

LEO

THE RESEARCH SCIENTIST

TREES, TALES, AND
TIME CAPSULES



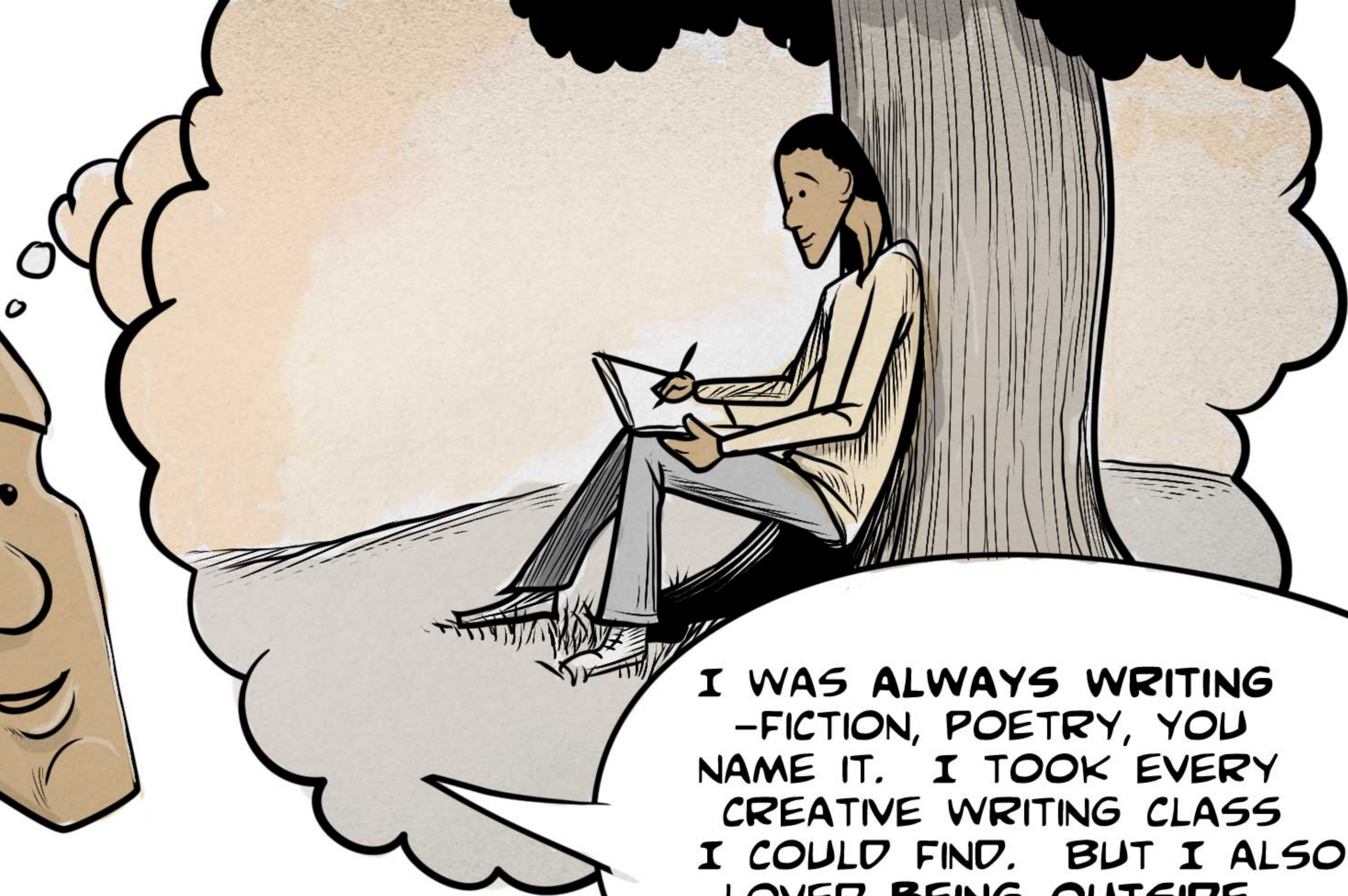
CAN YOU TELL
ME ANOTHER
STORY, UNCLE
LEO?

SURE, LET'S
SEE NOW...



OK, HERE'S ONE I
BEGAN TELLING WAY
BACK IN COLLEGE.

COLLEGE
COLLEGE
COLLEGE



I WAS ALWAYS WRITING
-FICTION, POETRY, YOU
NAME IT. I TOOK EVERY
CREATIVE WRITING CLASS
I COULD FIND. BUT I ALSO
LOVED BEING OUTSIDE.

SO I TOOK A COUPLE
BOTANY CLASSES,
FIGURING THEY'D HELP
ME GET A JOB
OUTDOORS. IT
TURNED OUT I LOVED
PLANTS!





AFTER
GRADUATING, I
LANDED A JOB
AS A RANGER.



IN A FOREST?

IT WAS ACTUALLY
IN AN ARBORETUM
-AN OUTDOOR
LIVING TREE
MUSEUM-AND IT
WAS AMAZING.

EXPLORING THE GROUNDS
EVERY DAY, I WONDERED
ABOUT THE PLANT
DIVERSITY I SAW.

WHAT IS A
SPECIES?

HOW MANY
ARE THERE?

HOW ARE THEY
RELATED?



I SOON REALIZED IT WOULD TAKE SCIENTIFIC RESEARCH TO FIGURE OUT THE STORIES ABOUT WHERE PLANTS COME FROM AND WHY THERE ARE SO MANY.

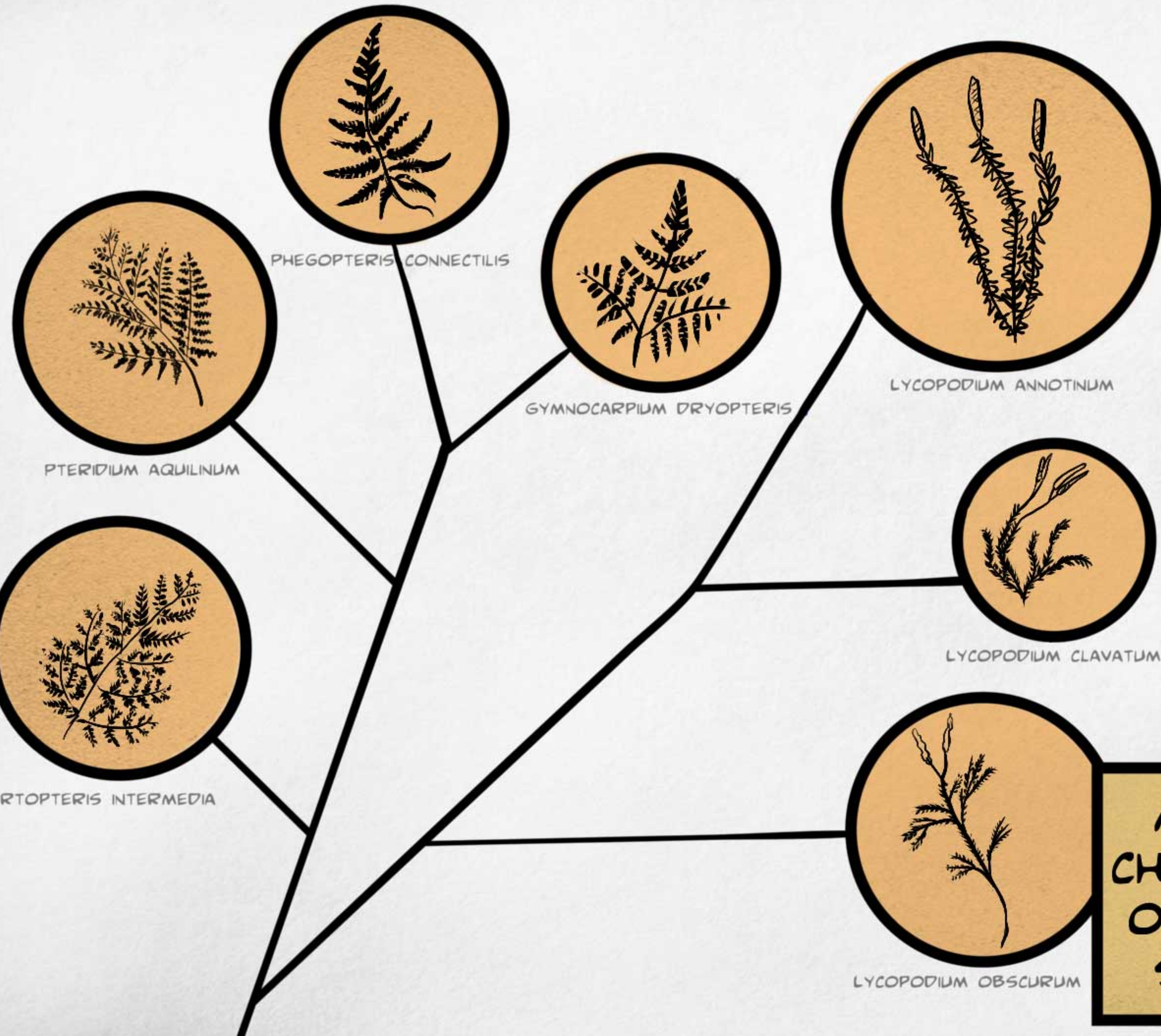


SO I HEADED BACK TO SCHOOL TO STUDY BOTANY, THE BIOLOGY OF PLANTS.

EACH PLANT SPECIES
WE SEE TODAY HAS ITS
OWN STORY TO TELL.



YOU CAN THINK OF
THEM KIND OF LIKE
CHARACTERS IN A NOVEL.



AND THE WAY THESE CHARACTERS RELATE TO EACH OTHER IS WHAT MAKES THE STORY SO INTERESTING.

A comic panel with a light beige background. On the left, a woman with dark curly hair is shown from the chest up, wearing a light-colored sweater. She has a surprised expression with wide eyes and an open mouth, and is holding a sandwich with both hands. On the right, a man with a long nose and a wide smile is shown from the chest up, wearing a tan jacket. He is pointing his right index finger towards the woman. Two speech bubbles are present: one above the woman and one below the man.

WAIT, THE PLANTS TELL
YOU STORIES?

YEP! BUT WE HAVE TO TEASE THEM
OUT OF THE PLANTS. WE START BY
COLLECTING PLANTS IN THE FIELD...

AND DEPOSIT THEM IN OUR
HERBARIUM, A LIBRARY OF
DRIED PLANT SPECIMENS,
SAFEGUARDED FOR
FUTURE GENERATIONS.



HERBARIUM CABINETS ARE
LIKE TIME CAPSULES.



THE SPECIMENS INSIDE SHOULD
OUTLIVE THE PLANTS THEY WERE
COLLECTED FROM BY HUNDREDS
OF YEARS OR LONGER.

WE ALSO FREEZE PLANT PARTS TO PRESERVE THEIR DNA FOR FUTURE RESEARCH.



DNA-BASED RESEARCH HELPS US FIGURE OUT WHETHER COLLECTIONS MAY BE UNDISCOVERED SPECIES AND INFER HOW SPECIES ARE RELATED.

**YOU MEAN, LIKE HOW
YOU AND I ARE
RELATED?**



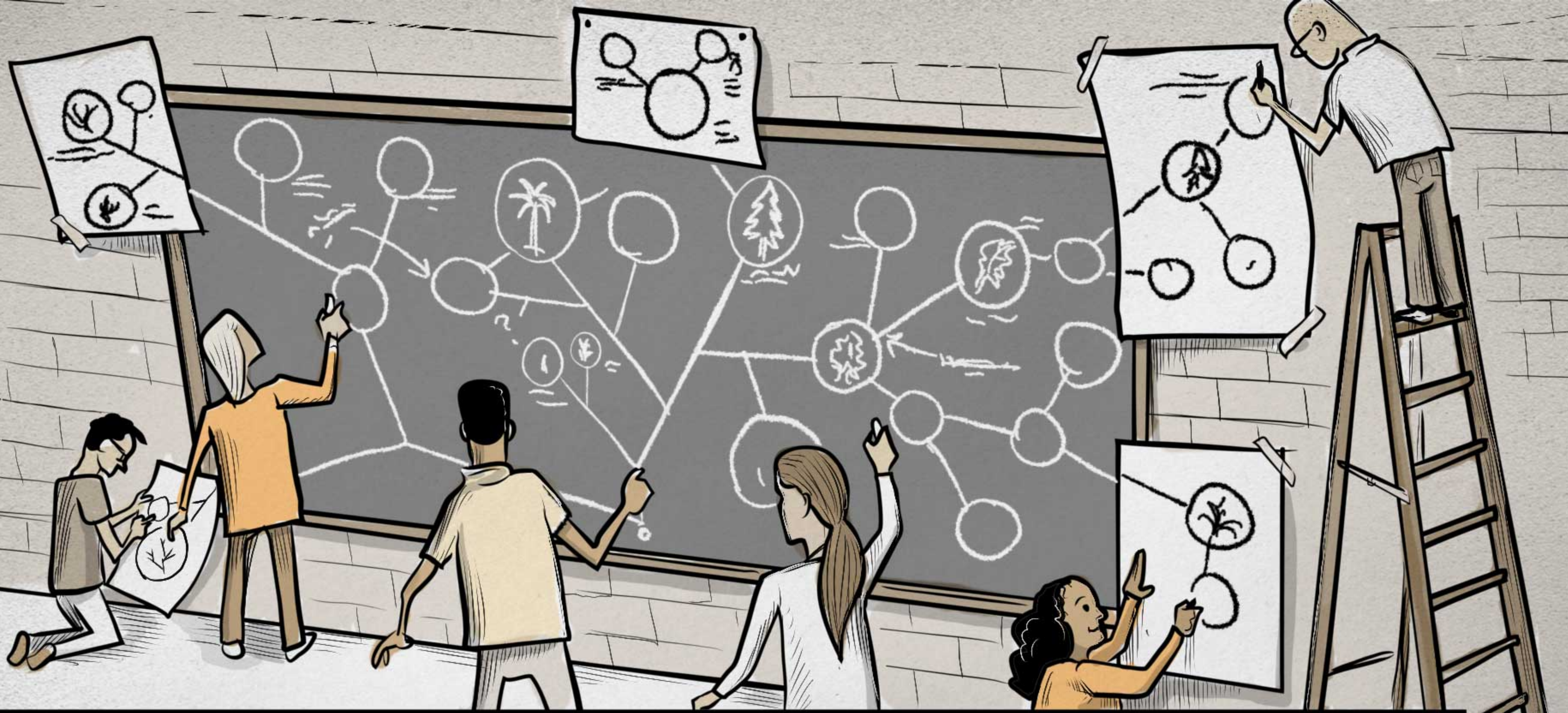
**EXACTLY! BUT
THE RELATIONSHIPS
CAN GET REALLY
COMPLICATED.**

DNA DATA HELPS US ESTIMATE HOW MANY MILLIONS OF YEARS IN THE PAST TWO SPECIES SHARED A COMMON ANCESTOR. WE USE THIS INFORMATION TO DESCRIBE THE TREE OF LIFE THAT CONNECTS ALL SPECIES.



THOSE SAME DNA DATA SHOW US THAT GENE MOVEMENT BETWEEN SPECIES MAKES SOME PORTIONS OF THE TREE OF LIFE MORE OF A WEB.

**BIODIVERSITY
IS COMPLEX!**



THE STORY REALLY COMES TO LIFE WHEN OTHER RESEARCHERS HELP ME TELL IT. MY COLLEAGUES FROM ALL OVER THE WORLD SHARE PLANT SAMPLES AND KNOWLEDGE FOR SPECIES THEY STUDY.



WHAT'S YOUR FAVORITE
PART OF THE STORY?"

GOOD QUESTION.
THE TRUTH IS, I ENJOY
EVERY PART OF FIGURING
OUT THE STORY.



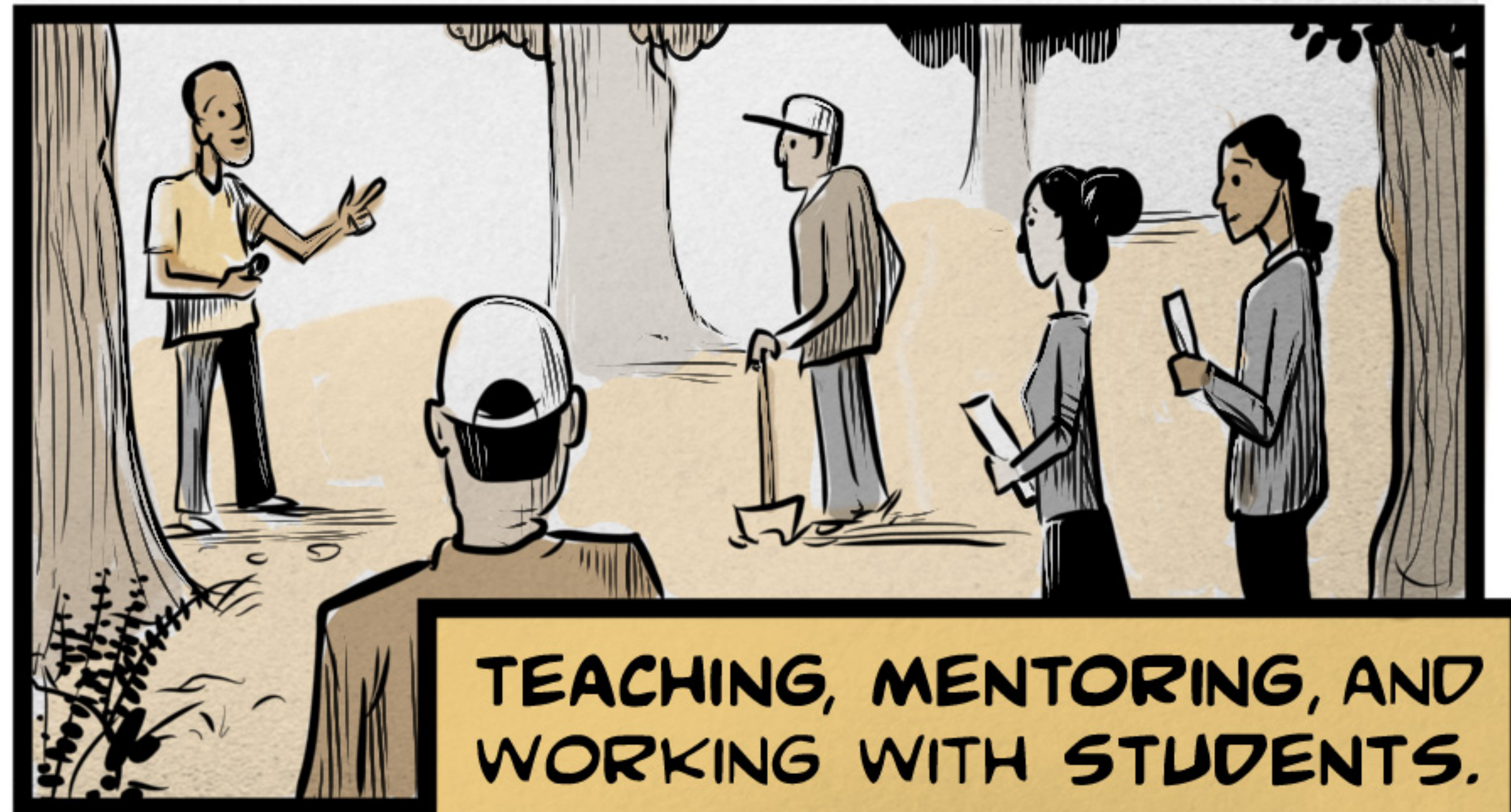
I LOVE BEING IN THE FIELD,
COLLECTING AND FINDING
PLANTS WHERE THEY LIVE,



**STUDYING PLANTS IN THE
HERBARIUM, MAKING CLOSE
OBSERVATIONS AND
IDENTIFICATIONS**

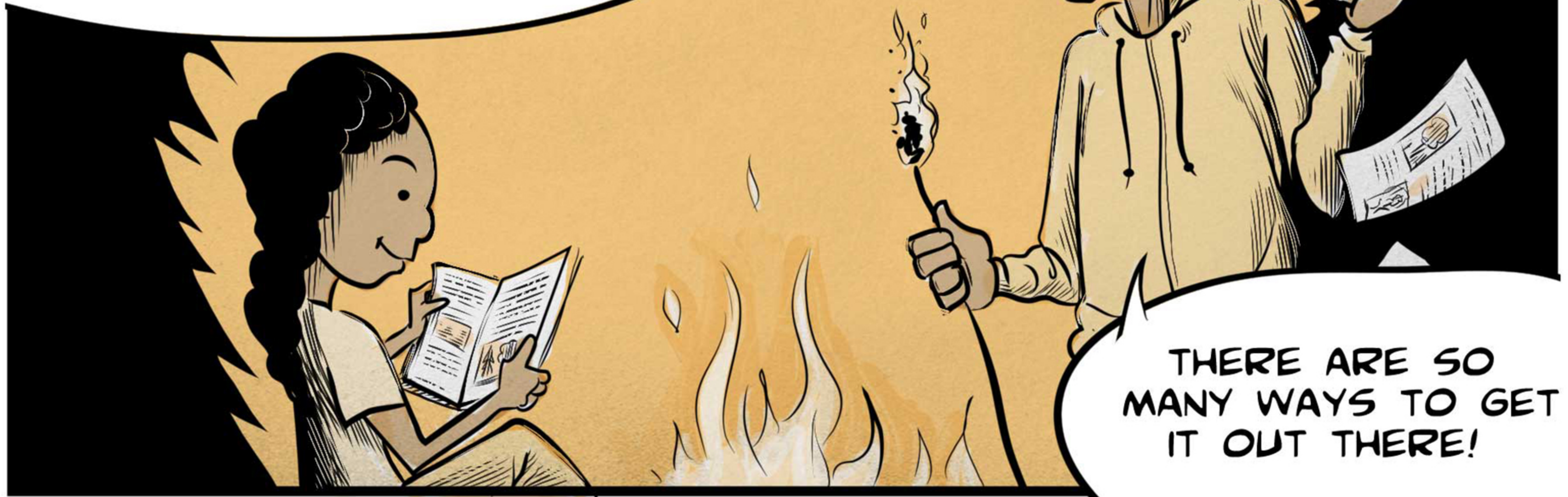


THE PROGRAMMING, THE DATA ANALYSIS, WORKING WITH MY TEAM OF AMAZING, PASSIONATE SCIENTISTS,

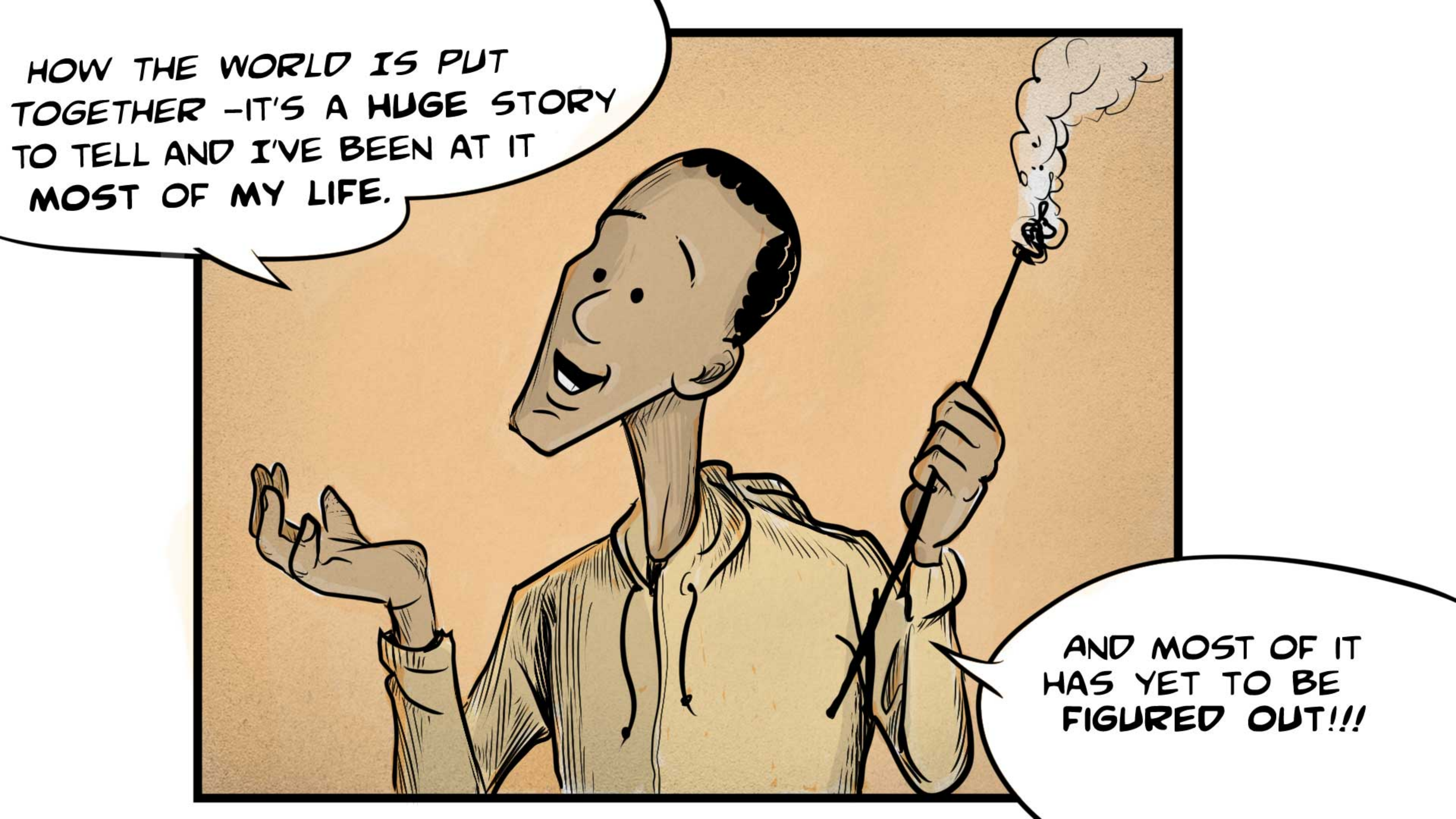


TEACHING, MENTORING, AND WORKING WITH STUDENTS.

AND OF COURSE, WHEN WE'VE FIGURED OUT SOME PART OF THE STORY THROUGH CLOSE STUDY, I LOVE TELLING PEOPLE ABOUT IT. SCIENTIFIC PUBLICATIONS, BLOG POSTS, POPULAR ARTICLES, CHILDREN'S BOOKS...



THERE ARE SO MANY WAYS TO GET IT OUT THERE!



HOW THE WORLD IS PUT
TOGETHER -IT'S A HUGE STORY
TO TELL AND I'VE BEEN AT IT
MOST OF MY LIFE.

AND MOST OF IT
HAS YET TO BE
FIGURED OUT!!!

MAYBE YOU FOCUS ON
YOUR MARSHMALLOW
AND I'LL TELL THE
NEXT STORY?



DEAL.