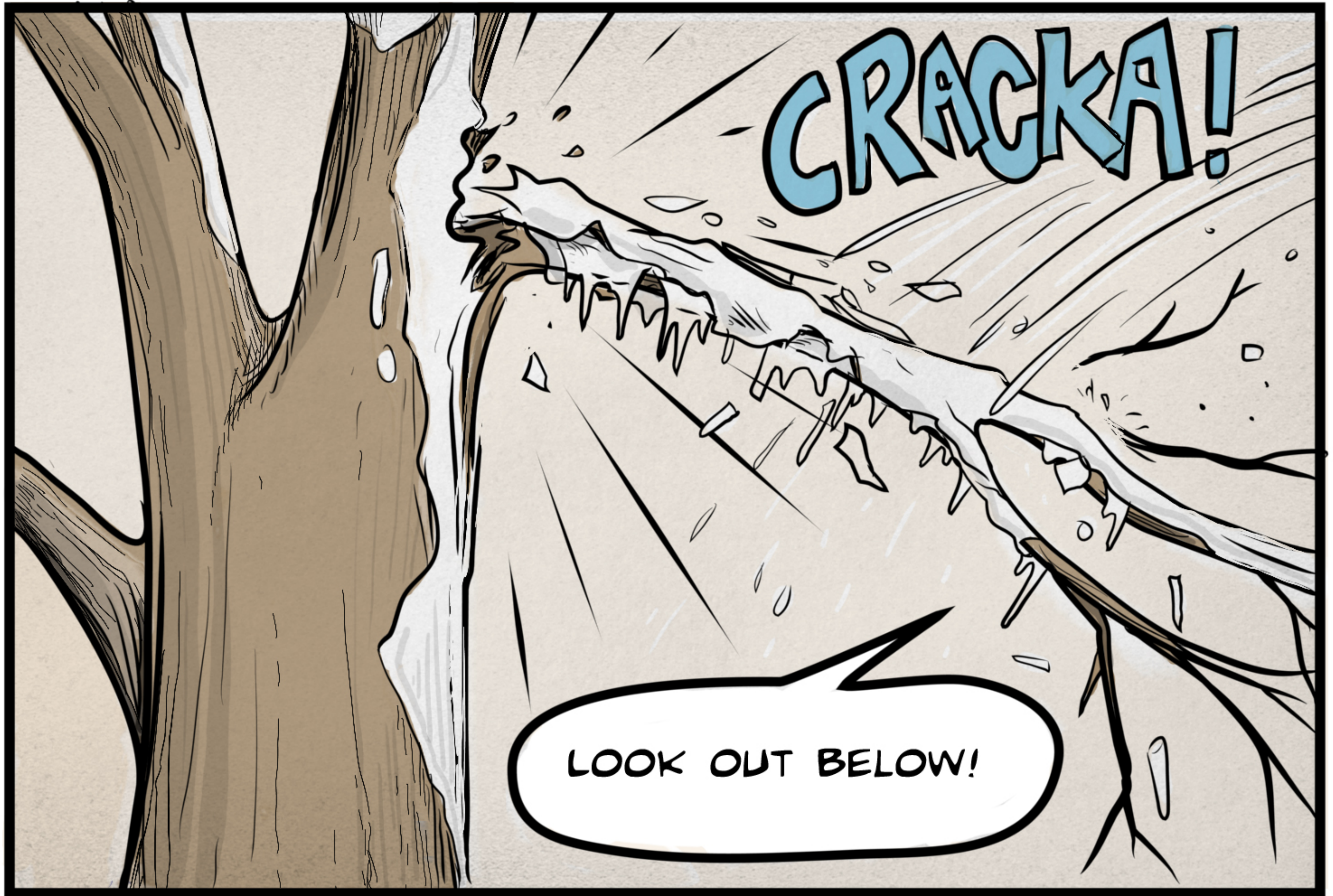




HERE IT
COMES.







CRACKA!

LOOK OUT BELOW!

LONG BEFORE I STARTED CREATING MY OWN ICESTORMS, I WAS QUITE FAMILAR WITH THE DAMAGE ICE CAN DO TO A TREE.



20 YEARS EARLIER...

WHOA.



I'VE ALWAYS
BEEN FASCINATED
BY TREES.



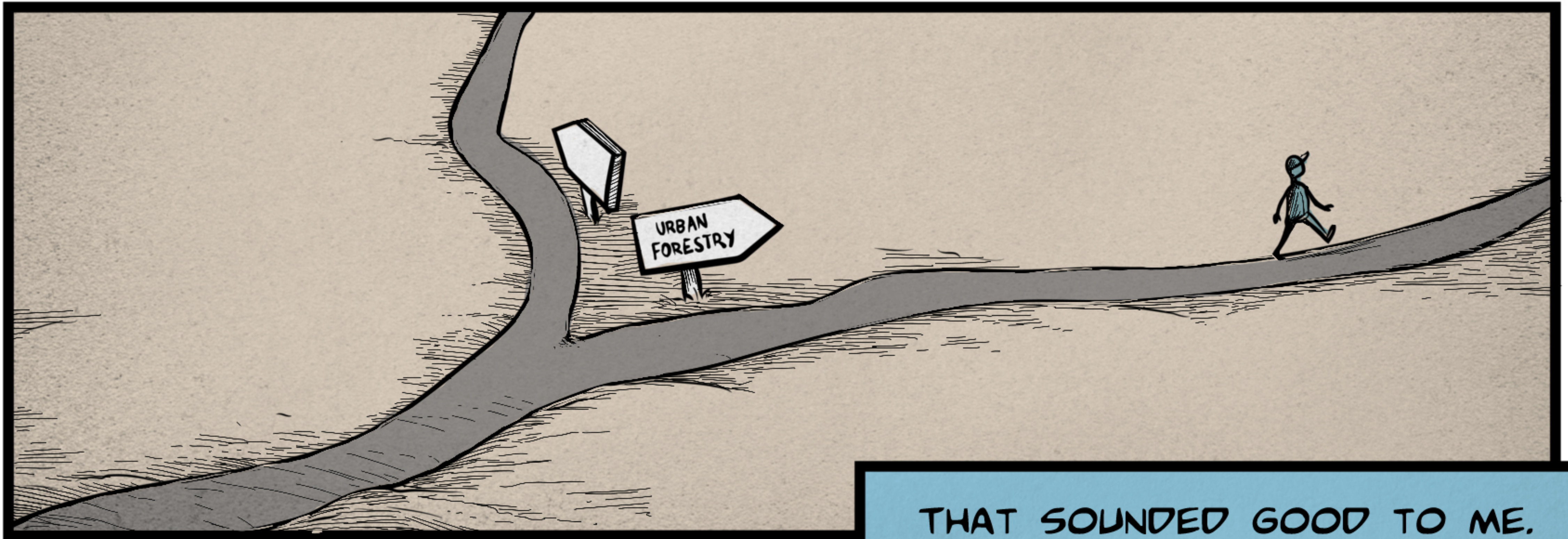
I'VE ALWAYS
BEEN FASCINATED
BY TREES.



BUT IT WASN'T UNTIL A FEW
YEARS INTO COLLEGE THAT I
DECIDED TO STUDY FORESTRY.

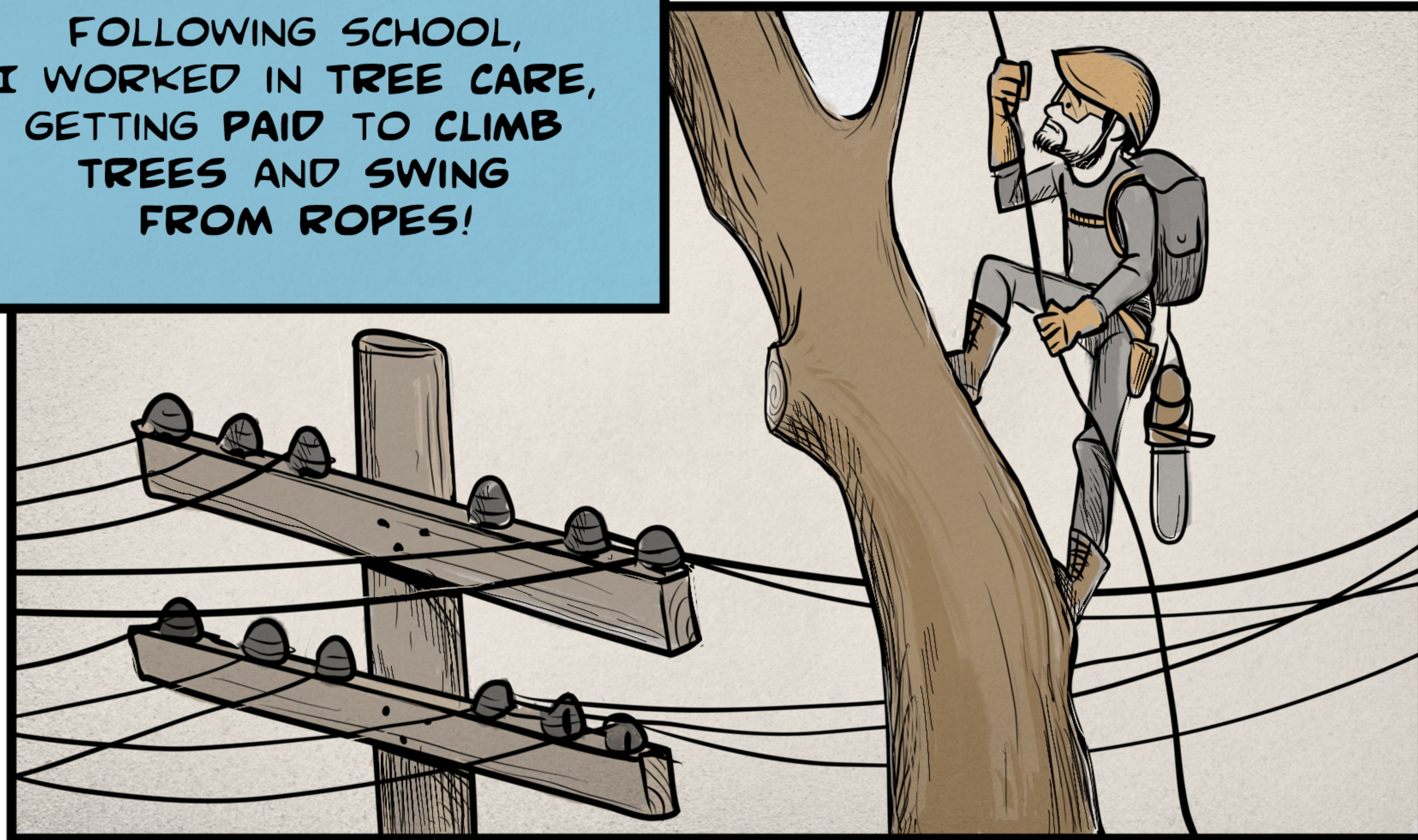


A FRIEND TOLD ME THAT URBAN FORESTRY
WOULD ALLOW ME TO TAKE CARE OF TREES IN
PEOPLES' YARDS, ON STREETS, AND IN PARKS.

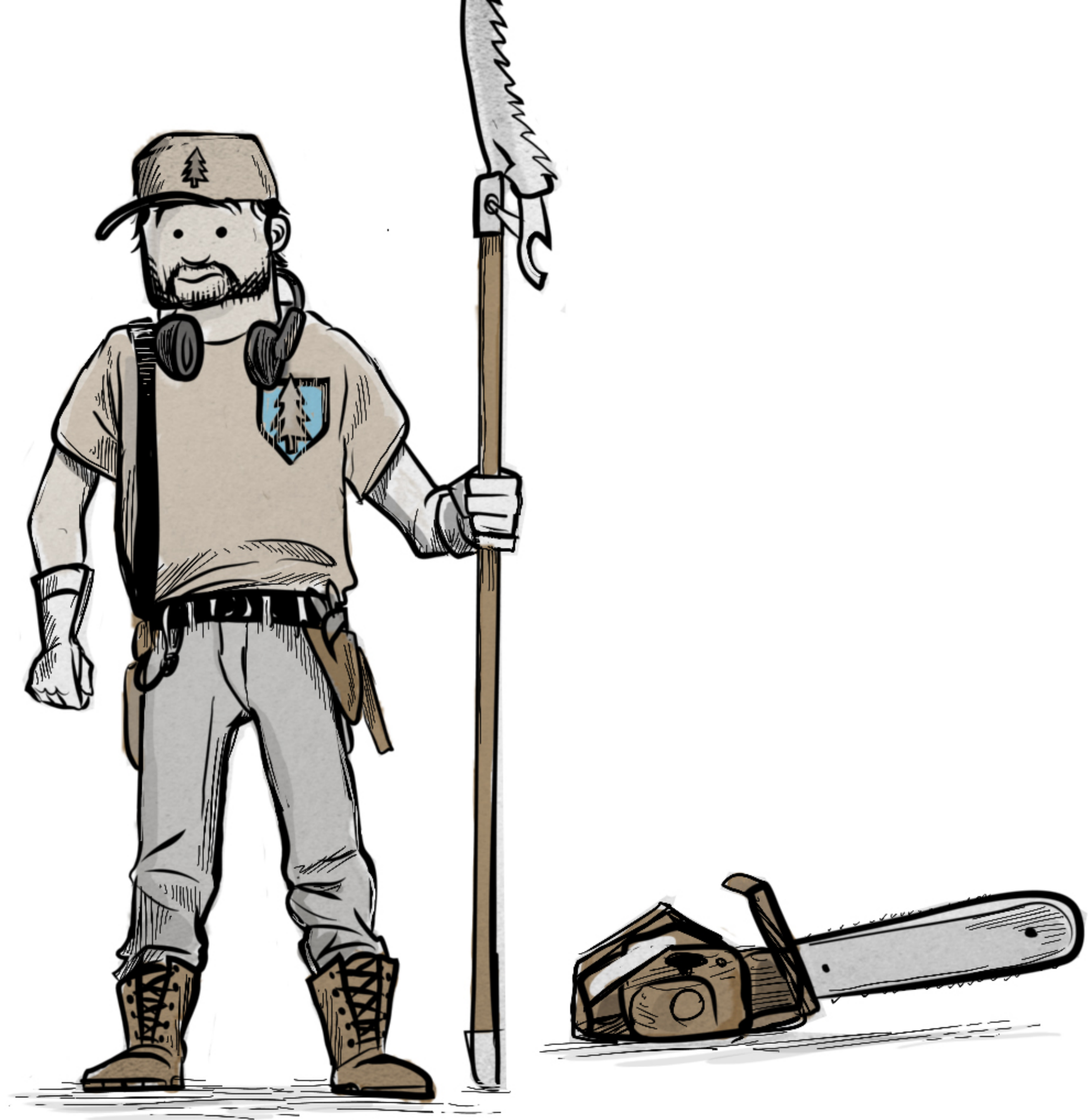


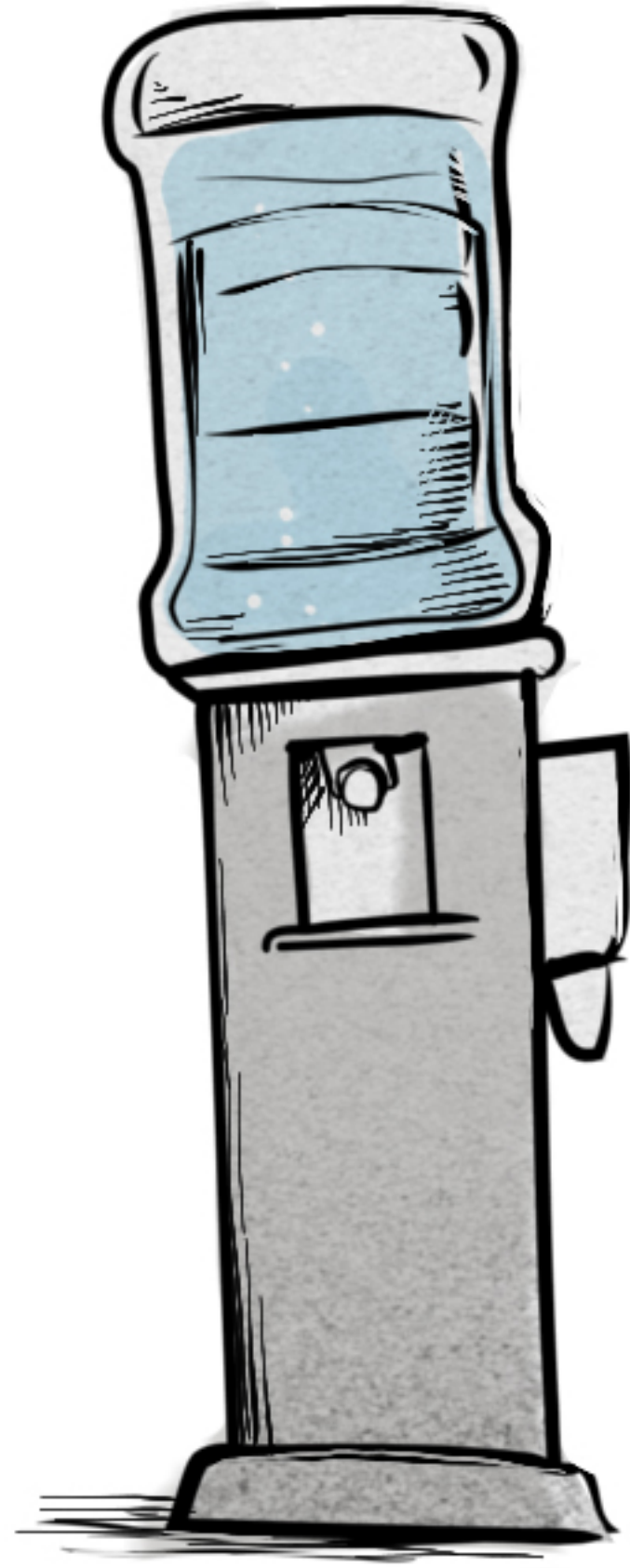
THAT SOUNDED GOOD TO ME.

FOLLOWING SCHOOL,
I WORKED IN TREE CARE,
GETTING PAID TO CLIMB
TREES AND SWING
FROM ROPES!



...BUT MY CAREER
PATH WAS FAR
FROM STRAIGHT.



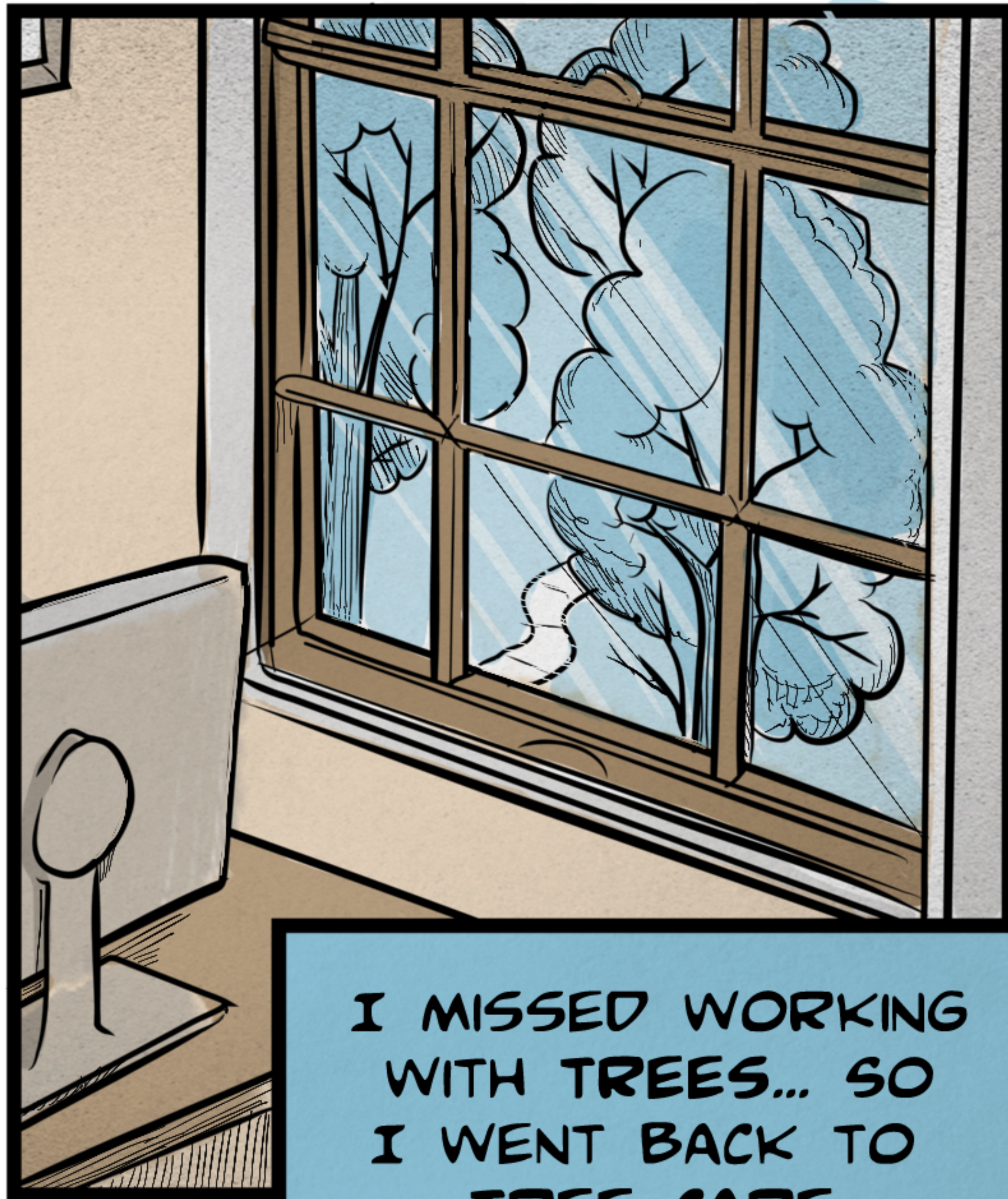


LOOKING FOR
HIGHER PAY AND
PERHAPS A MORE
STABLE CAREER,
I SHIFTED GEARS
AND GOT A JOB
IN ADVERTISING.

BUT AFTER
AWHILE,
I REALIZED
IT WASN'T
FOR ME.



BUT AFTER
AWHILE,
I REALIZED
IT WASN'T
FOR ME.



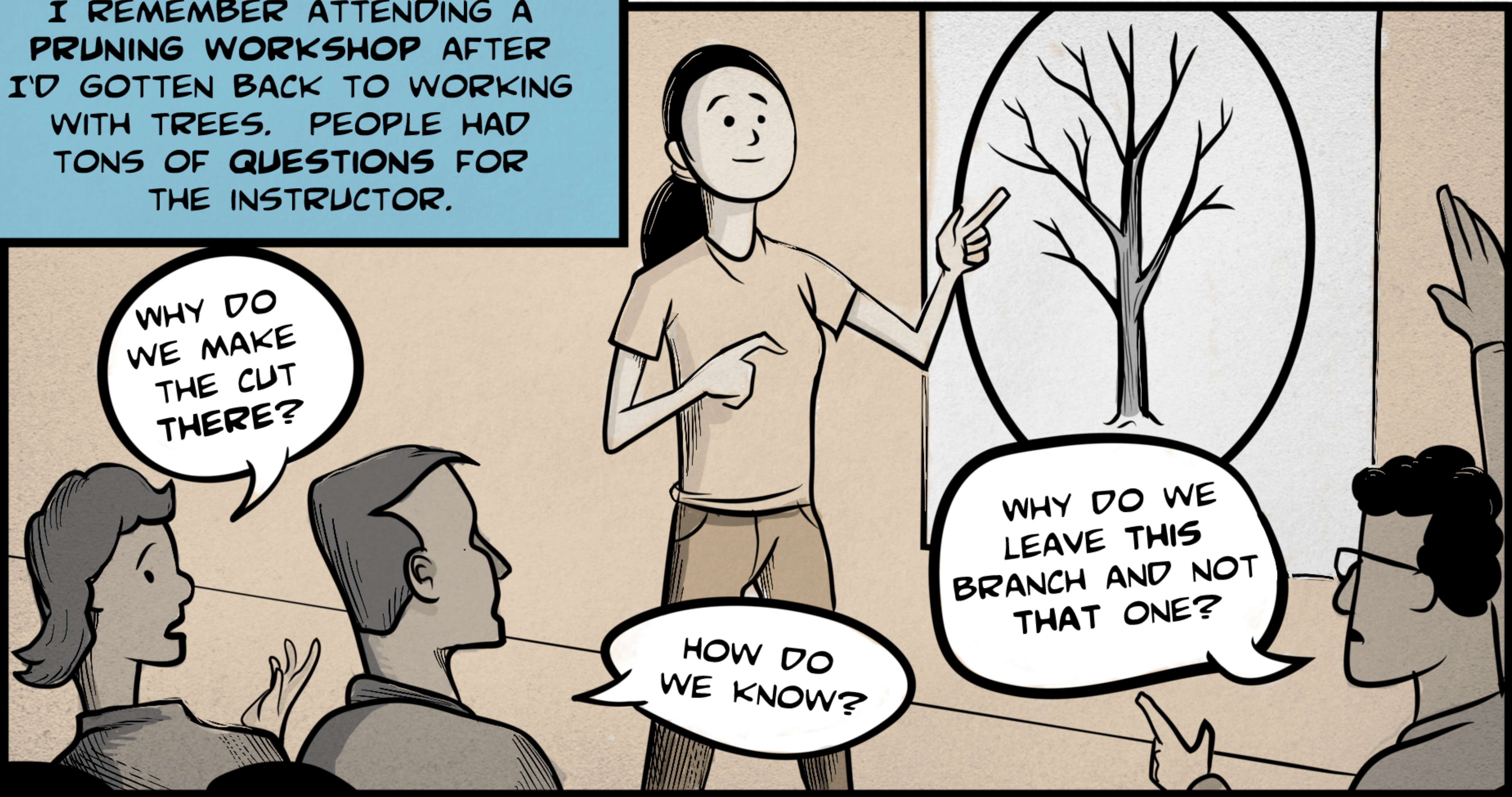
I MISSED WORKING
WITH TREES... SO
I WENT BACK TO
TREE CARE.

I REMEMBER ATTENDING A PRUNING WORKSHOP AFTER I'D GOTTEN BACK TO WORKING WITH TREES. PEOPLE HAD TONS OF QUESTIONS FOR THE INSTRUCTOR.

WHY DO WE MAKE THE CUT THERE?

HOW DO WE KNOW?

WHY DO WE LEAVE THIS BRANCH AND NOT THAT ONE?



THIS IS WHAT WE THINK BASED ON
THE SCIENCE WE HAVE,
BUT WE DON'T KNOW FOR SURE.
THERE'S JUST NO RESEARCH ON IT.



THIS IS WHAT WE THINK BASED ON
THE SCIENCE WE HAVE,
BUT WE DON'T KNOW FOR SURE.
THERE'S JUST NO RESEARCH ON IT.



THAT STUCK IN MY MIND.

SOMETIMES, MY COMPANY GOT CALLED WHEN TREES WERE DAMAGED IN STORMS. BY THEN, IT WAS OFTEN TOO LATE TO HELP.

WHOA.



HOW CAN WE PREVENT
THIS KIND OF DAMAGE
TO TREES





MAYBE I COULD DO RESEARCH
TO HELP PEOPLE WHO WORK
WITH TREES DO THEIR
JOBS BETTER.



SO I WENT TO GRAD SCHOOL
TO RESEARCH HOW TO
BETTER CARE FOR TREES.

TODAY, I HAVE SEVERAL RESEARCH PROJECTS GOING.
FOR THIS STUDY, I'M MEASURING HOW MUCH ICE A
BRANCH CAN HOLD BEFORE IT BREAKS.



I SPRAY WATER ONTO TREE BRANCHES DURING THE WINTER.



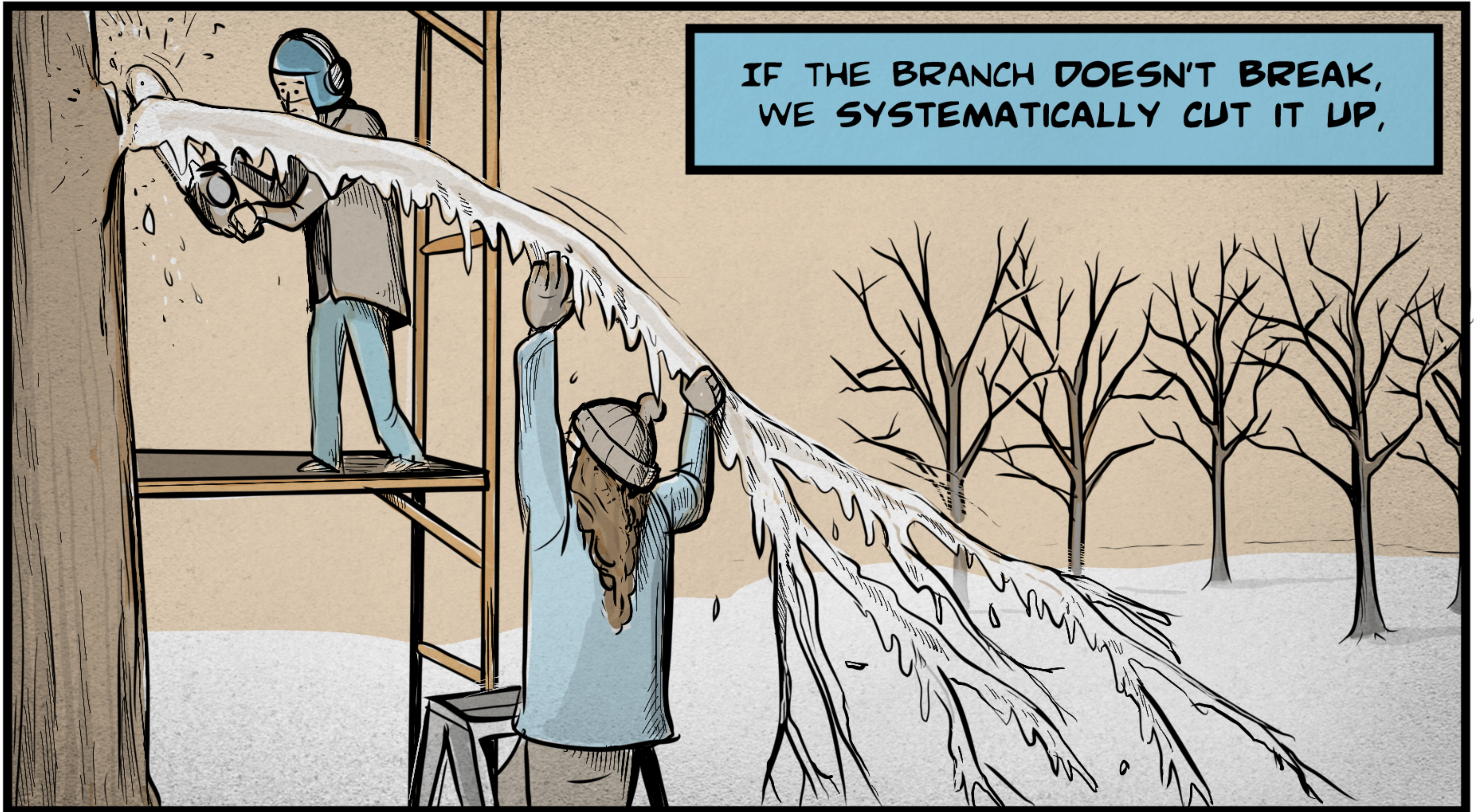
AS IT FREEZES AND ICE BUILDS UP, WE MEASURE THE SAGGING BRANCH'S ANGLE AS IT CHANGES OVER TIME.



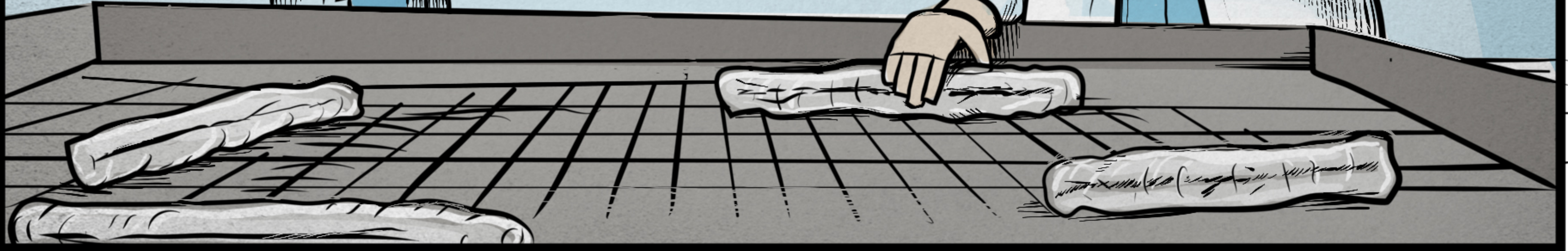
26 DEGREES.

THIS ONE'S
REALLY
HOLDING ON!

IF THE BRANCH DOESN'T BREAK,
WE SYSTEMATICALLY CUT IT UP,



...MEASURE THE ICE THICKNESS,
AND CALCULATE THE ICE'S WEIGHT.



BASICALLY, WE GATHER ALL
THE DATA WE POSSIBLY CAN.

TWENTY-TWO
MILLIMETERS
THICK.

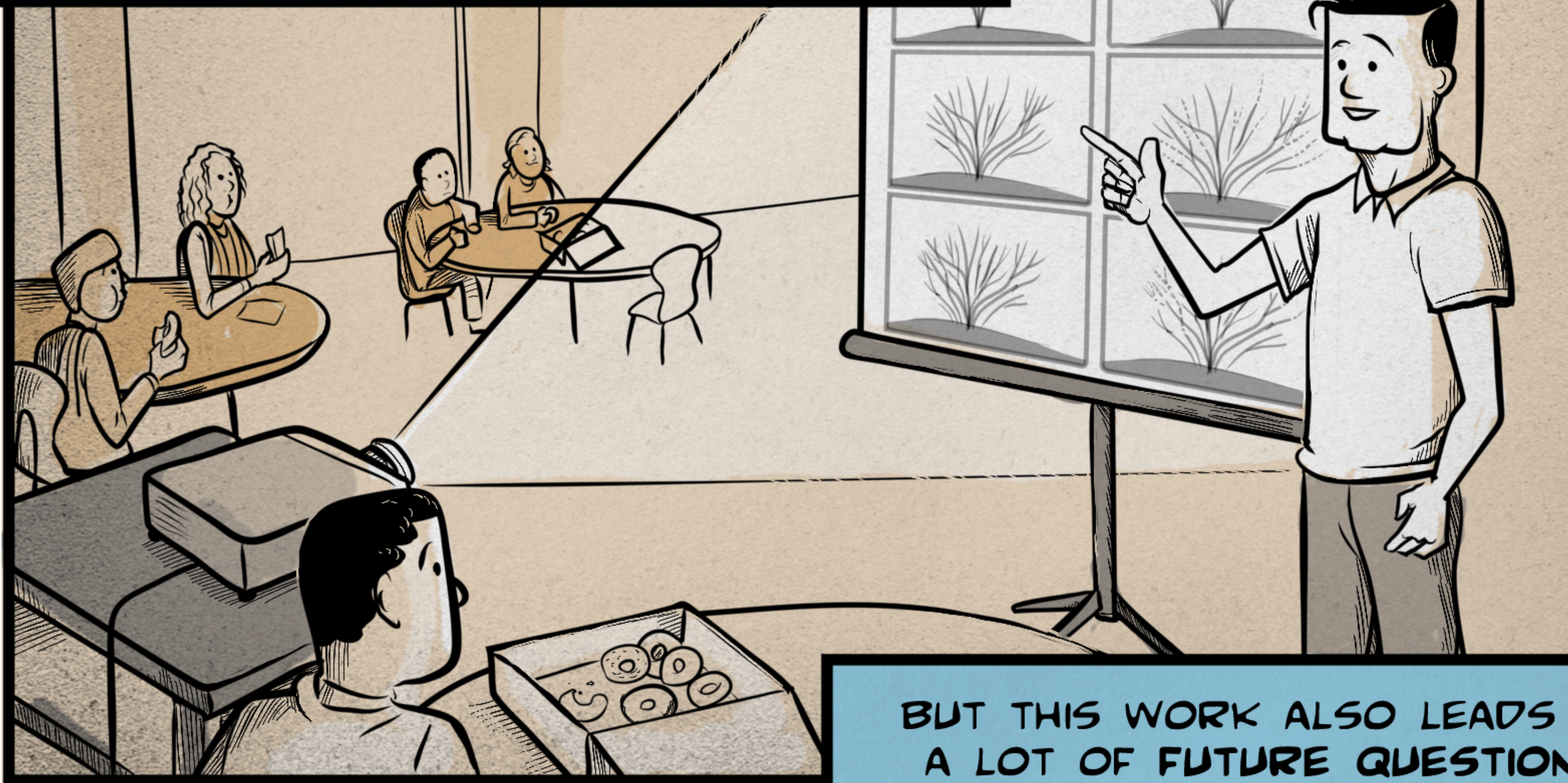


**BUT WHY DID THIS BRANCH
SNAP WHILE ANOTHER HUNG
THERE FOR HOURS?**

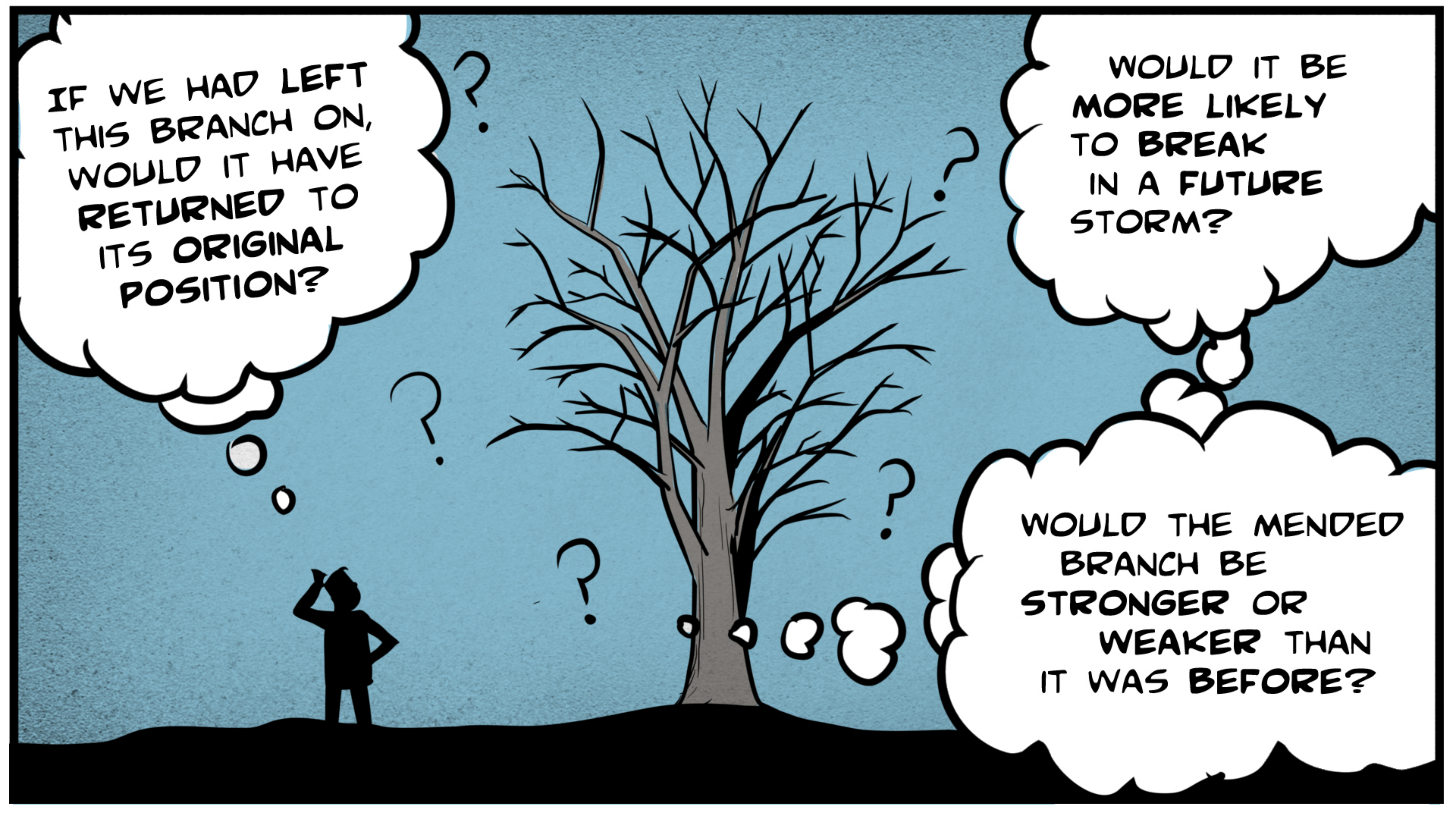
**WHAT ABOUT THEM
IS DIFFERENT?**



MAYBE OUR DATA CAN HELP
US PRUNE TREES IN A WAY THAT ENABLES
THEM TO SURVIVE ICE STORMS.



BUT THIS WORK ALSO LEADS TO
A LOT OF FUTURE QUESTIONS...



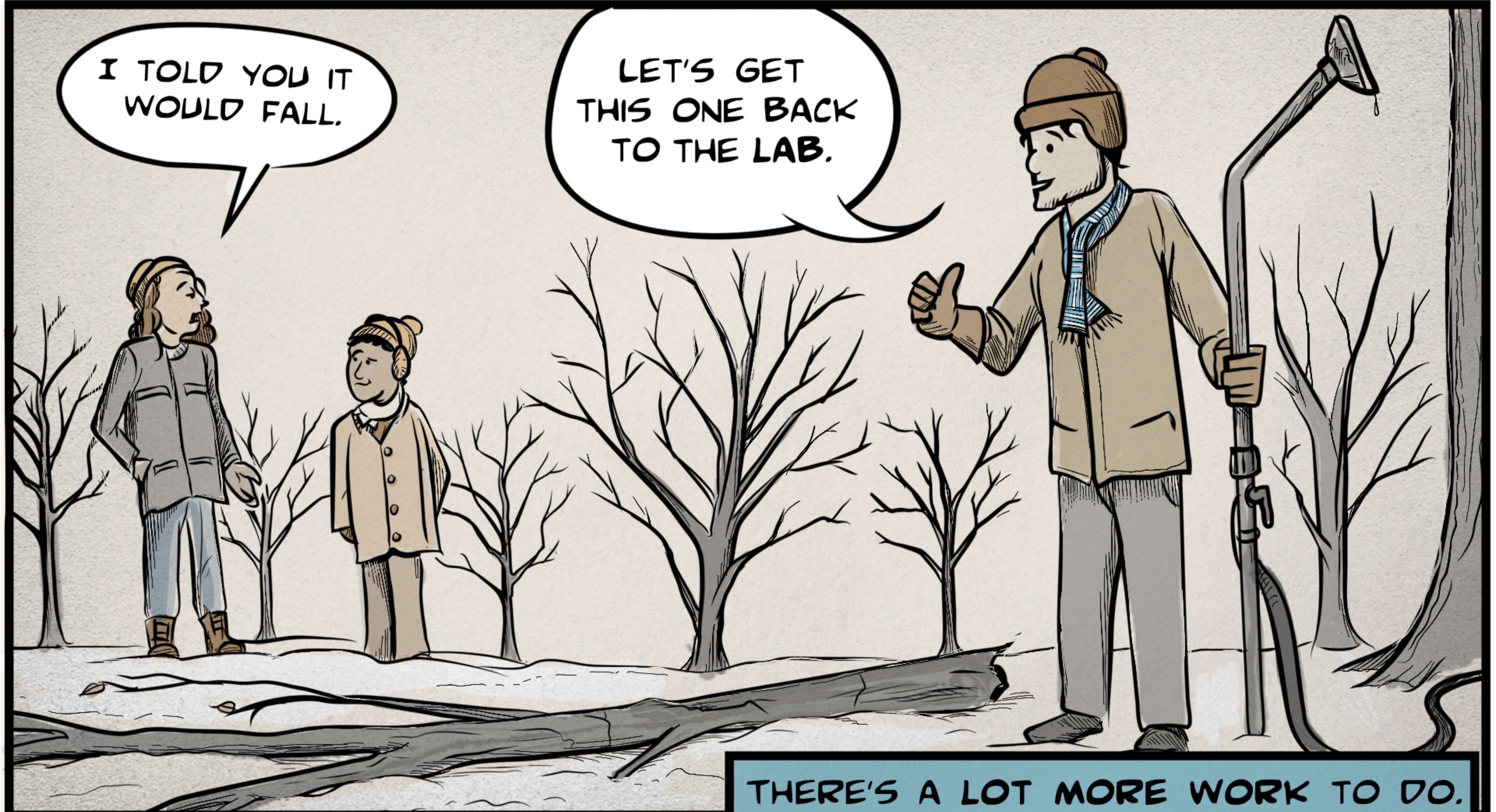
IF WE HAD LEFT
THIS BRANCH ON,
WOULD IT HAVE
RETURNED TO
ITS ORIGINAL
POSITION?

WOULD IT BE
MORE LIKELY
TO BREAK
IN A FUTURE
STORM?

WOULD THE MENDED
BRANCH BE
STRONGER OR
WEAKER THAN
IT WAS BEFORE?

I TOLD YOU IT WOULD FALL.

LET'S GET THIS ONE BACK TO THE LAB.



THERE'S A LOT MORE WORK TO DO.