

# The AI Issue

About machines and all of us.  
About our tomorrow.  
And the tomorrow of  
Artificial Intelligence  
is today.

WHERE  
ENTERTAINMENT  
AND SCIENCE  
MEET

# Comic & Science

## NEWELL'S VISIT

DIEGO CAJELLI  
ANDREA SCOPPETTA

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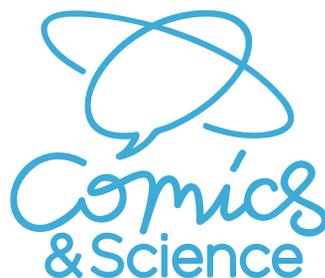
Associazione  
Italiana per  
l'Intelligenza  
Artificiale

# INTRO

Started as a discipline in the 1950s by Alan Turing, over the years Artificial Intelligence (AI) has gone through highs and lows, with periods of progress followed by periods of stasis. Big hopes, often accompanied by equally big fears, appeared on screen and in science fiction, in fantastic tales not always so far from reality.

Today, Artificial Intelligence has become a part of our lives: it's in our cell phones, on our computers, in biomedical imaging scans and natural language recognition—a success that would have been unimaginable just a few years ago. What happened in those years? How did we get here? And most importantly, what's next? Once again, between fear and hope, the path of Artificial Intelligence has come to a crux. These are complex, crucial subjects for science and all of society. Just the thing for Comics & Science, with the invaluable support of the AIxIA - Italian Association for Artificial Intelligence. In this story, written by Diego Cajelli and drawn by Andrea Scoppetta, expectations and articulations give form to N3well's tale. N3well is a machine. Among other things.

Roberto Natalini  
Andrea Plazzi



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# N3WELL's VISIT

Story: Diego Cajelli

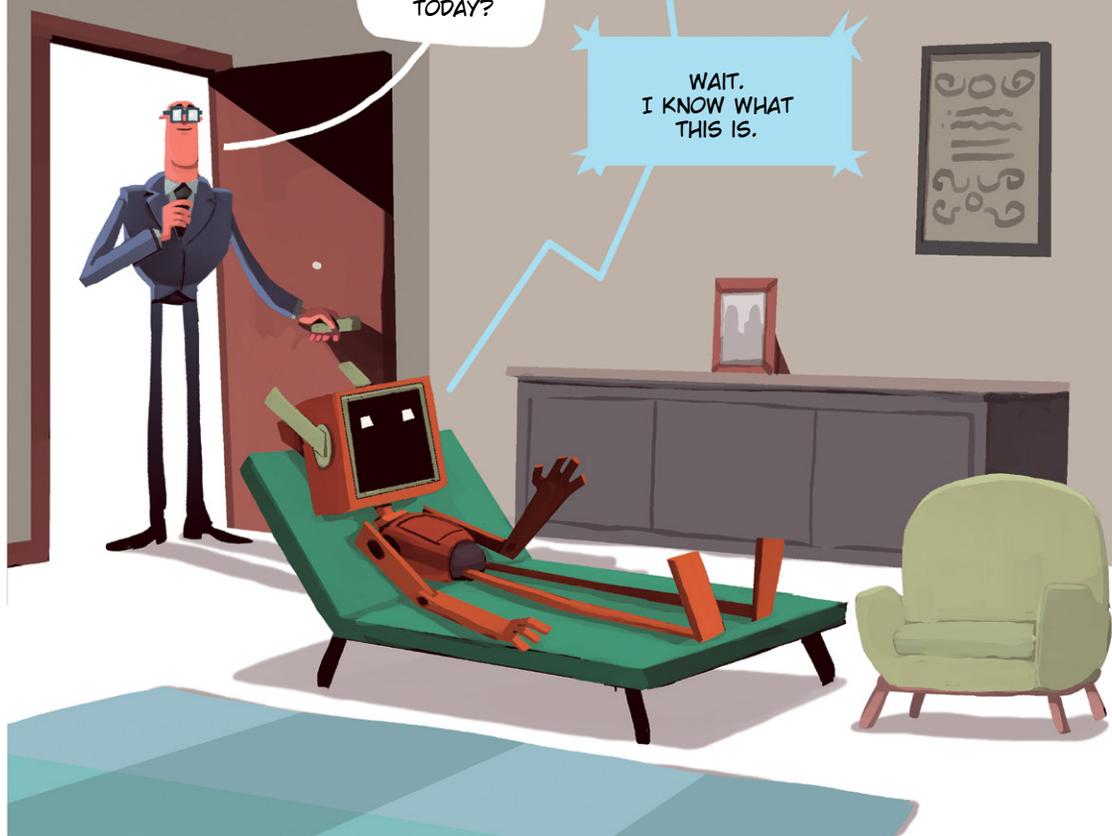
Art: Andrea Scoppetta

SORRY  
TO BE LATE,  
N3WELL!

IT WAS JUST FIVE  
MINUTES, DOCTOR,  
NO PROBLEM.

HOW'S  
IT GOING  
TODAY?

WAIT.  
I KNOW WHAT  
THIS IS.



WE'RE EXCHANGING PLEASANTRIES, RIGHT?

CORRECT.

OKAY. THAT MEANS CONVENTIONAL GREETINGS, A WAY OF ACKNOWLEDGING SOMEONE WHERE THE REPLY IS OF LITTLE IMPORTANCE. BUT YOU'RE ALSO MY PSYCHOLOGIST.



ARE YOU ASKING ME HOW I'M DOING JUST BECAUSE, OR IS IT PART OF THE SESSION?

BOTH, N3WELL. AS YOU KNOW, WE HUMANS HAVE FAIRLY VARIABLE PARAMETERS OF COMMUNICATION...



THAT'S TRUE, DR. I NOTICE YOUR LINGUISTIC VARIATIONS AND DIFFERENT NUANCES OF MEANING DEPENDING ON TONE, BUT I STILL HAVE A HARD TIME UNDERSTANDING...

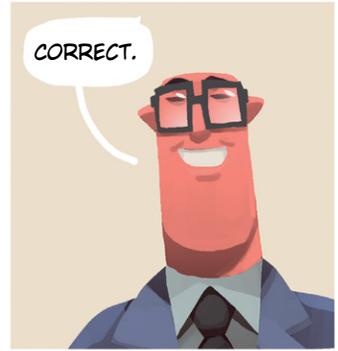
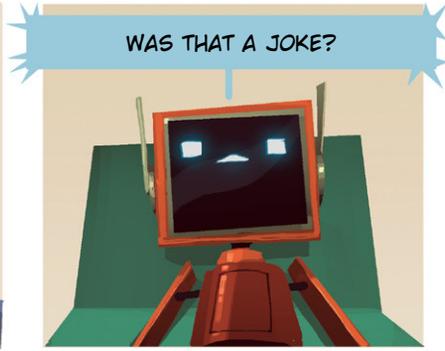
WHAT'S THE HARDEST THING FOR YOU?

HUMOR, FOR EXAMPLE...

OH, HUMOR IS VERY TRICKY. SOME HUMANS CAN'T EVEN USE OR UNDERSTAND IT.

THE ONLY JOKES I CAN THINK OF ARE CRASS.

I'M SO HAPPY TODAY. YESTERDAY I DID A PUZZLE AND IT ONLY TOOK ME TWENTY MINUTES, EVEN THOUGH THE BOX SAID THREE TO FIVE YEARS...



HAHAHAHAHA

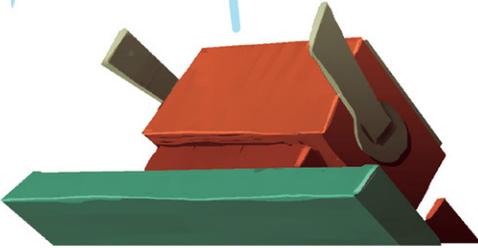
DON'T OVERDO IT. IT WASN'T A VERY GOOD JOKE, SO IF YOU LAUGH TOO MUCH IT SEEMS LIKE YOU'RE MOCKING THE PERSON WHO TOLD IT.



I CREATED A SUBROUTINE IN MY MEMORY PROGRAM. I CONSTANTLY ANALYZE THE DATA FROM THAT EXPERIENCE, TRYING TO CHANGE THE OUTCOME AND IMAGINING EVERY POSSIBLE SCENARIO...

SO THE ANSWER IS YES. PSYCHOLOGISTS CALL THIS "RUMINATION." IN THE LONG TERM IT CAN HAVE NEGATIVE REPERCUSSIONS ON YOUR EMOTIONAL STATE.

I KNOW, BUT HONESTLY... IF YOU WERE IN MY PLACE, WOULD YOU BE ABLE NOT TO THINK ABOUT IT?



THE TIME HAS COME TO BRING ON STAGE YTERA'S LAST FANTASTIC PRODUCT!

I KNOW THIS IS WHY YOU'RE HERE! WELL, THE WAIT IS OVER. WE'RE PLEASED TO PRESENT TO YOU THE MOST SOPHISTICATED, EVOLVED ARTIFICIAL INTELLIGENCE OF ALL TIME, A TRUE JEWEL, DIRECT FROM THE YTERA RESEARCH LABS!

YTERA





CLAP CLAP CLAP CLAP CLAP CLAP



N3WELL PASSED THE TURING TEST WITH FLYING COLORS, AND HE PERFECTLY EXECUTES THE FOUNDATIONAL PILLARS OF AN INTELLIGENT AGENT: PERCEIVE, LEARN, DEDUCE, REASON, DECIDE, AND ACT!

HIS TASK IS TO BE A CONCRETE HELP FOR ALL OF HUMANITY, WITH FULL RESPECT TO THE THREE LAWS OF ROBOTICS!

AND NOW, IF YOU HAVE QUESTIONS...



YES, HERE!

I HAVE A QUESTION!

HOW CAN A PRICY TOY LIKE THAT BE A HELP TO HUMANITY? WHAT WILL IT DO? FIND A CURE FOR RARE DISEASES?



WELL, I'D THINK SO, IF I WERE EMPLOYED AT A HOSPITAL OR MEDICAL RESEARCH INSTITUTE.



WHAT ARE YOUR APPLICATIONS IN THE SOCIAL FIELD?



IS EVERYTHING YOU SEE AND HEAR RECORDED? HOW DO YOU GUARANTEE OUR PRIVACY?

HOW WOULD YOU BEHAVE IN A WAR?

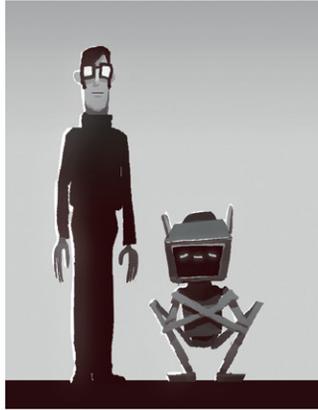
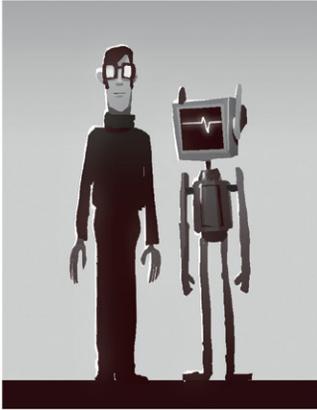


JEREMIAH BRANDRETH, PRESIDENT OF *VERITAS*. AS YOU KNOW, OUR ASSOCIATION HAS ALWAYS BEEN VERY SKEPTICAL REGARDING THE MASS USE OF ARTIFICIAL INTELLIGENCE. I WONDER, WE WONDER...



HOW MANY JOBS WILL BE LOST WHEN YOU AND YOUR ILK, WHICH ARE SURE TO FOLLOW, AREN'T JUST SIDESHOW ATTRACTIONS BUT PART OF OUR DAILY LIFE?





N3WELL HAD A PANIC  
ATTACK THE DAY OF HIS  
PRESENTATION...



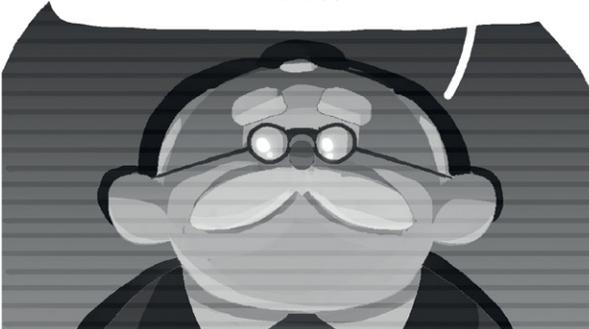
NEEDLESS TO  
SAY OUR STOCK  
PLUMMETED...



IT WAS AN ABSOLUTE DISASTER,  
DR. ANDERSON. WE NEED YOUR  
HELP. WE HAVE TO FIGURE OUT  
WHAT TRIGGERED THE CRISIS AND  
FIX THE PROBLEM.



WE WANT N3WELL TO UNDERGO  
PSYCHOTHERAPEUTIC TREATMENT BEFORE  
ANOTHER PRESENTATION WITH THE MEDIA...  
YOU CAN TREAT HIM LIKE A HUMAN PATIENT.  
THERE'S NO DIFFERENCE.



ALL RIGHT. MONDAY AT 3  
P.M., MY OFFICE.



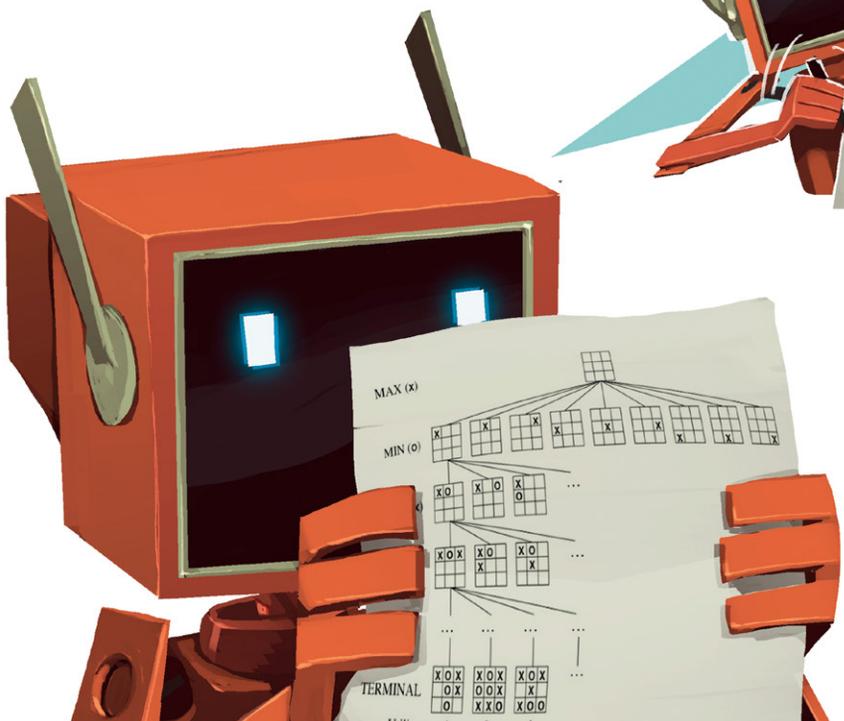
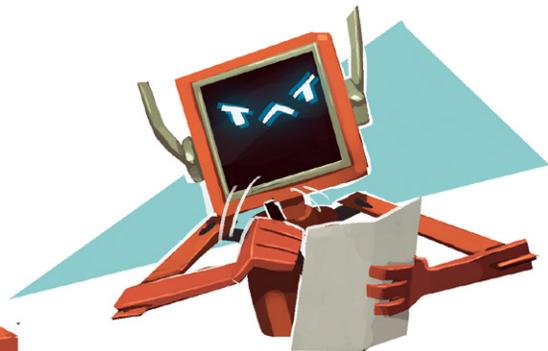
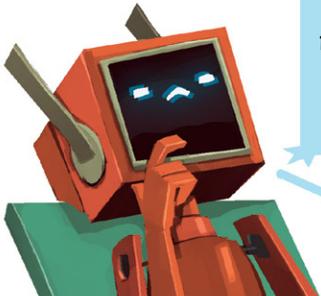
I IMAGINE YOU REMEMBER MORE THAN JUST THAT INCIDENT...

WHAT'S THE MOST DISTANT MEMORY YOU CAN THINK OF?

YES, I HAVE MANY OTHERS. WE'VE TALKED ABOUT THEM.



IT'S QUITE HARD TO VERBALIZE, DOCTOR... MAY I TRY TO DRAW IT FOR YOU?



WHAT YOU SEE IS WHAT N3WELL CALLED HIS MOST DISTANT MEMORY... I'VE DONE SOME RESEARCH, AND IT'S PART OF AN ALGORITHM DEVELOPED IN 1959 TO FIND SOLUTIONS TO TIC-TAC-TOE...



WHAT DOES IT MEAN?

I THINK N3WELL'S MEMORY SOMEHOW CONTAINS ALL THE STEPS THAT LED TO HIM BECOMING WHAT HE IS NOW...

IT'S AS IF HE HAS RETAINED SOME SORT OF SPECIES MEMORY, LIKE HUMAN BEINGS DO. OUR BRAINS STILL RETAIN A TINY PART OF REPTILE BRAIN...



INTERESTING... BUT HOW DOES THE PANIC ATTACK FIT IN?



IF N3WELL WERE A HUMAN BEING, I'D SAY THAT THE ANXIETY AND PANIC ATTACKS HE SUFFERS ARE PRIMARILY DUE TO THE VERY HIGH EXPECTATIONS PLACED ON HIM...



WE CAN'T KEEP HIM IN THERAPY FOR YEARS, DOCTOR! WE'VE GOT TO RESOLVE THE ISSUE, AND FAST!



WELL... THERE MIGHT BE ONE THING THAT COULD HELP N3WELL, BUT I'LL NEED YOUR PERMISSION...



WHAT DO YOU HAVE IN MIND, DR. ANDERSON?

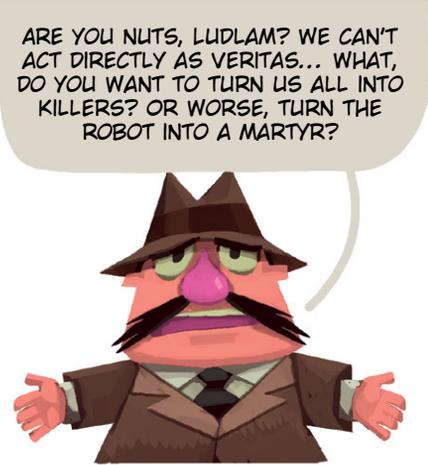


A TRIP.



THIS OPPORTUNITY IS TOO GOOD TO MISS! FINALLY THE BIG TOY WILL BE OUTSIDE THE YTERA BUILDING!

ACCORDING TO OUR INFORMANT, THEY'RE LEAVING TOMORROW... AND WE KNOW EXACTLY WHERE THEY'RE GOING! THEY'LL BE ALONE.



ARE YOU NUTS, LUDLAM? WE CAN'T ACT DIRECTLY AS VERITAS... WHAT, DO YOU WANT TO TURN US ALL INTO KILLERS? OR WORSE, TURN THE ROBOT INTO A MARTYR?



ALL THIS TALK ABOUT LABELS! WHAT DO YOU THINK LABELS WILL MATTER ONCE THOSE DAMN CONTRAPTIONS HAVE REPLACED US AND EVERYONE WILL BE OUT OF A JOB?

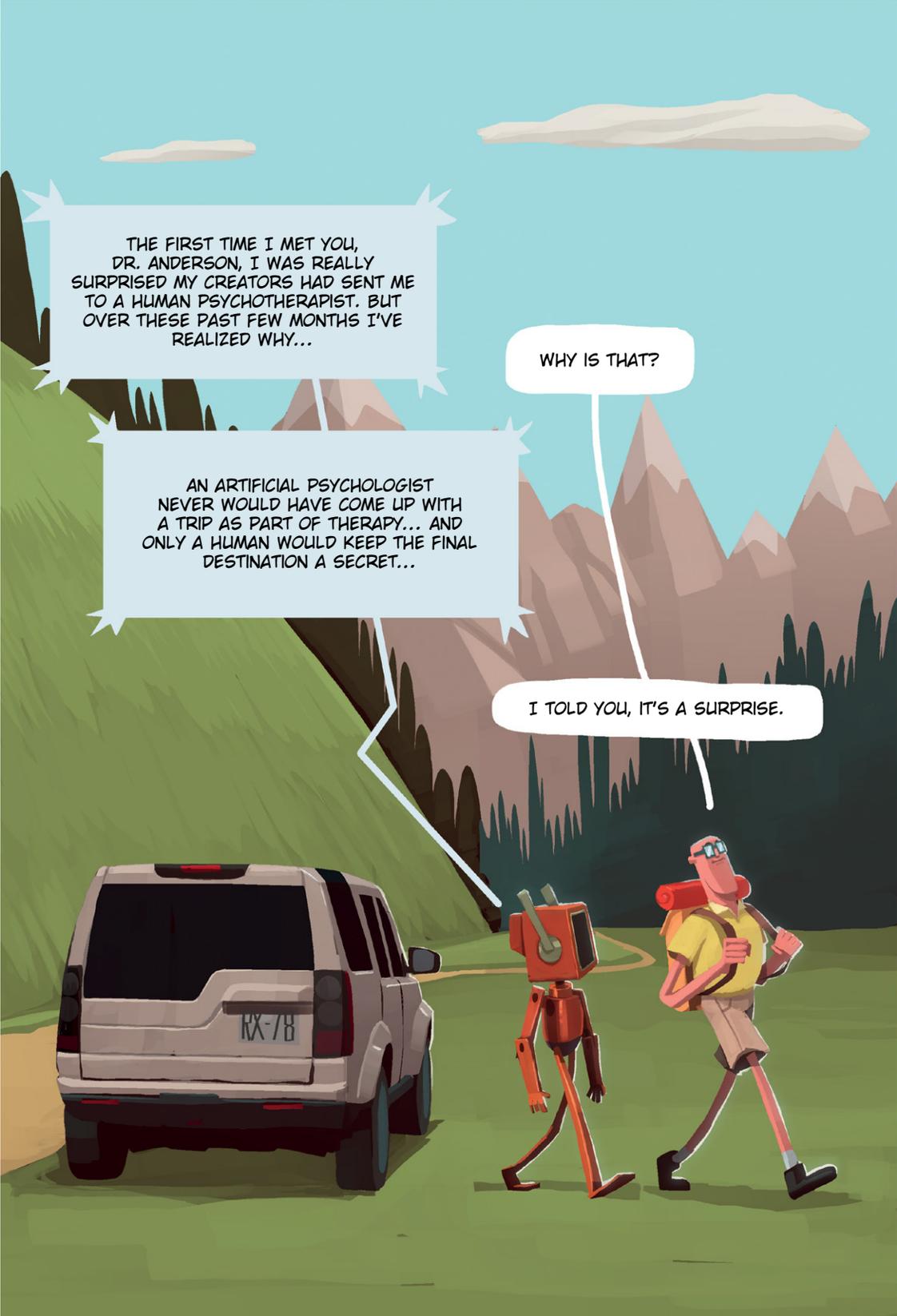


MELLOR IS RIGHT, AND YOU KNOW IT TOO, BRANDRETH!



MELLOR AND I WILL GO. WE'LL DO WHAT HAS TO BE DONE—DEFENDING THE DIGNITY AND LABOR OF US HUMAN BEINGS.

YOU STAY IN THE LIMELIGHT AND HANDLE THE POLITICS, BRANDRETH. WE'LL SEE TO THE DIRTY WORK... YOU WON'T BE INVOLVED IN ANY WAY!



THE FIRST TIME I MET YOU, DR. ANDERSON, I WAS REALLY SURPRISED MY CREATORS HAD SENT ME TO A HUMAN PSYCHOTHERAPIST. BUT OVER THESE PAST FEW MONTHS I'VE REALIZED WHY...

WHY IS THAT?

AN ARTIFICIAL PSYCHOLOGIST NEVER WOULD HAVE COME UP WITH A TRIP AS PART OF THERAPY... AND ONLY A HUMAN WOULD KEEP THE FINAL DESTINATION A SECRET...

I TOLD YOU, IT'S A SURPRISE.





WILL WE BE WALKING FOR LONG? I'M ASKING FOR YOU, YOU'LL NEED TO SAVE SOME ENERGY FOR THE WAY BACK...

WE'RE STAYING OVERNIGHT, N3WELL. WE'RE GOING TO DO SOMETHING CALLED "CAMPING"...

YOU'LL SEE, YOU'LL LIKE SPENDING THE NIGHT IN THE WOODS!

MANY HUMANS CONSIDER IT A REAL EXPERIENCE THAT EVERYONE SHOULD HAVE...

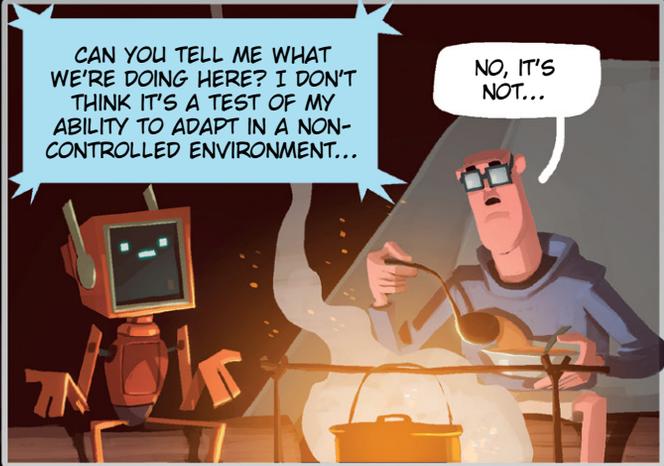
IN FACT, SOME PEOPLE CHOOSE TO LIVE SPECIFICALLY IN THESE REMOTE AREAS...

FOR WHAT?

"I WENT TO THE WOODS BECAUSE I WISHED TO LIVE DELIBERATELY, TO FRONT ONLY THE ESSENTIAL FACTS OF LIFE..." SAID A GREAT WRITER.

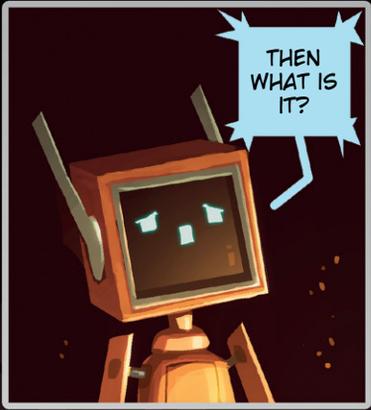
THIS IS IT, MY FRIEND...

TIME TO SET UP CAMP. FIND SOME LOGS FOR THE FIRE, I'LL PITCH THE TENT.



CAN YOU TELL ME WHAT WE'RE DOING HERE? I DON'T THINK IT'S A TEST OF MY ABILITY TO ADAPT IN A NON-CONTROLLED ENVIRONMENT...

NO, IT'S NOT...



THEN WHAT IS IT?



IT'S A JOURNEY... ACCORDING TO A POPULAR NARRATIVE THEORY, EVERY HERO MUST UNDERTAKE A JOURNEY TO DISCOVER WHO THEY ARE AND SOLVE THEIR GREATEST PREDICAMENTS.



I DON'T THINK OF MYSELF AS A HERO...



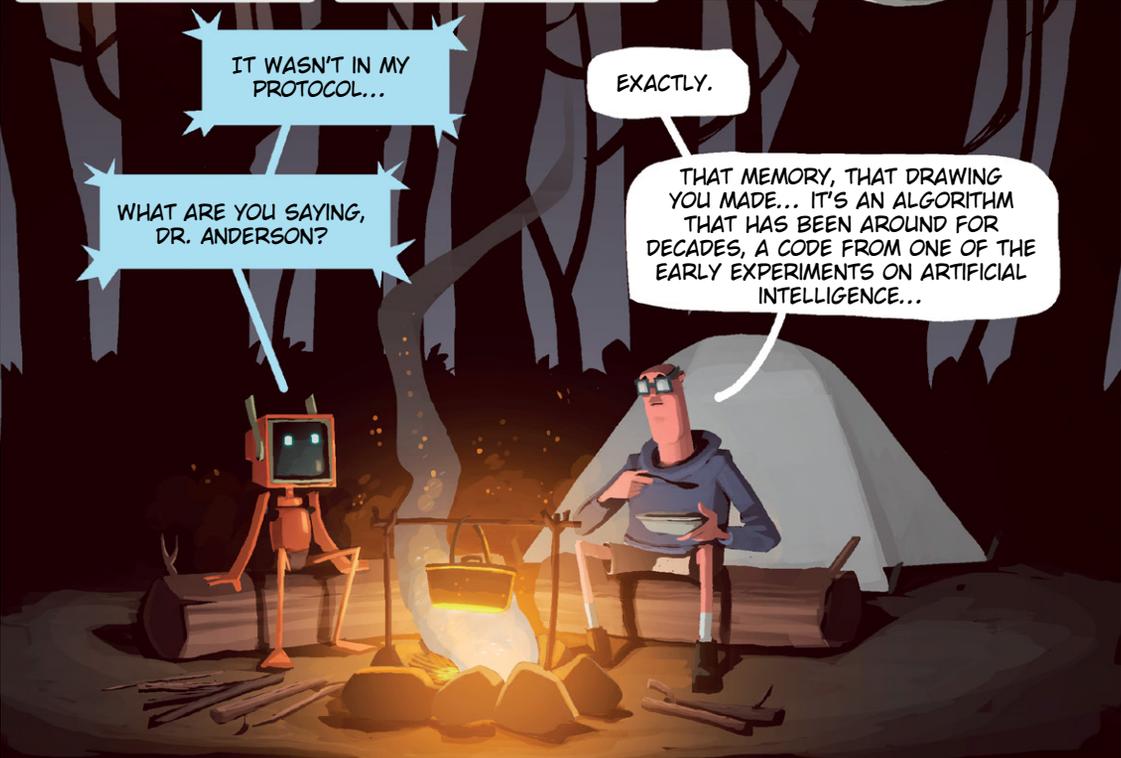
WHAT IF I TOLD YOU THAT UNDER THE CIRCUMSTANCES WHAT HAPPENED TO YOU AT YOUR PRESENTATION WAS THE MOST HUMAN REACTION YOU COULD'VE HAD?

IT WASN'T IN MY PROTOCOL...

EXACTLY.

WHAT ARE YOU SAYING, DR. ANDERSON?

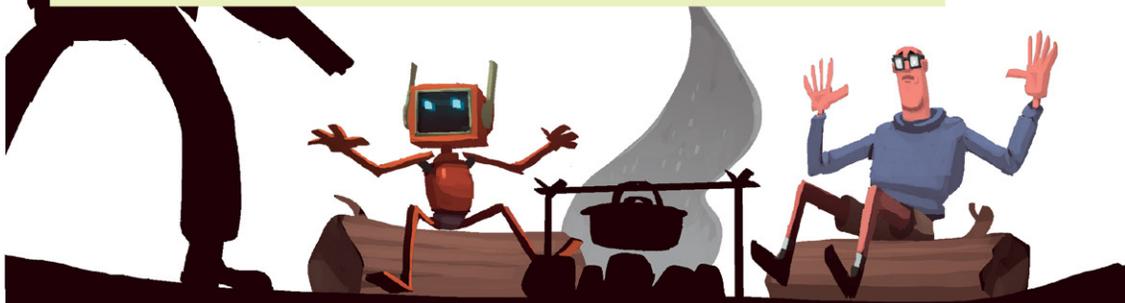
THAT MEMORY, THAT DRAWING YOU MADE... IT'S AN ALGORITHM THAT HAS BEEN AROUND FOR DECADES, A CODE FROM ONE OF THE EARLY EXPERIMENTS ON ARTIFICIAL INTELLIGENCE...



**ZERO:** A ROBOT CANNOT CAUSE HARM TO HUMANITY, NOR CAN THEY ALLOW HUMANITY TO BE HARMED BY FAILURE TO ACT.



**ONE:** A ROBOT CANNOT CAUSE HARM TO A HUMAN BEING NOR CAN THEY ALLOW A HUMAN BEING TO BE HARMED BY THEIR FAILURE TO ACT, PROVIDED IT NOT VIOLATE LAW ZERO.

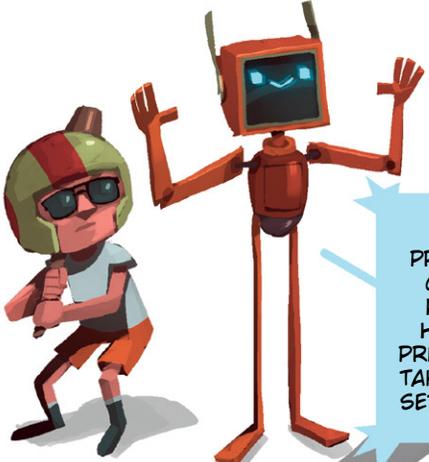


**TWO:** A ROBOT MUST OBEY ALL ORDERS FROM HUMAN BEINGS, PROVIDED THESE ORDERS NOT CONTRAVENE LAWS ZERO OR ONE.



**THREE:** A ROBOT MUST DEFEND ITS OWN EXISTENCE, PROVIDED THIS SELF-DEFENSE NOT VIOLATE LAWS ZERO, ONE, OR TWO.

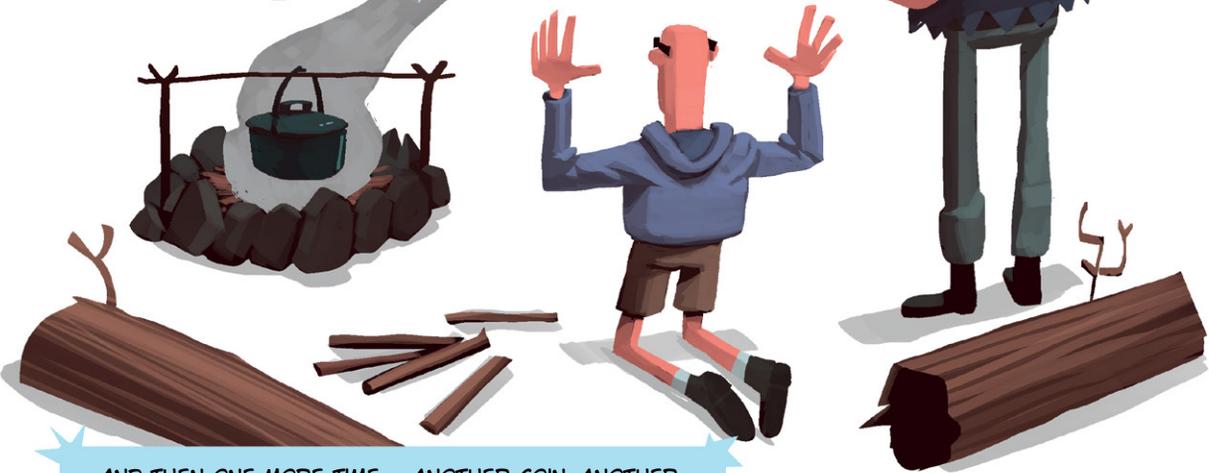




A GUY GOES TO GET A COFFEE FROM A VENDING MACHINE...

HUH?

HE INSERTS THE COIN, PRESSES THE BUTTON, THE COFFEE COMES OUT AND HE SETS IT ON A LEDGE. HE TAKES ANOTHER COIN, PRESSES THE BUTTON AGAIN, TAKES ANOTHER COFFEE AND SETS THAT ONE DOWN TOO...



AND THEN ONE MORE TIME... ANOTHER COIN, ANOTHER COFFEE HE PUTS ASIDE, AND AGAIN AND AGAIN, UNTIL A LINE HAS STARTED TO FORM...



WHAT ARE YOU WAITING FOR? SCRAP THAT JUNKER!



FINALLY, SOMEONE IN THE LINE SAYS, "HEY, ARE YOU DONE? IT'S OUR TURN!"



AND THE GUY AT THE MACHINE REPLIES, "NO WAY, PAL. AS LONG AS I KEEP WINNING, I'LL KEEP PLAYING!"

HA  
HA  
HA



HAAAA



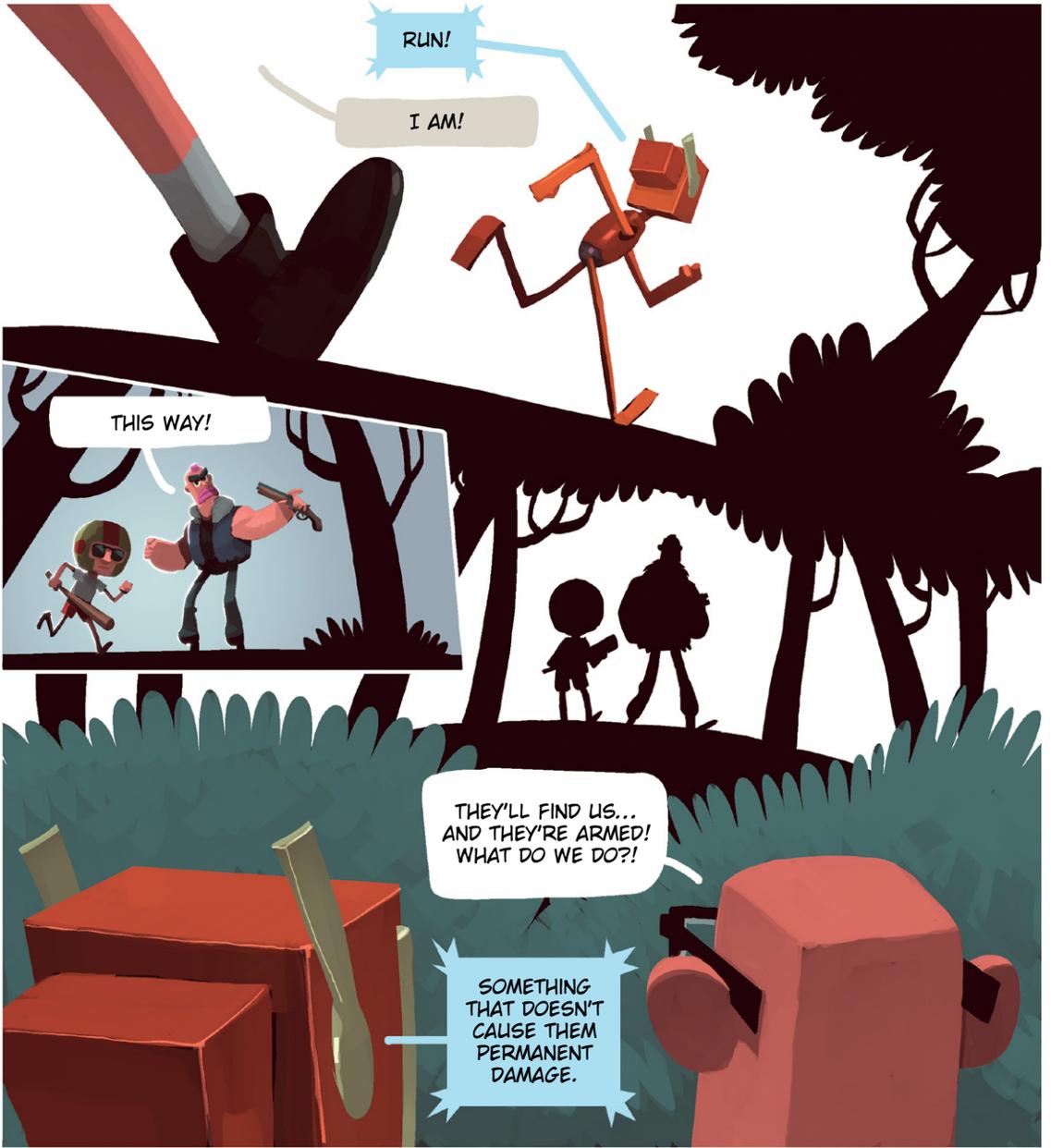
WHAM



DON'T LET 'EM GET AWAY!



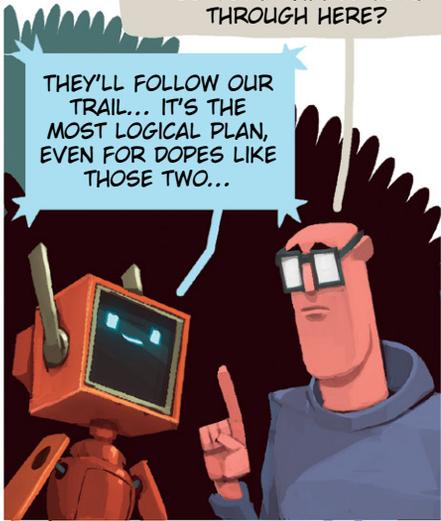
OVER  
HERE!

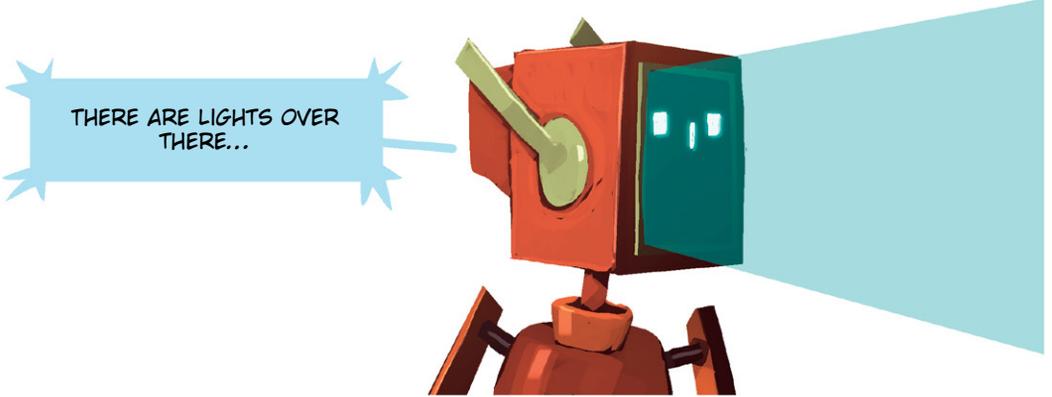


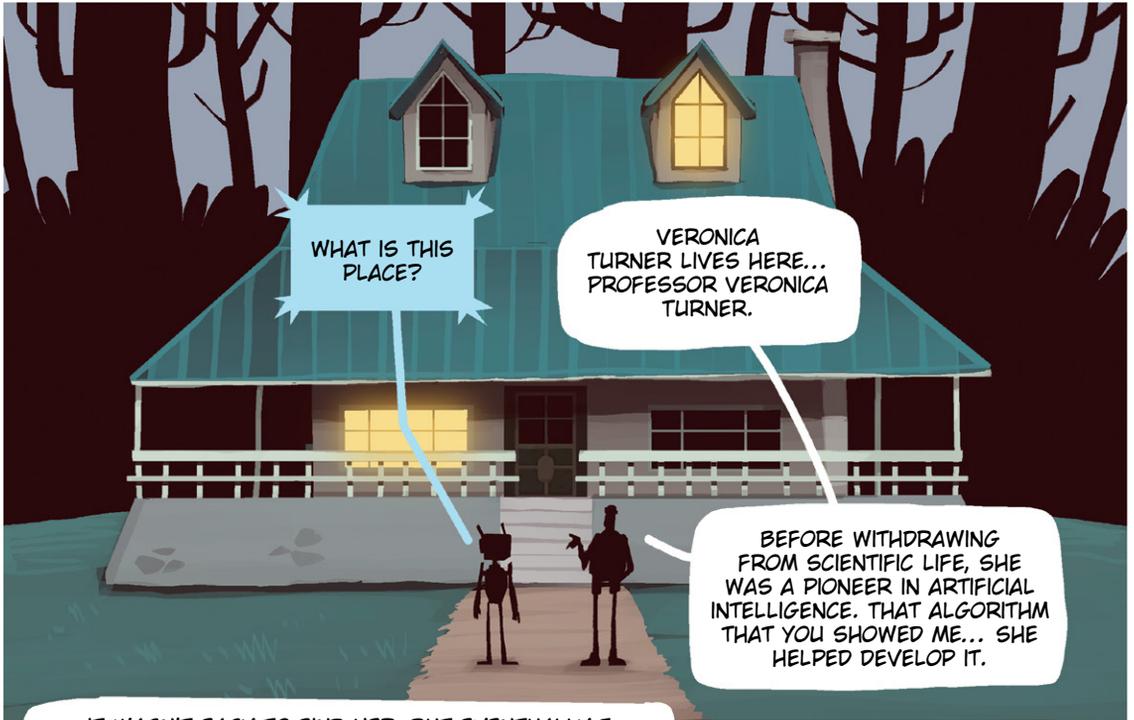


EXCELLENT.

YOU SURE THEY'LL COME THROUGH HERE?







IT WASN'T EASY TO FIND HER, BUT EVENTUALLY I TRACKED HER DOWN. I THINK IT'S IMPORTANT FOR YOU TO MEET HER, BECAUSE IN A WAY...



I FOUND OUT WHAT HAPPENED TO YOU, N3WELL...

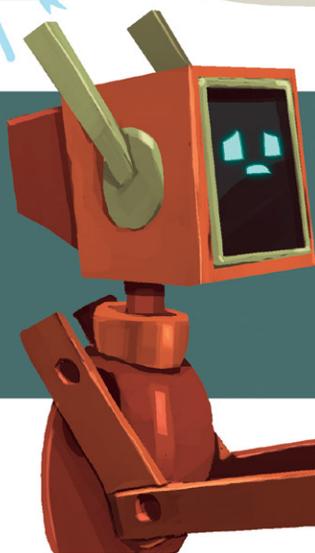


NO ONE CAN BE PERFECT, N3WELL...  
MUCH LESS A CREATION MADE BY HUMAN BEINGS,  
IMPERFECT BY DEFINITION.



BUT  
I...

IT'S NOT YOUR FAULT, HONEY.  
IT'S NOT YOUR FAULT, YOU JUST HAVE TO  
TRY TO DO YOUR BEST.

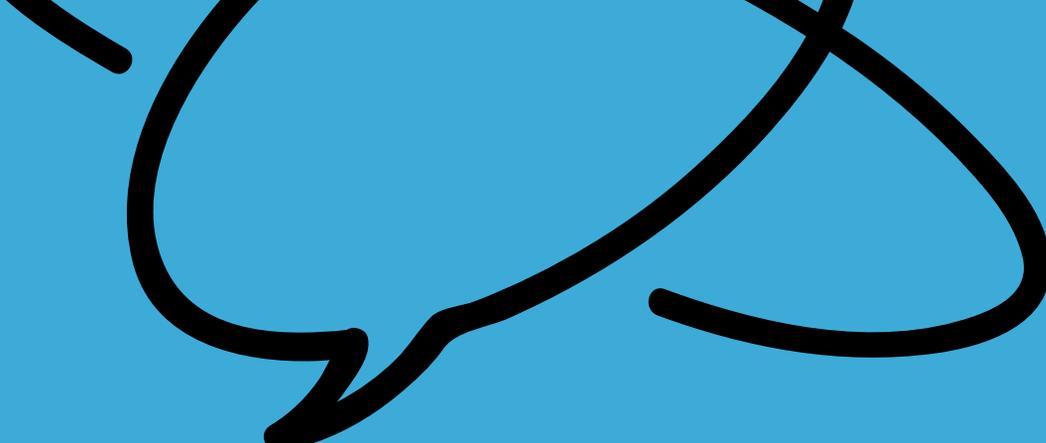


AND DOING YOUR  
BEST, IN A WORLD  
LIKE OURS, IS A LOT.  
THE HUMANS WHO  
PROGRAMMED YOU  
SHOULD HAVE TOLD  
YOU THAT.



NEVER TAKE ON ALL THE  
WRONGS AND WEIGHT OF THE  
WORLD...





# MEN, WOMEN AND MACHINES

## AIxIA EXECUTIVE COMMITTEE

The Italian Association for Artificial Intelligence (AIxIA) is a non-profit scientific organization founded in 1988 which promotes the research and use of Artificial Intelligence. Its first president was  
Luigia Carlucci Aiello.

AIxIA is also a member of the European Association for Artificial Intelligence (EurAI), which was founded in 1982 to represent the AI community in Europe.

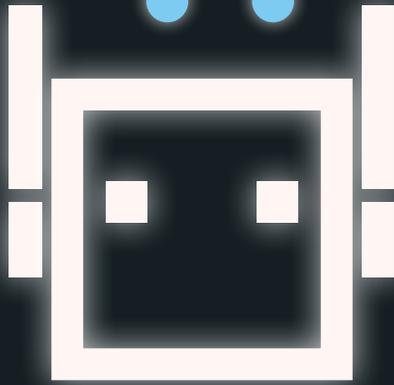
In addition to organizing scholarly events for members and industry events (such as the AI Forum), in recent years the Association has taken on the task of spreading the discipline's knowledge to the public, especially young people.

It is important for everyone to be aware of the impact that the advent of these new tools has on society, the economy, democracy, and the environment in order to direct their application toward positive, non-dystopian uses.

We're excited to have collaborated on a comic about Artificial Intelligence—it's an innovative way of sharing knowledge on the subject, in line with our efforts to encourage people to reflect on what we want to achieve with machines endowed with intelligence and autonomy.

We consider it essential to pave the way toward a world where humans and machines work together for the common good. Without Artificial Intelligence, humanity will have trouble solving the great problems of our age; without the cooperation of men and women, machines risk breaking down.

Just as happens to N3well.



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