

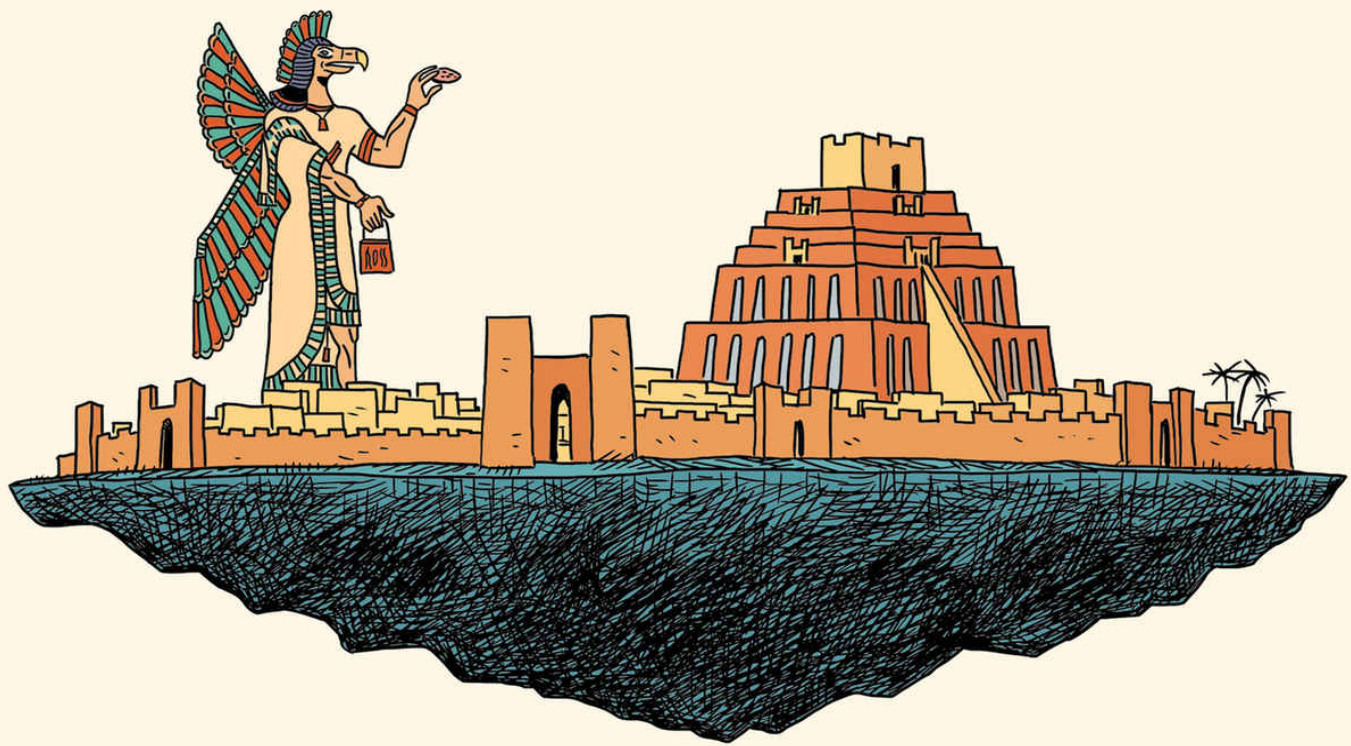
Yuval Noah Harari

David Vandermeulen • Daniel Casanave



Sapiens

A Graphic History



The Pillars of Civilization

Volume Two

HARPER  PERENNIAL

**Tải Ứng dụng Trương Định App xem các định dạng khác như
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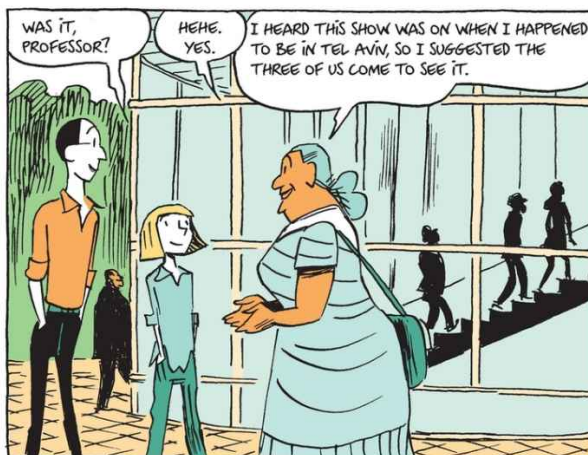
TIMELINE OF HISTORY

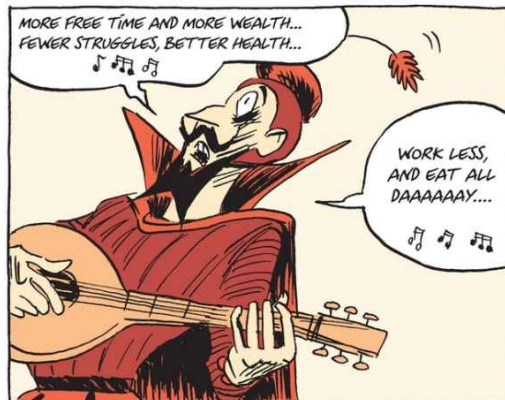
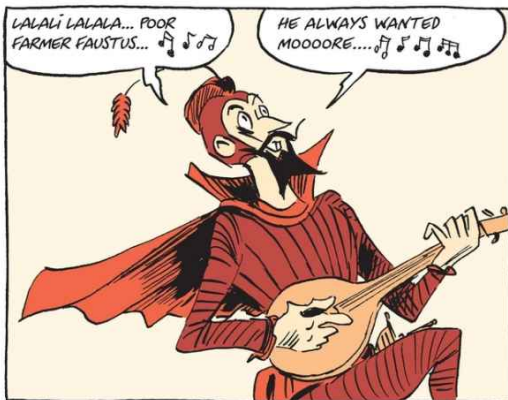
NUMBER OF YEARS AGO

13.8 BILLION	MATTER AND ENERGY APPEAR. BEGINNING OF PHYSICS. FORMATION OF ATOMS AND MOLECULES. BEGINNING OF CHEMISTRY.
4.5 BILLION	FORMATION OF PLANET EARTH.
3.8 BILLION	EMERGENCE OF ORGANISMS. BEGINNING OF BIOLOGY.
6 MILLION	LAST COMMON GRANDMOTHER OF HUMANS AND CHIMPANZEES.
2.5 MILLION	HUMANS EVOLVE IN AFRICA. USE OF STONE TOOLS.
2 MILLION	HUMANS SPREAD FROM AFRICA TO EURASIA. EVOLUTION OF DIFFERENT HUMAN SPECIES.
400,000	NEANDERTHALS EVOLVE IN EUROPE AND THE MIDDLE EAST. REGULAR USE OF FIRE.
300,000	HOMO SAPIENS EVOLVES IN AFRICA.
70,000	THE COGNITIVE REVOLUTION. EMERGENCE OF STORYTELLING. BEGINNING OF HISTORY. SAPIENS SPREAD OUT OF AFRICA.
50,000	SAPIENS SETTLE ACROSS AUSTRALIA. EXTINCTION OF AUSTRALIAN MEGAFaUNA.
30,000	EXTINCTION OF NEANDERTHALS. HOMO SAPIENS THE ONLY SURVIVING HUMAN SPECIES.
15,000	SAPIENS SPREAD ACROSS THE AMERICAS. EXTINCTION OF AMERICAN MEGAFaUNA.



LITTLE CROP
OF HORRORS

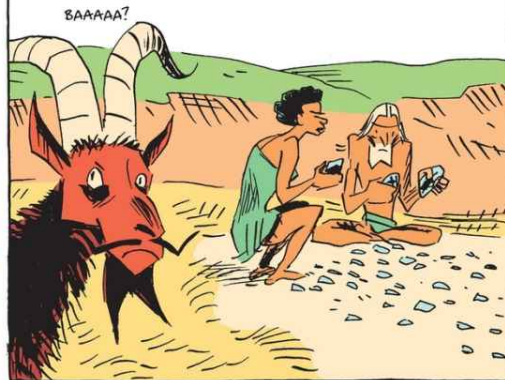




WITH THE SAPIENS BUSY LIGHTING THEIR FIRES AND MAKING THEIR TOOLS... I THOUGHT THEY WERE ITCHING TO BE MASTERS OF THE WORLD!! PERHAPS, I THOUGHT TO MYSELF, THEY'D LIKE TO MASTER GOATS?



I TRIED TO LIVEN THINGS UP BUT THEY IGNORED ME.



I POPPED BACK TO SEE THEM WHEN THEY STARTED SYSTEMATICALLY EXTERMINATING LARGE ANIMALS AND THE OTHER HUMANS.



BUT NOPE... THEY'D KILL ME BEFORE THEY EVEN THOUGHT TO CAPTURE ME AND PUT ME TO WORK. EVEN AFTER EVERYTHING THEY'D DONE TO THE OTHER HUMANS AND ALL THOSE ANIMALS, THEY STILL WEREN'T INTERESTED IN REAL POWER.



OH, NO! I THOUGHT, THIS IS TYRANNOSAURUS REX ALL OVER AGAIN!

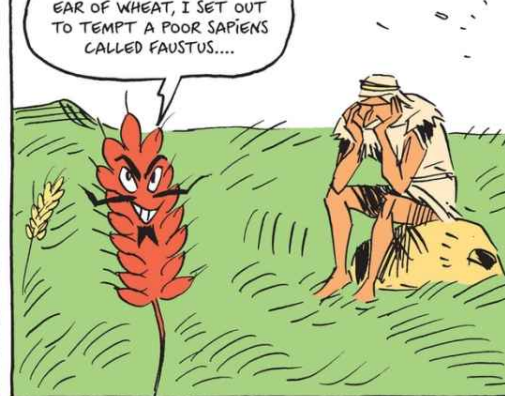


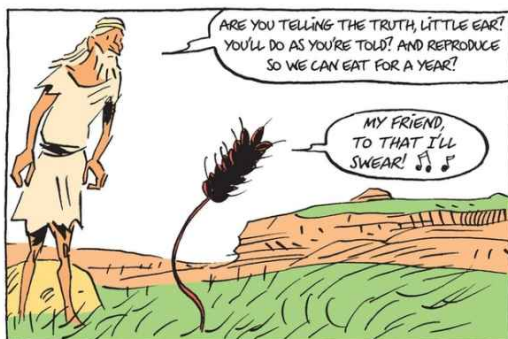
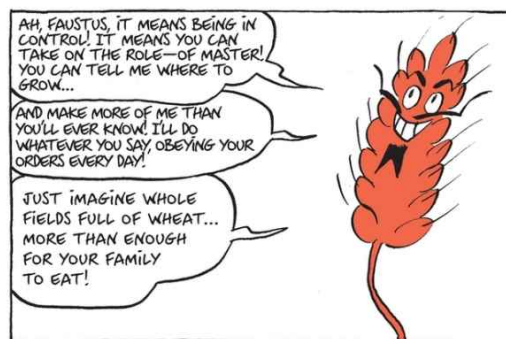
THEY'RE KILLERS ALRIGHT, BUT THEY'RE NOT PLANNING TO REDUCE ANYBODY TO SLAVERY...

FINALLY—FINALLY!—ABOUT 12,000 YEARS AGO I HAD AN UNEXPECTED BREAKTHROUGH IN THE MIDDLE EAST....



INCARNATED IN A HUMBLE EAR OF WHEAT, I SET OUT TO TEMPT A POOR SAPIENS CALLED FAUSTUS....





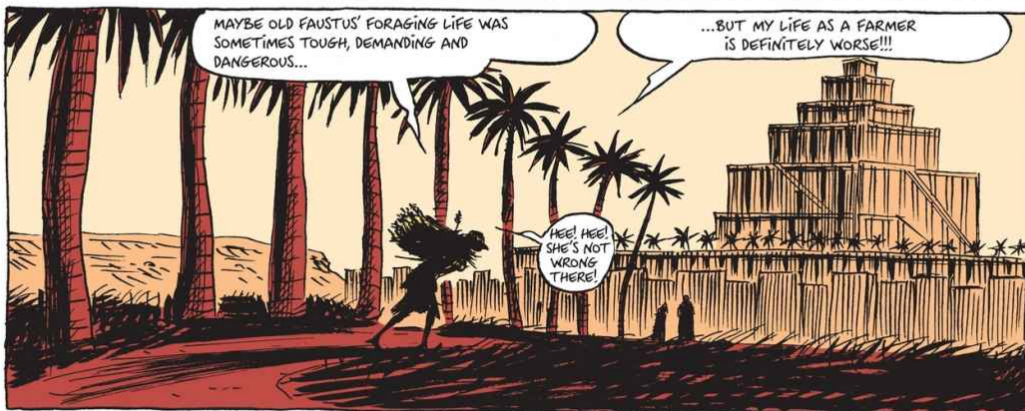
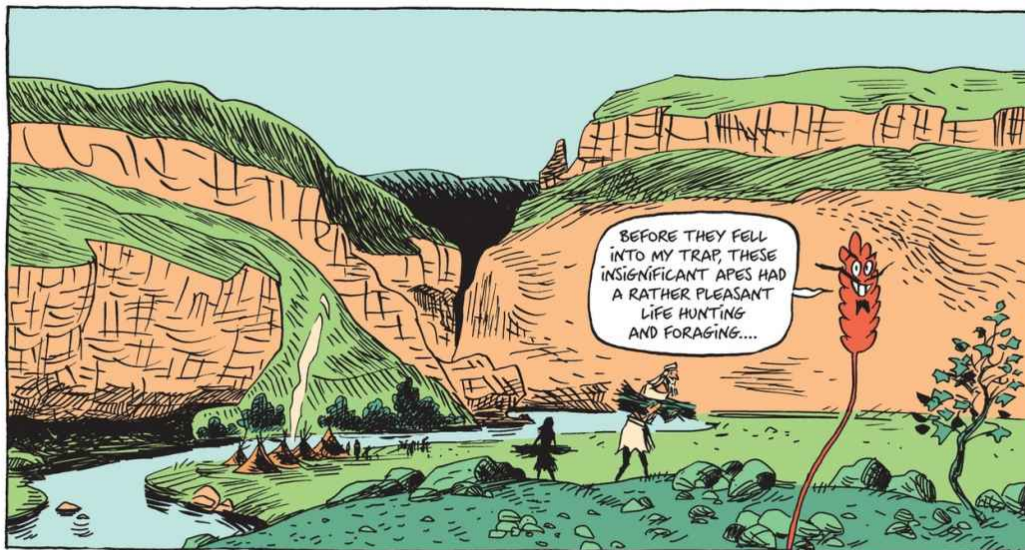
OF THE THOUSANDS OF SPECIES THAT ANCIENT HUMANS HUNTED AND GATHERED, ONLY A HANDFUL WERE RIGHT FOR THE DOMESTICATION GAME.

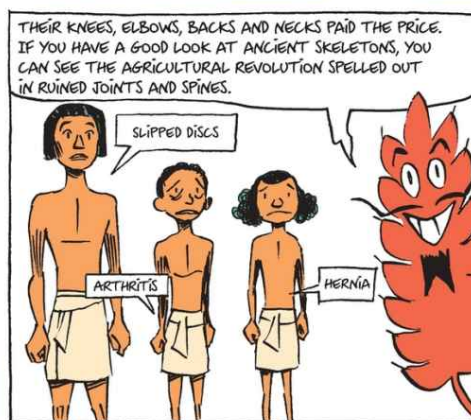
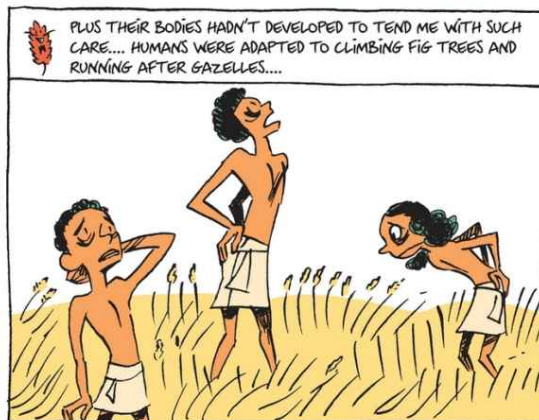
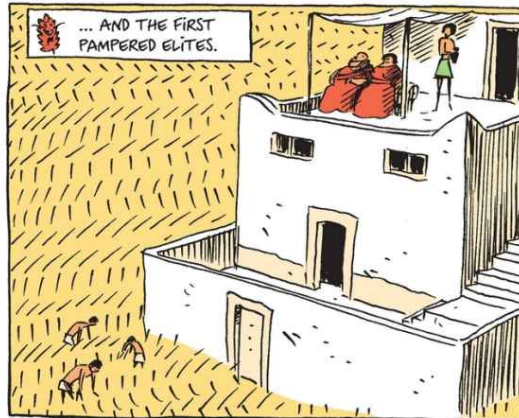
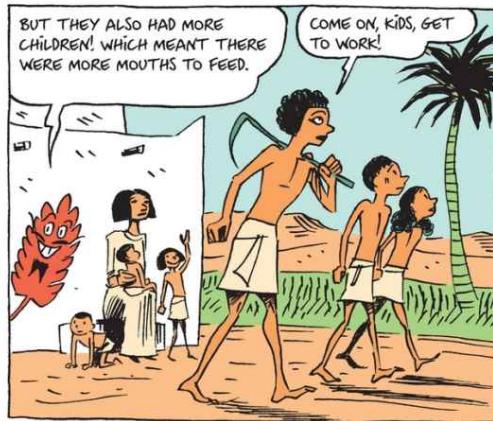
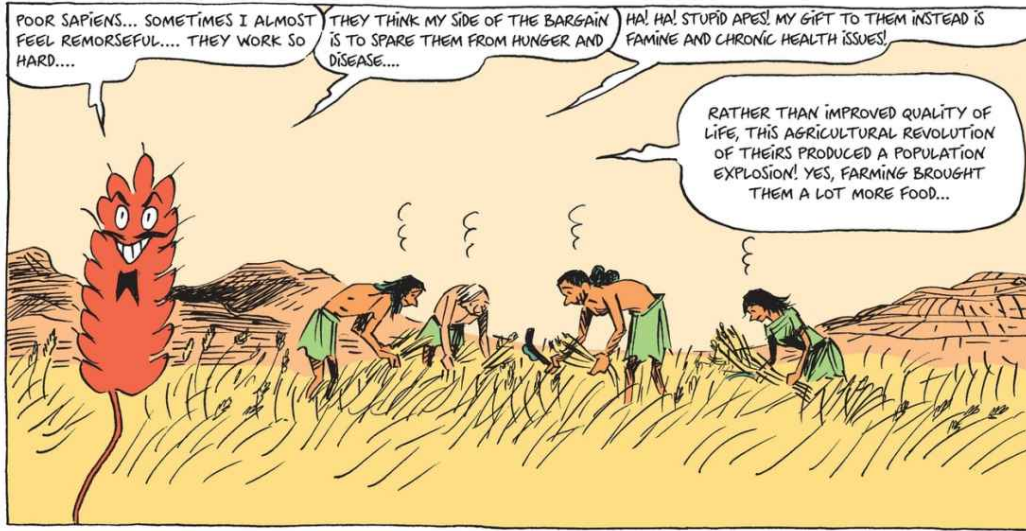
THESE RARE SPECIES LIVED IN A SELECT FEW PLACES, AND IT WAS IN THESE PLACES THAT AGRICULTURAL REVOLUTIONS TOOK PLACE.

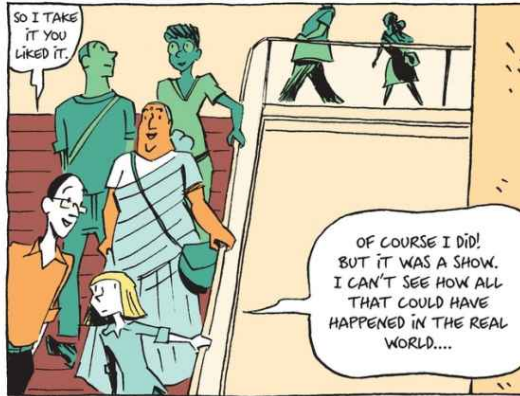
TO THIS DAY, HALF OF THE CALORIES THAT FEED YOU VORACIOUS HUMANS COME FROM JUST THREE PLANTS—WHEAT, RICE AND CORN—AND TWO ANIMALS—COWS AND PIGS...

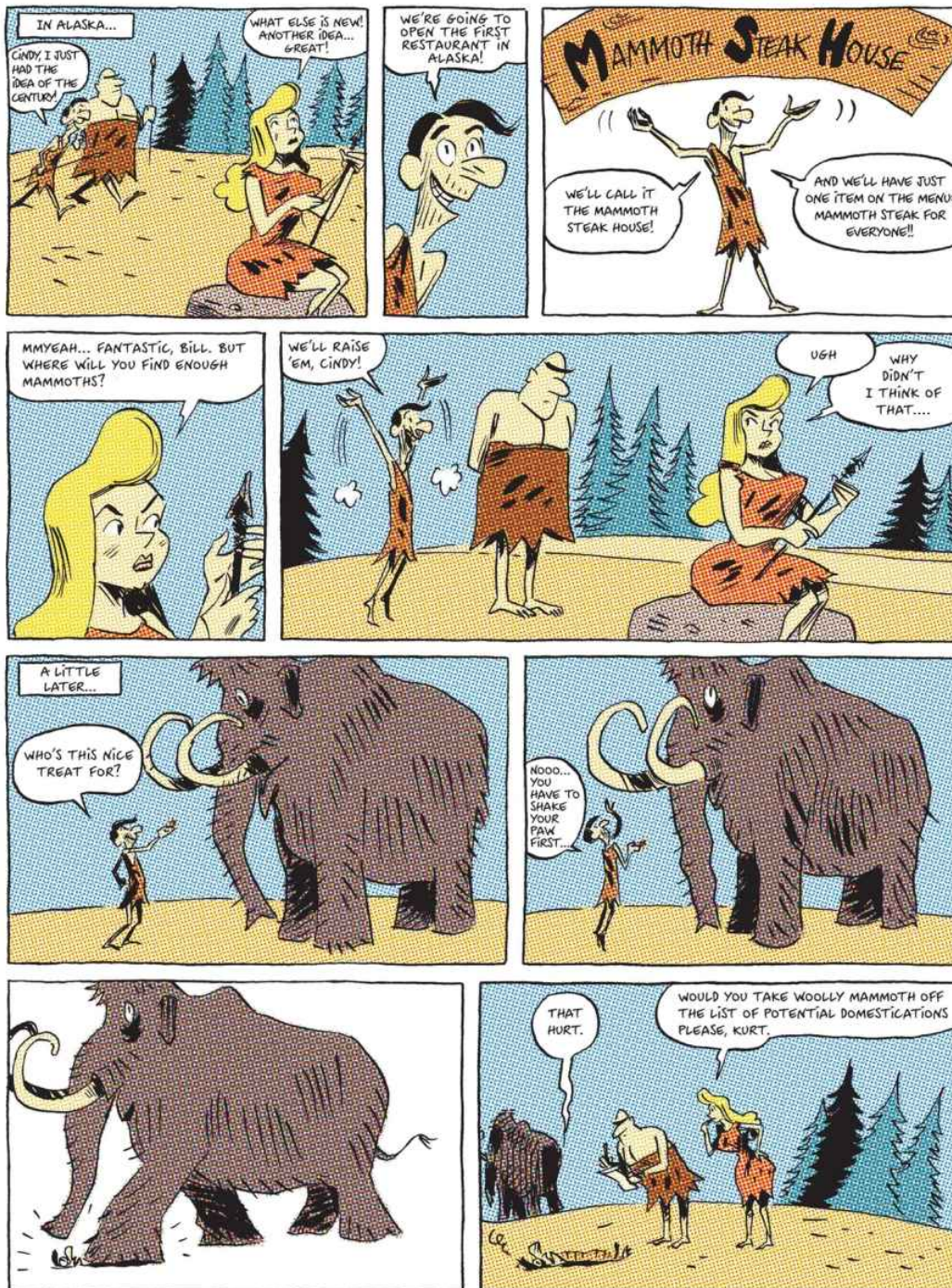
...ALL OF THEM DOMESTICATED MORE THAN 9,000 YEARS AGO!

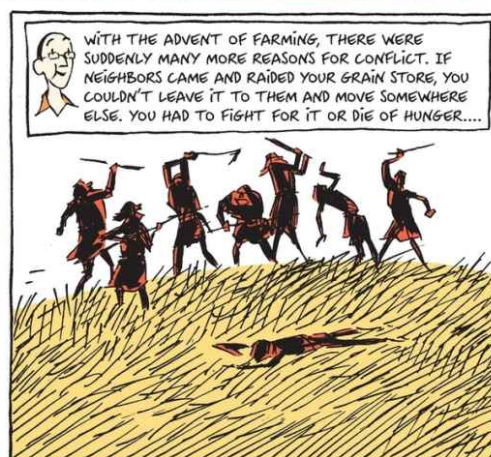
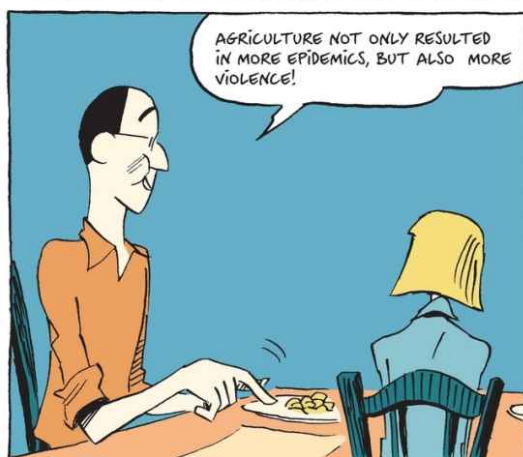
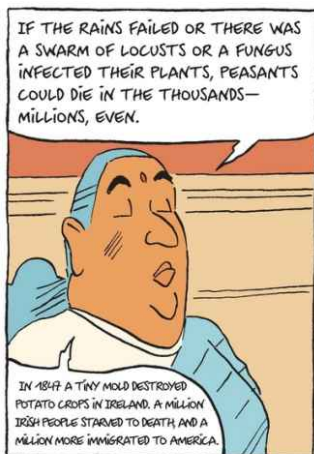
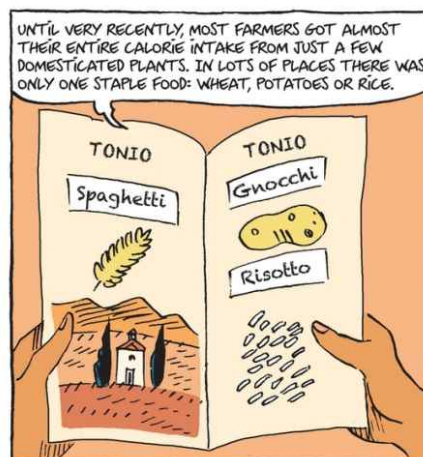


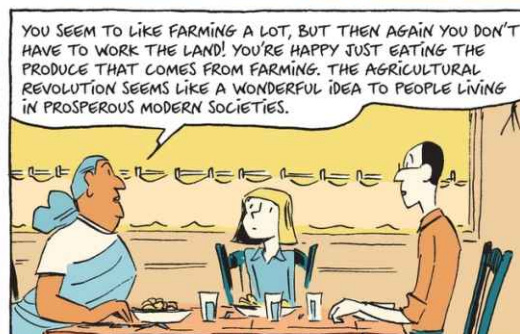
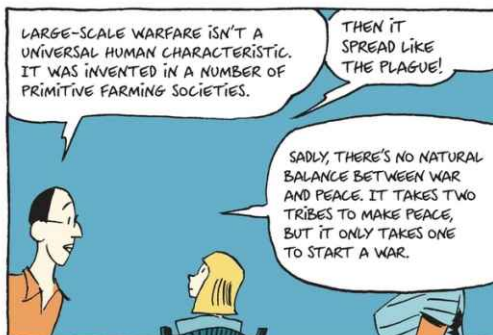
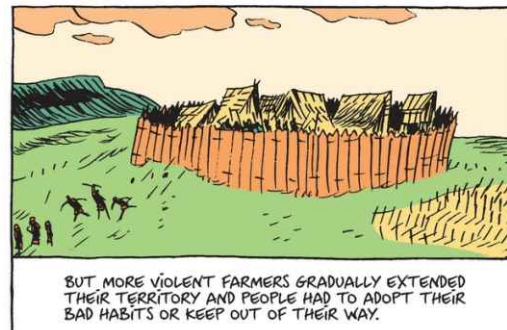
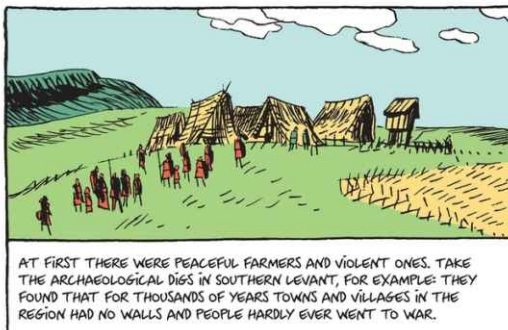
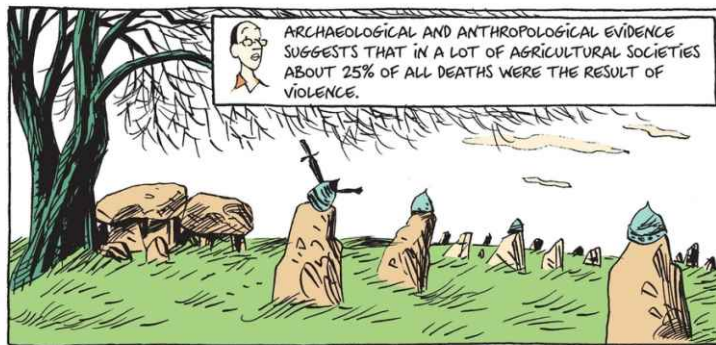






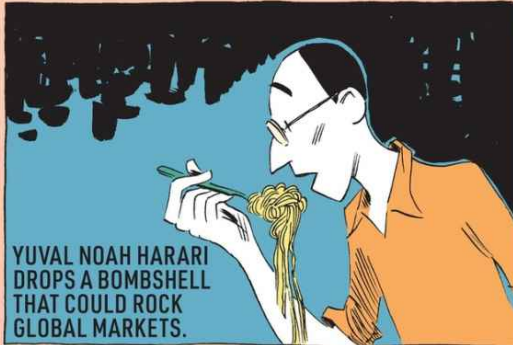






THE DAILY BUSINESS NEWS

Agricultural Revolution was a trap!



Milton Goldmine: Agriculture still greatest deal ever

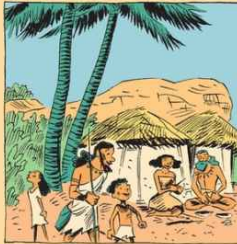
Famous economics professor Milton Goldmine challenges Professor Harari's statement.

Prof. Goldmine, speaking exclusively to DBN:



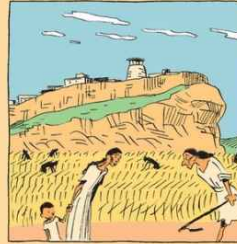
MG: "Granted, from each individual's point of view, agriculture may not have been such a great idea.... But for the Homo Sapiens Corporation it was a hell of a success story! Cereal cultivation guaranteed far more food per unit of territory. And that's how Homo sapiens enjoyed exponential population growth!"

YOUR FAVORITE COLUMN: Fibs, Lies and Statistics



Approximately
13,000 years ago

When foragers ate wild plants and animals, the area around Jericho in Palestine could sustain a nomadic band of some 50 people.



About 9,000 years ago

When fields of wheat replaced wild plants, the oasis could support a big, crowded village with perhaps 1,000 inhabitants.



DBN: Should we, as Professor Harari is claiming, see agriculture as a terrible idea for Homo sapiens?

Milton Goldmine: Professor Harari is wrong; he's not seeing this from a management standpoint! I mean... a bit of common sense, for God's sake! We don't rate a company's success by measuring how happy its employees are—so far as I know! We look at its dividends! And the

numbers prove that agriculture did wonders for humanity's bottom line! The currency of evolution isn't hunger or suffering, but genes!

DBN: Do you mean that the success of a species in evolutionary terms is measured by the number of copies of its DNA?

MG: Why yes, exactly that! Everyone knows that! And Professor Harari should know it too! If there are no copies of its DNA left, the species is

extinct, just like a company with no money is bankrupt. If a species has more and more copies of its DNA, it's a huge evolutionary success!

DBN: So are 1,000 copies always better than 100?

MG: Well, of course! Here's the basic premise of the Agricultural Revolution: keeping more people alive on the same area of territory. That's progress!

FLASH INTERVIEW WITH YUVAL NOAH HARARI

Three questions for Prof. Harari:

DBN: What do you say to Professor Goldmine's challenge of your analysis?

YNH: Yes, thanks to agriculture there were more people on earth, but they were also more miserable! Why would any sensible person lower their standard of living just to mul-

tiply the number of copies of the Homo sapiens genome? It would be ridiculous. Nobody agreed to this deal! It was a trap! And it closed so slowly that humans fell into it before they understood what was happening!



(Interview continued on page 12.)

HOMO SAPIENS REACHED THE MIDDLE EAST TENS OF THOUSANDS OF YEARS AGO.



FOR NUMEROUS GENERATIONS OUR ANCESTORS DID PRETTY WELL THERE WITHOUT AGRICULTURE.



THEY SOMETIMES ATE WILD WHEAT, BUT IT WAS ONLY A TINY PART OF THEIR DIET. THEY HAD PLENTY OF OTHER THINGS TO EAT.



IT'S TRUE, THERE WEREN'T MANY OF US AND THE REGION'S RESOURCES WERE ENOUGH FOR US.

IN TIMES OF PLENTY OUR ANCESTORS HAD MORE CHILDREN.



WHEN TIMES WERE HARD, THEY HAD FEWER.



LIKE MANY MAMMALS, HUMANS HAVE HORMONAL AND GENETIC MECHANISMS THAT HELP CONTROL PROCREATION.

WHEN FOOD IS SCARCE, PUBERTY IS DELAYED AND FERTILITY DECREASES.

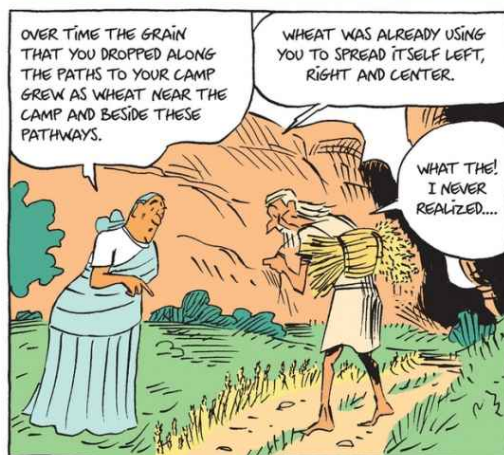
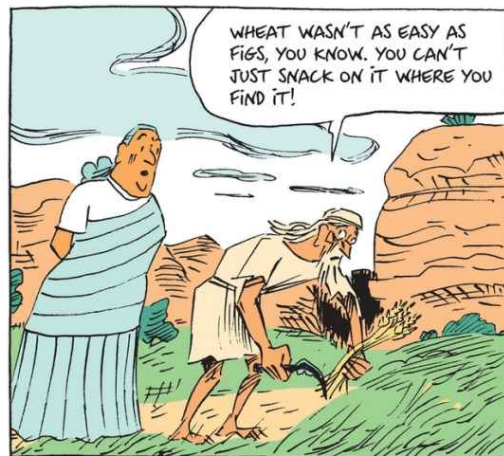
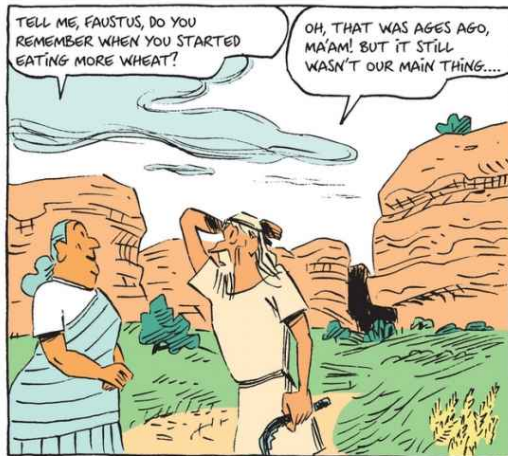
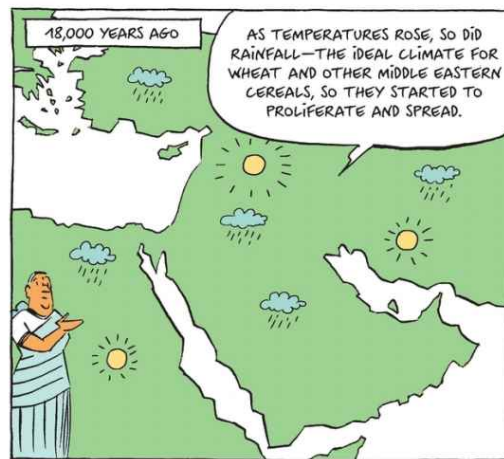
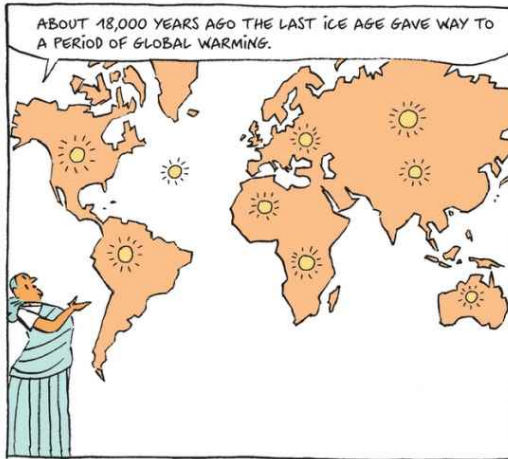


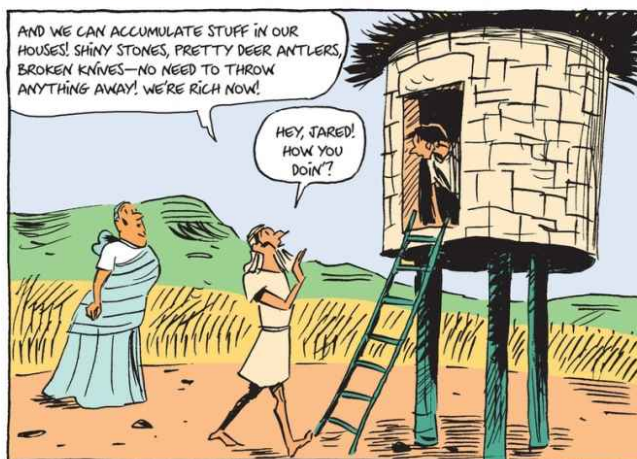
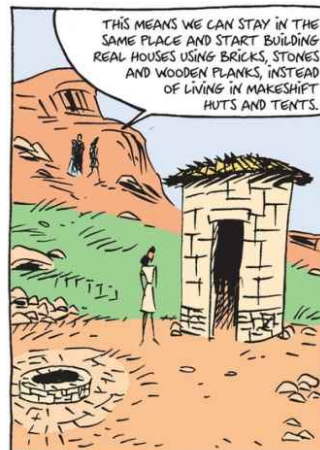
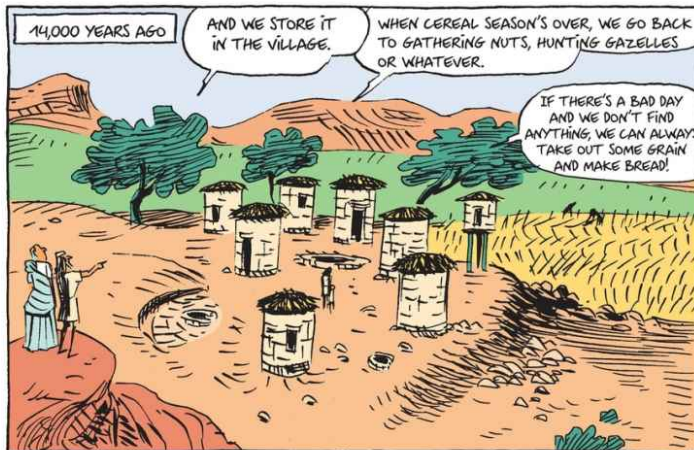
AGE 14

WHEN FOOD IS ABUNDANT, GIRLS REACH PUBERTY EARLIER AND THEY HAVE A HIGHER CHANCE OF CONCEIVING.



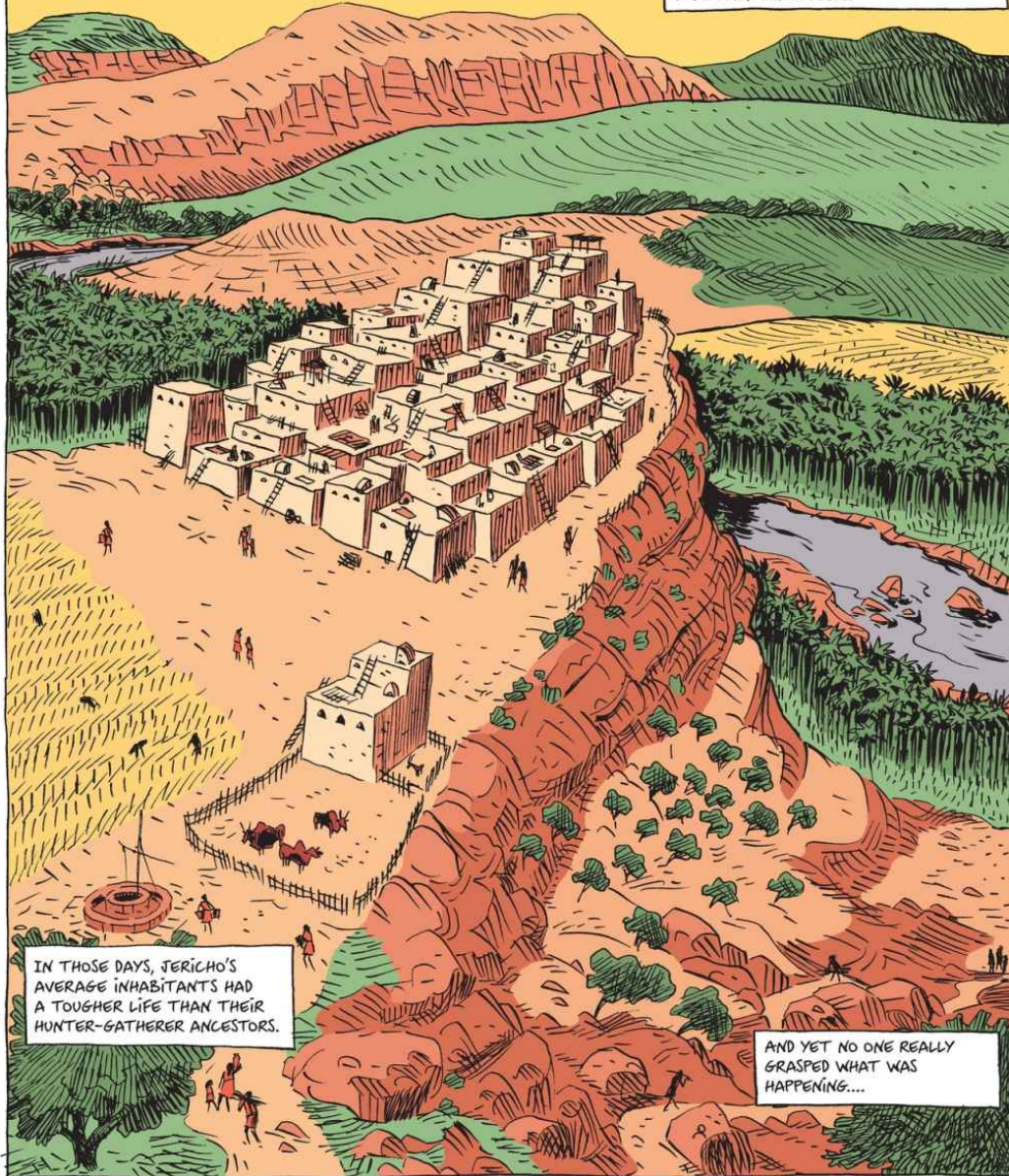
AGE 12





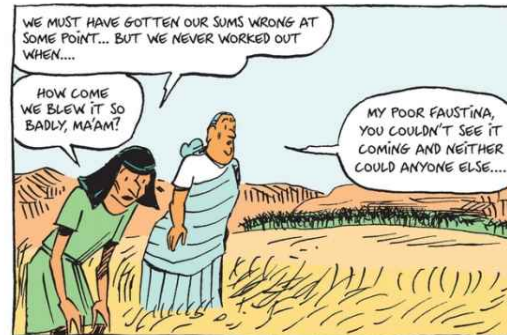
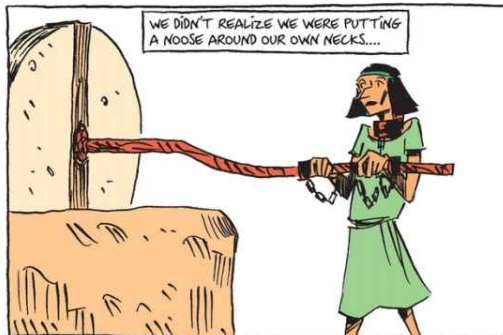
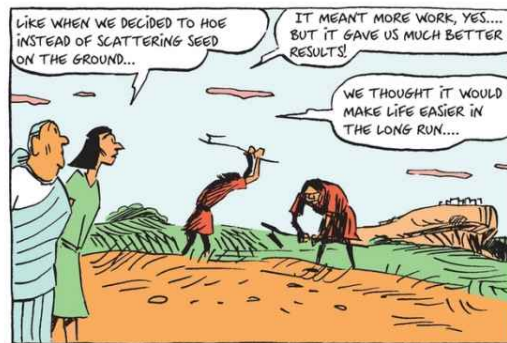
IT'S HARD TO PINPOINT EXACTLY WHEN THE TRANSITION TO FARMING OCCURRED. THERE WASN'T A SINGLE DECISIVE STEP SEPARATING FAUSTUS GATHERING WILD WHEAT FROM HIS DESCENDANTS CULTIVATING DOMESTICATED WHEAT.

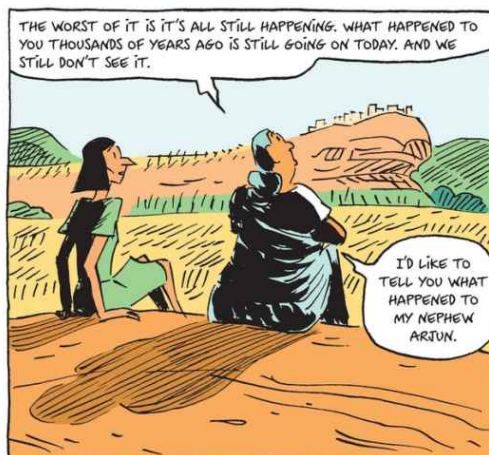
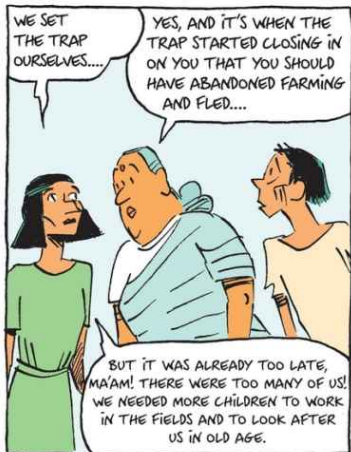
BUT ABOUT 10,000 YEARS AGO, THE MIDDLE EAST WAS DOTTED WITH PERMANENT VILLAGES LIKE JERICHO. AND THEIR INHABITANTS SPENT MOST OF THEIR TIME CULTIVATING DOMESTICATED SPECIES.

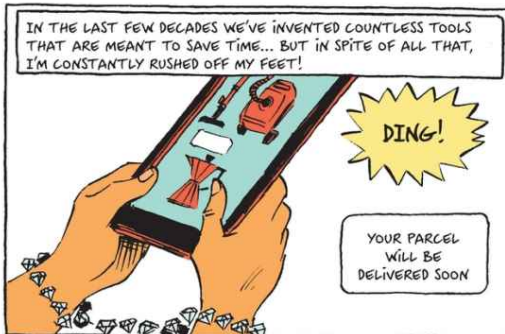


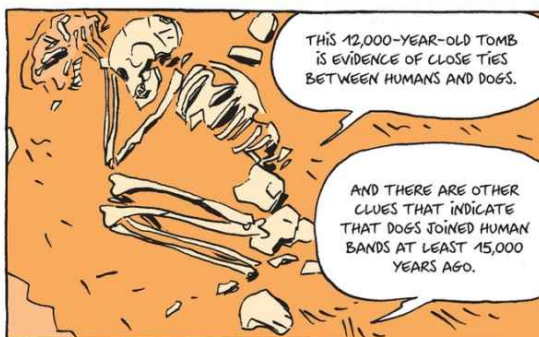
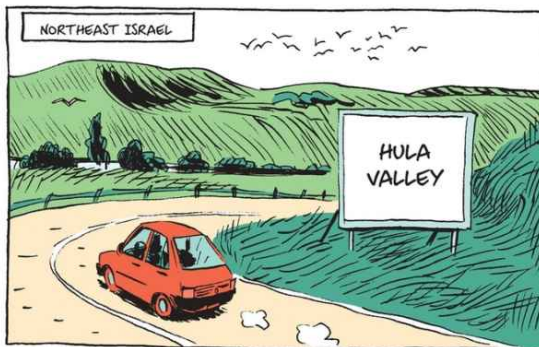
IN THOSE DAYS, JERICHO'S AVERAGE INHABITANTS HAD A TOUGHER LIFE THAN THEIR HUNTER-GATHERER ANCESTORS.

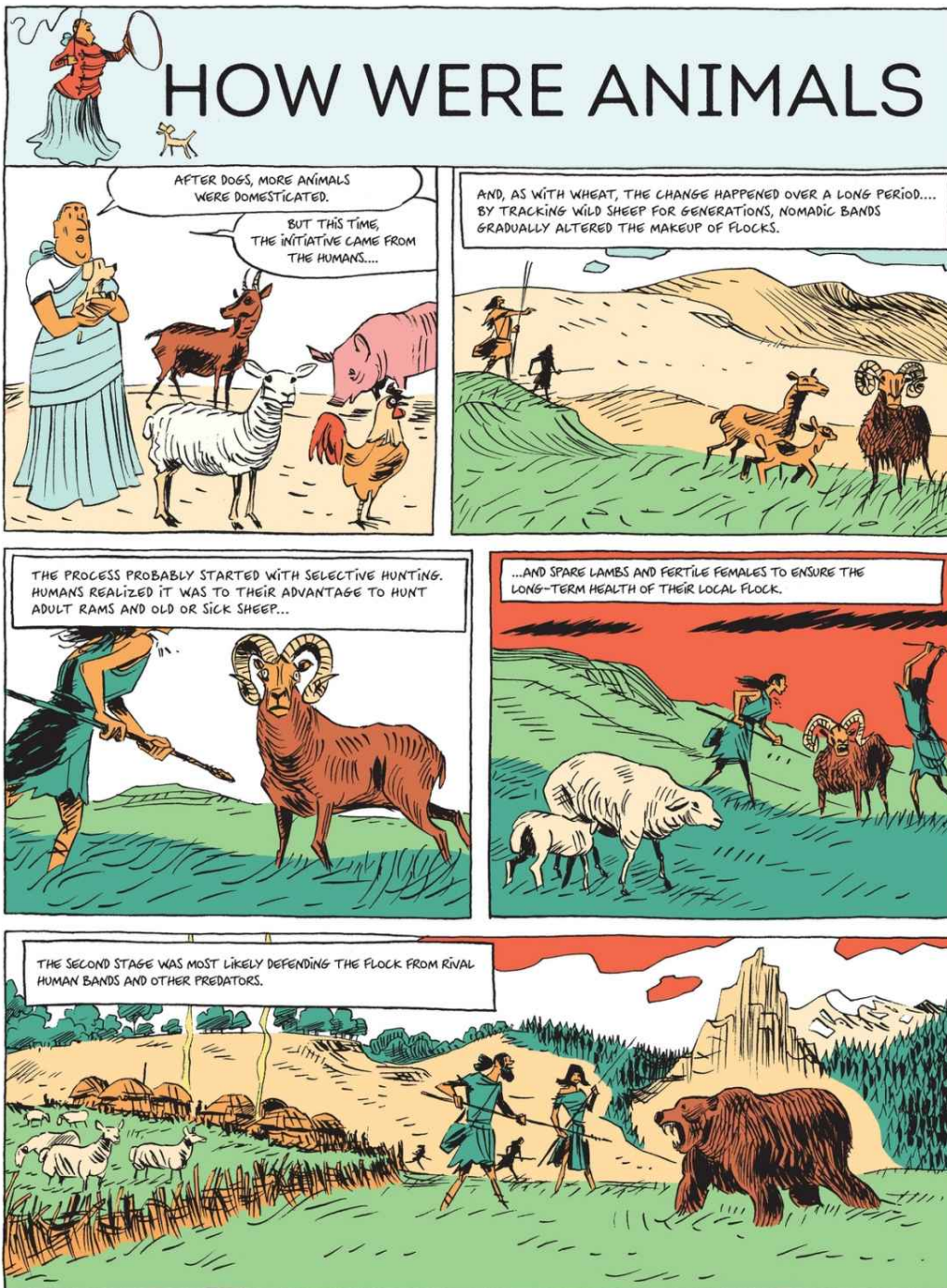
AND YET NO ONE REALLY GRASPED WHAT WAS HAPPENING....





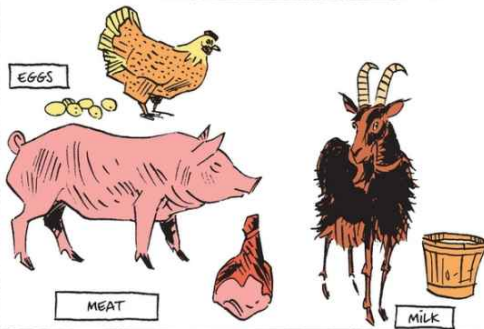






WHY WERE ANIMALS

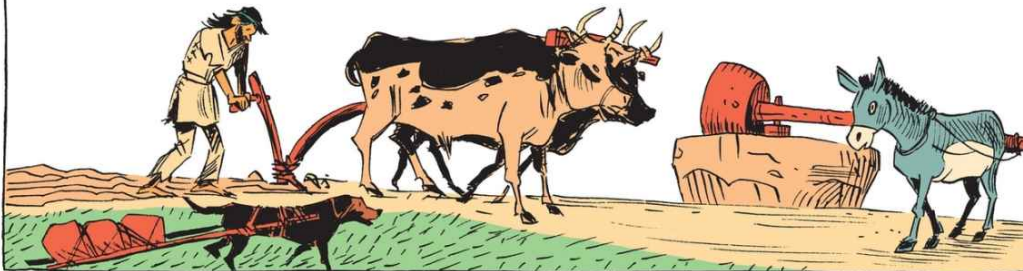
DOMESTICATED ANIMALS WERE VERY USEFUL TO HUMANS. OF COURSE, THEY WERE A SOURCE OF FOOD...



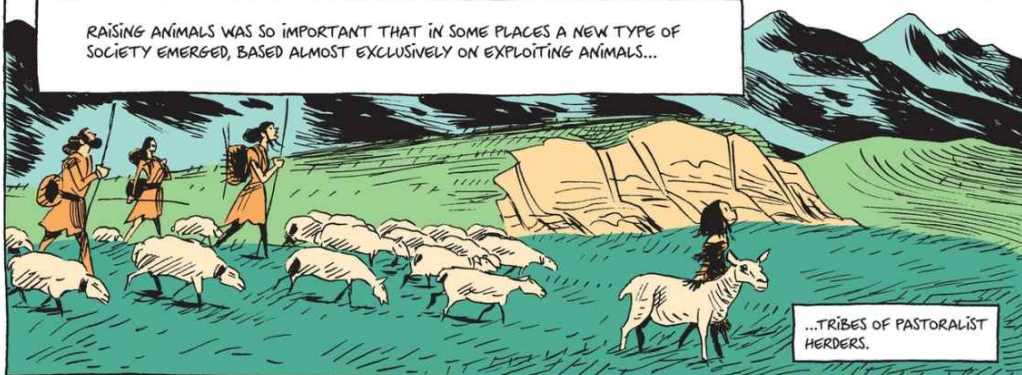
...AND RAW MATERIALS...



...AS WELL AS SHEER MUSCLE POWER. DOMESTICATED ANIMALS STARTED REPLACING HUMANS IN ALL SORTS OF TASKS.

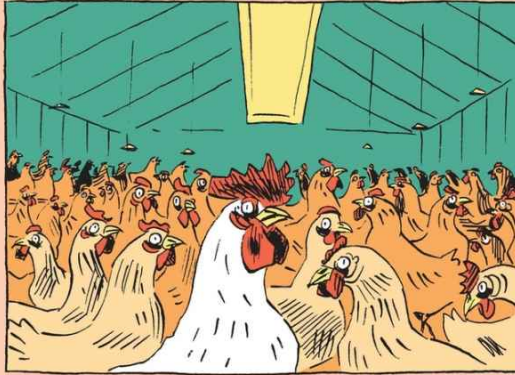


RAISING ANIMALS WAS SO IMPORTANT THAT IN SOME PLACES A NEW TYPE OF SOCIETY EMERGED, BASED ALMOST EXCLUSIVELY ON EXPLOITING ANIMALS...

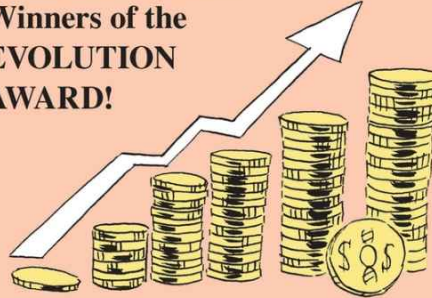


THE DAILY BUSINESS NEWS

CHICKENS—AN INCREDIBLE SUCCESS STORY!



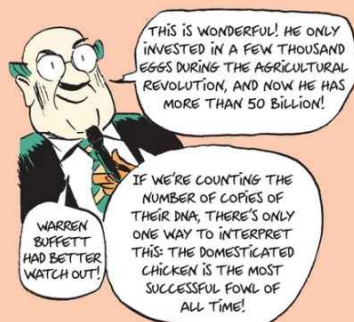
The stratospheric success
of one bird species!
Winners of the
EVOLUTION
AWARD!



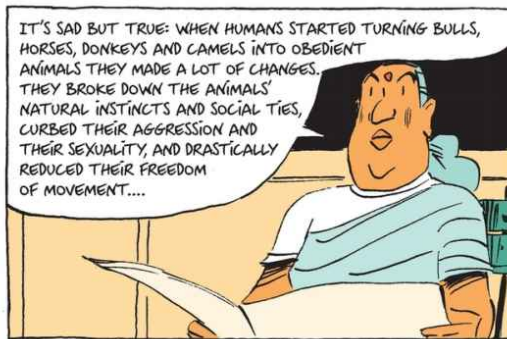
Read our special feature on pages 4 to 12



Famous economist Milton Goldmine gives us his reaction



Milton Goldmine, member of the jury for the Evolution Awards



FARMERS STARTED SYSTEMATICALLY CONTAINING ANIMALS IN PENS AND CAGES, BRIDLING THEM WITH HARNESSSES AND LEASHES, DISCIPLINING THEM WITH WHIPS AND CATTLE PRODS, AND MUTILATING THEM. THEY CUT OFF THEIR HORNS OR THEIR EARS--AND OF COURSE THEIR TESTICLES.



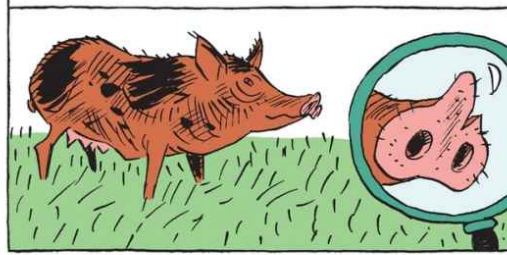
THE TAMING PROCESS ALMOST ALWAYS INVOLVES CASTRATION, WHICH REDUCES MALE AGGRESSION AND MEANS HUMANS CAN COMPLETELY CONTROL BREEDING WITHIN THE HERD.



IN MANY SOCIETIES THROUGHOUT THE WORLD, PEOPLE'S WEALTH HAS TRADITIONALLY BEEN DETERMINED BY HOW MANY ANIMALS THEY OWNED. IN NEW GUINEA, FOR EXAMPLE, PIGS WERE THE KEY ASSET.



IN NORTHERN NEW GUINEA, FARMERS MAKE SURE THEIR PIGS DON'T RUN AWAY BY SLICING OFF PART OF THEIR SNOUTS. THIS CAUSES THE PIGS SEVERE PAIN WHENEVER THEY TRY TO SNIFF.



A PIG CAN'T FIND FOOD OR EVEN FIND ITS WAY AROUND WITHOUT SNIFFING, SO THIS MUTILATION MAKES THEM COMPLETELY DEPENDENT ON THEIR HUMAN OWNERS.



THE WHOLE OF THE DAIRY INDUSTRY IS BUILT ON BREAKING THE MOST FUNDAMENTAL BOND IN MAMMALS—THE BOND BETWEEN A MOTHER AND HER OFFSPRING. AS A BIOLOGIST, I FIND THAT TERRIBLY CRUEL.

ACTUALLY, I FIND THE DAIRY INDUSTRY NOT ONLY CRUEL, BUT ALSO PRETTY STRANGE.

WHY SHOULD HUMANS DRINK COW'S MILK? WOLVES NEVER DRINK EWE'S MILK, AND TIGERS NEVER DRINK ELEPHANT'S MILK, DO THEY?

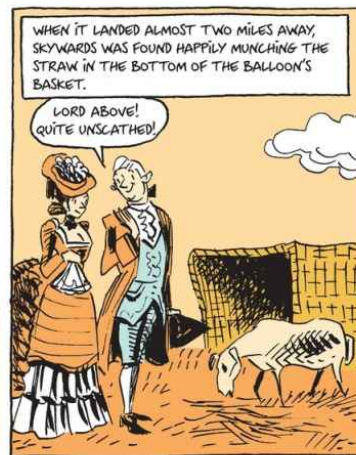
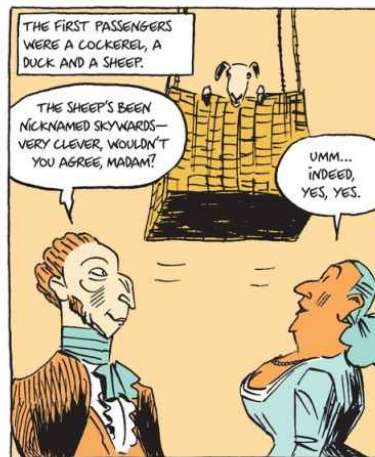
NEANDERTHALS AND ANCIENT SAPIENS DIDN'T DRINK OTHER ANIMALS' MILK EITHER. HUMAN BABIES WERE REARED ON THEIR MOTHER'S MILK, BUT ONCE THEY WERE WEANED, THEY NEVER DRANK MILK AGAIN.

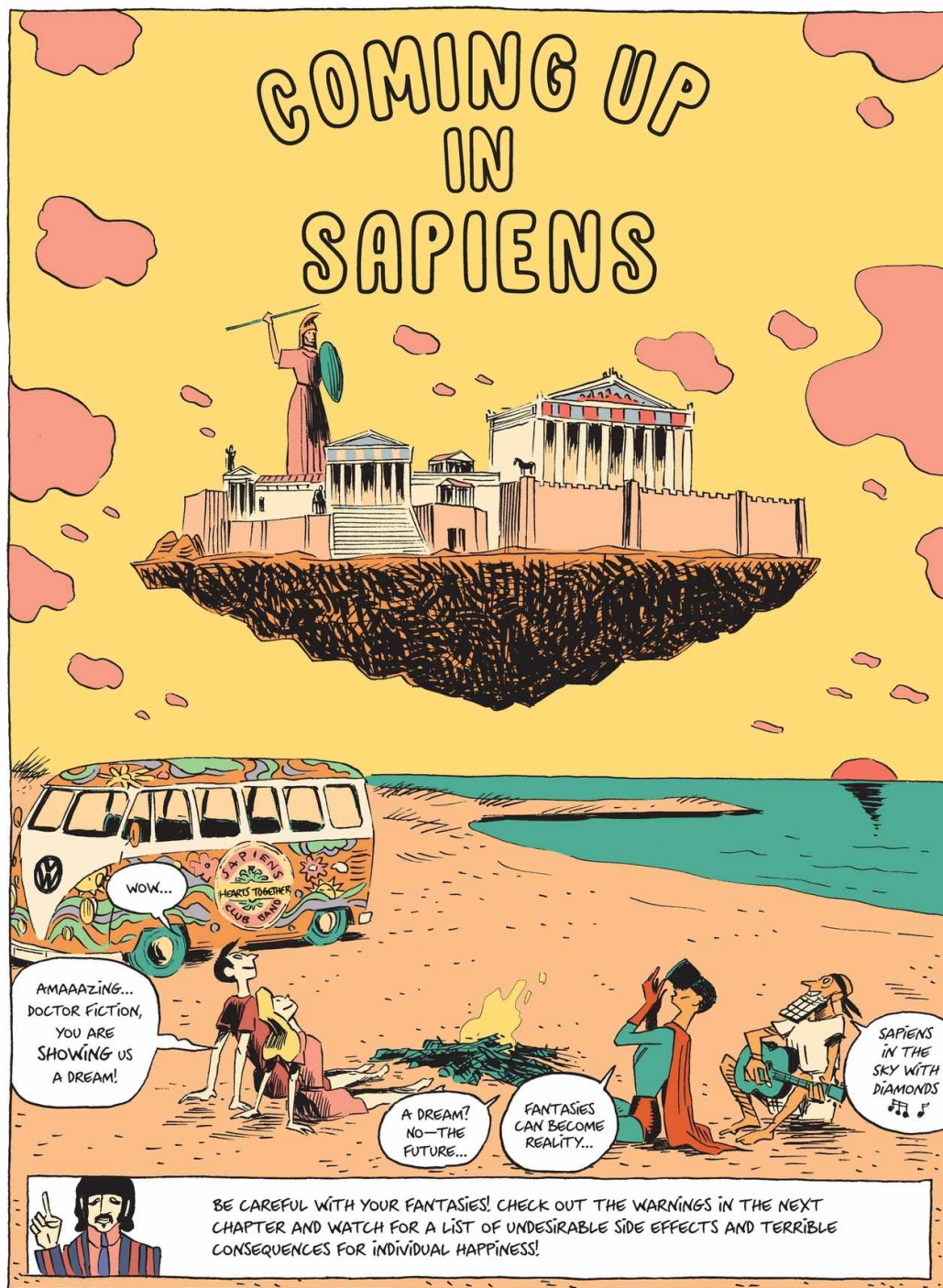
IF YOU SUGGESTED TO OUR FORAGER ANCESTORS THAT THEY SHOULD MILK A WILD COW AND DRINK HER MILK, THEY'D THINK IT WAS THE MOST OUTLANDISH, DISGUSTING IDEA THEY'D EVER HEARD.

OUR DIGESTIVE SYSTEM HASN'T REALLY HAD TIME TO ADAPT. THAT'S WHY SO MANY PEOPLE STILL HAVE ALL SORTS OF HEALTH PROBLEMS WHEN THEY DRINK MILK.

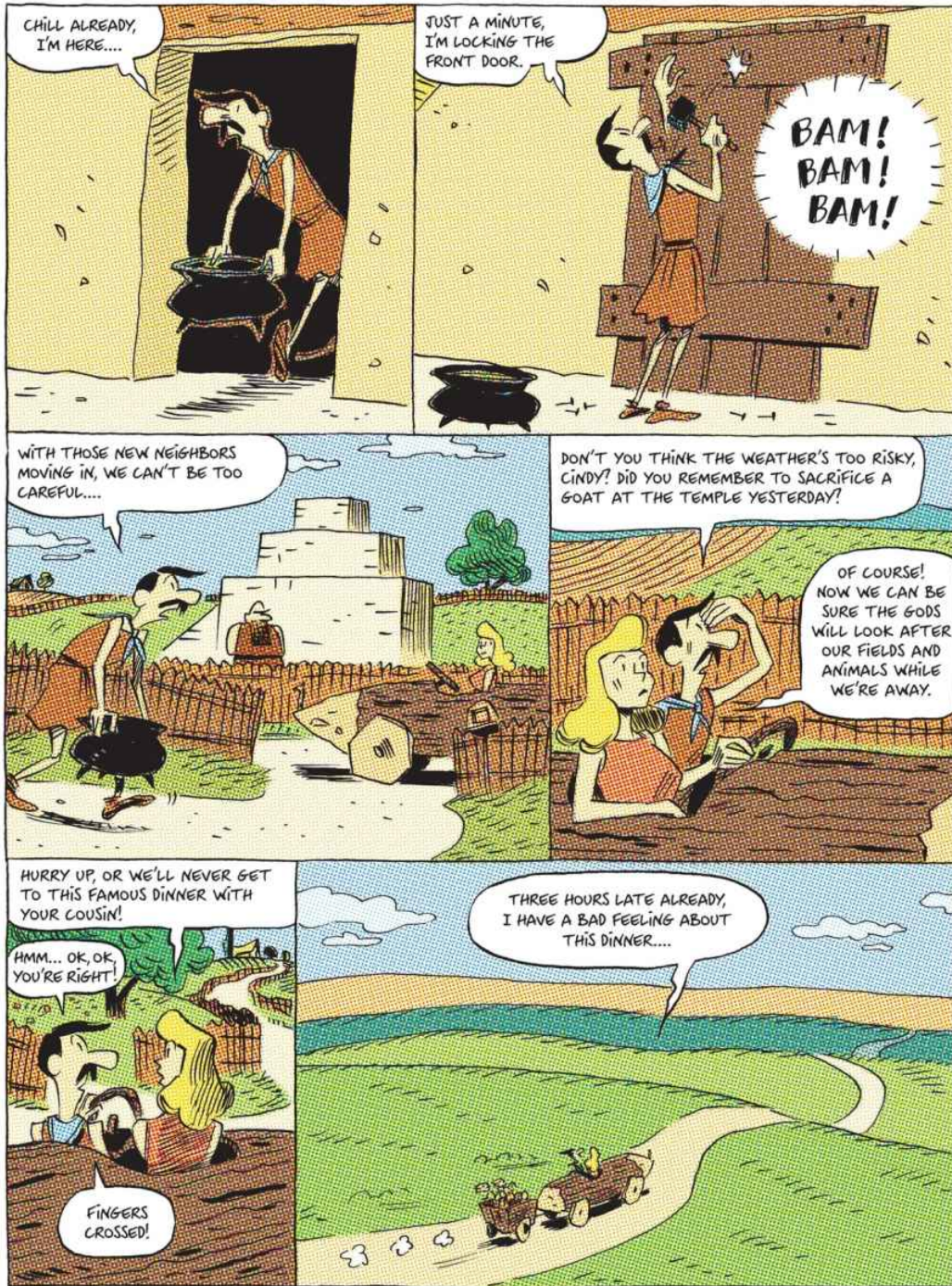
THIS WHOLE QUESTION OF ANIMAL DOMESTICATION MAKES ME VERY UNCOMFORTABLE....

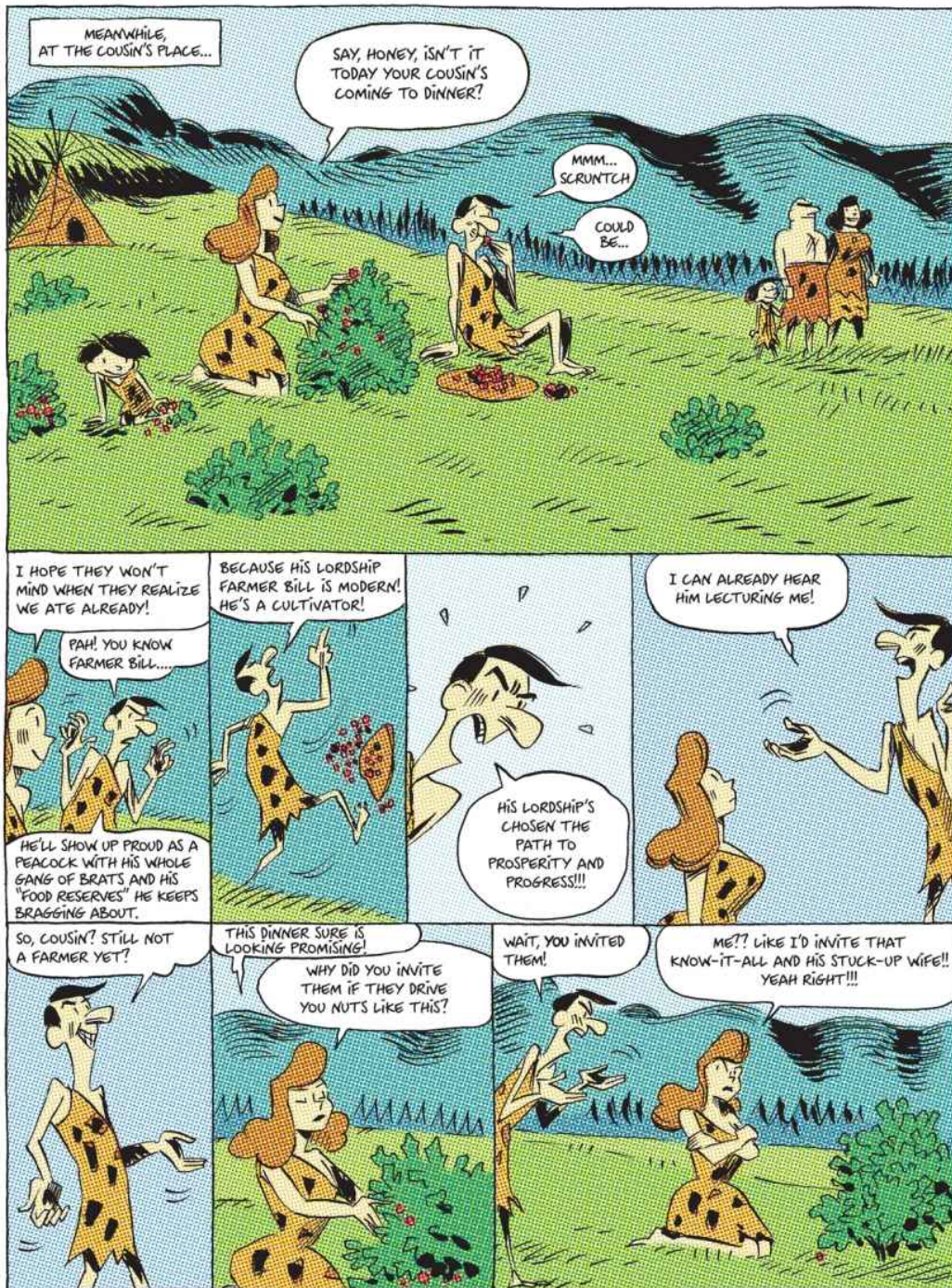


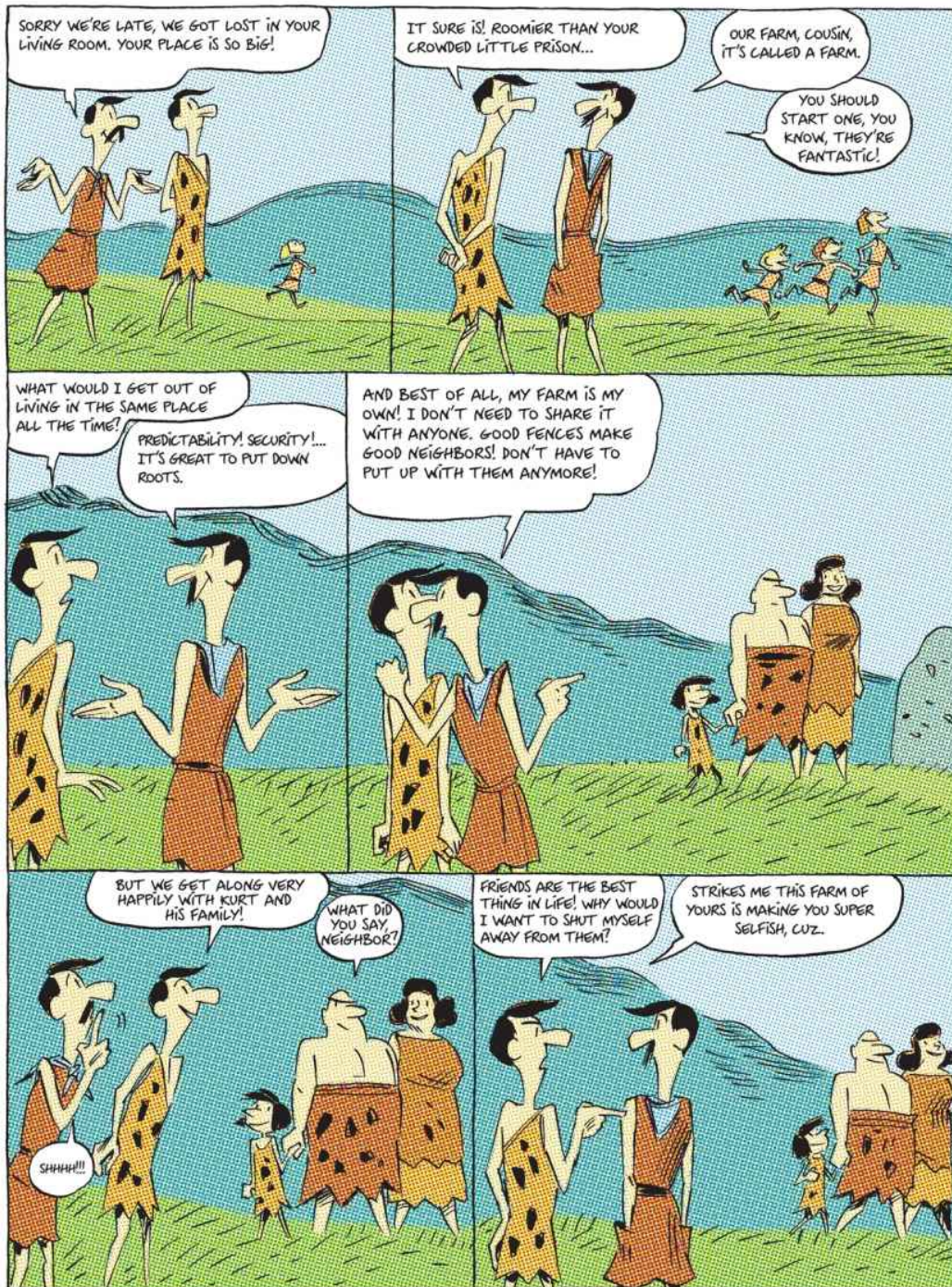


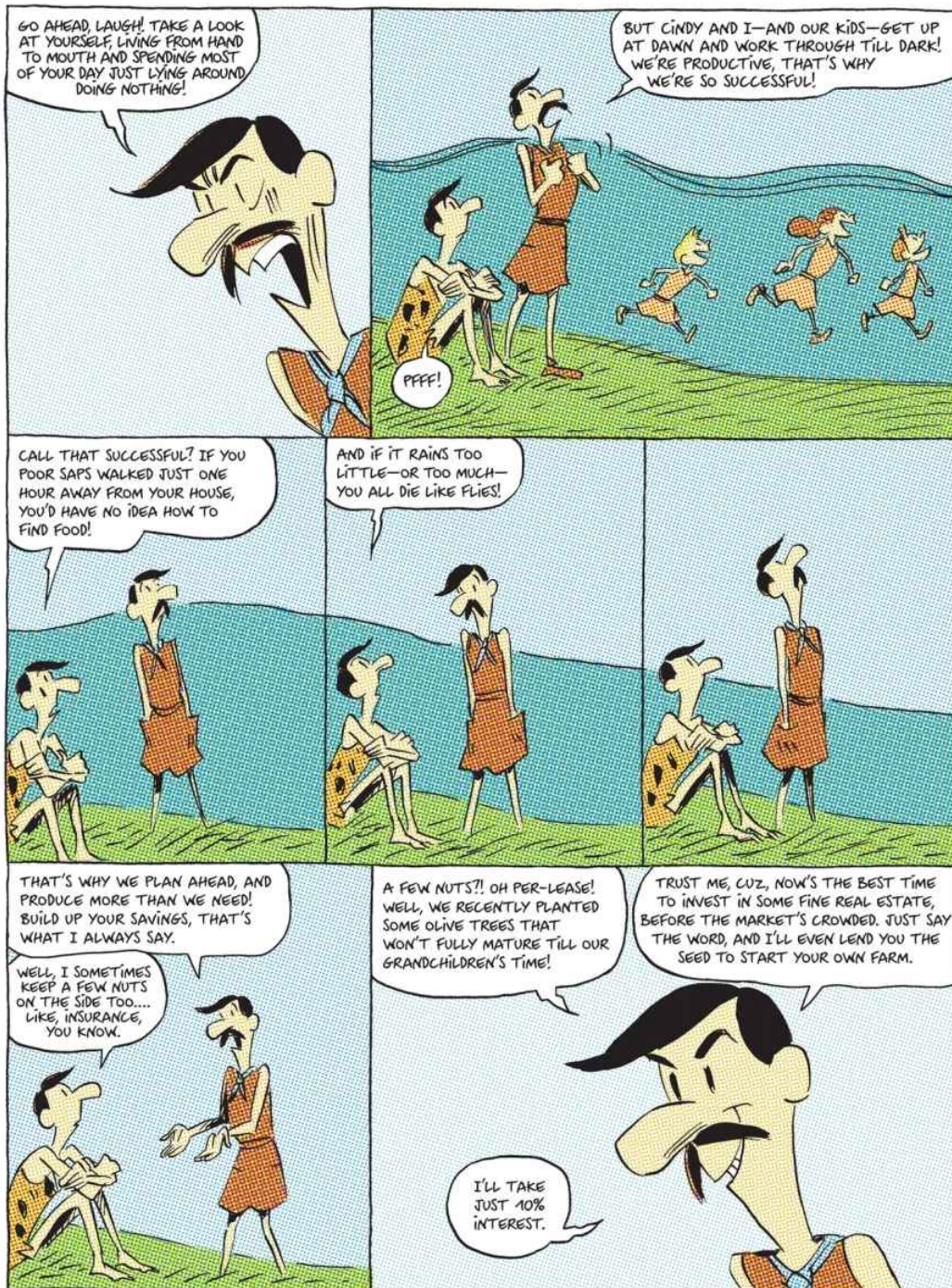


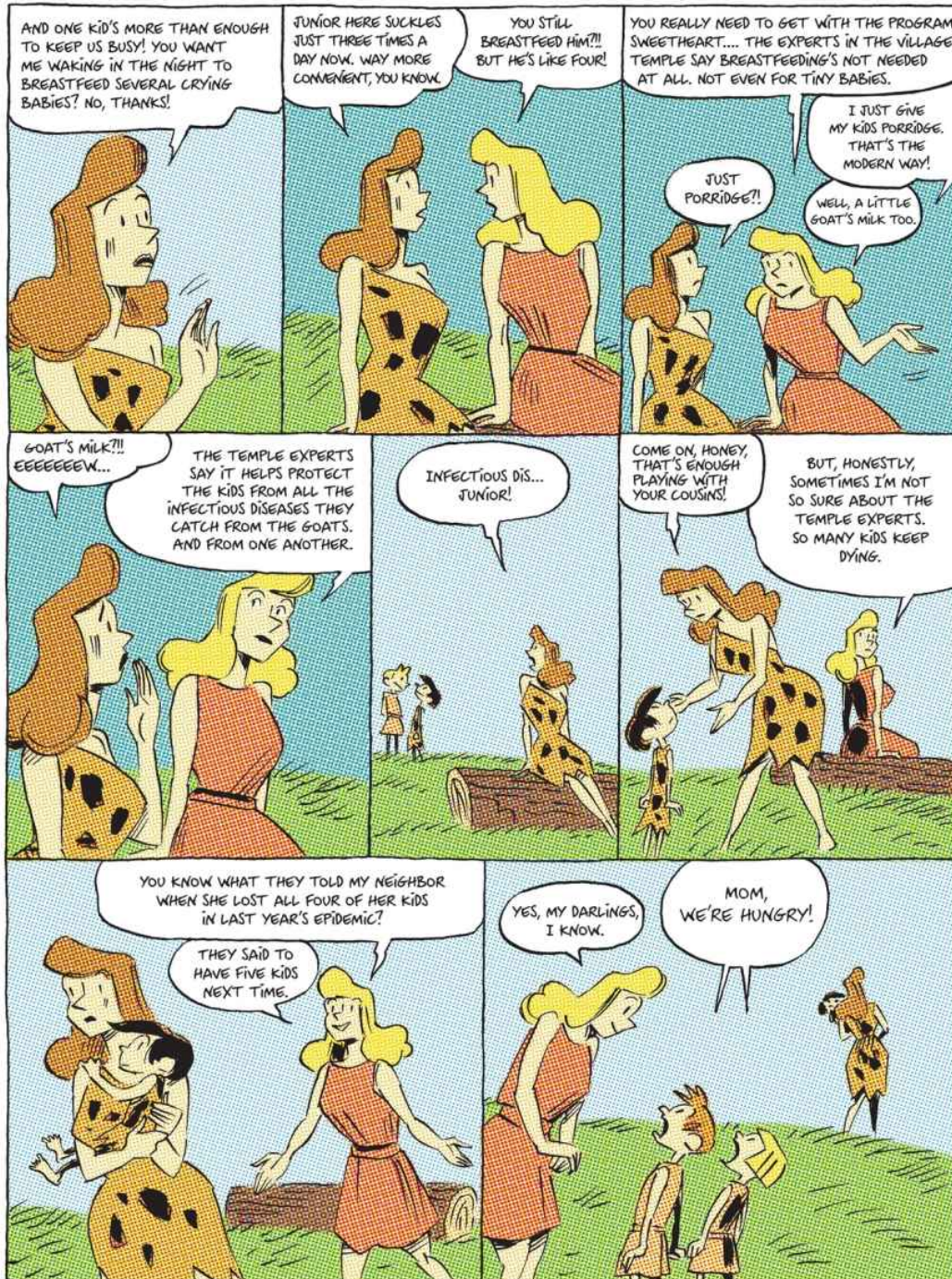
OF MYTHS
AND MEN

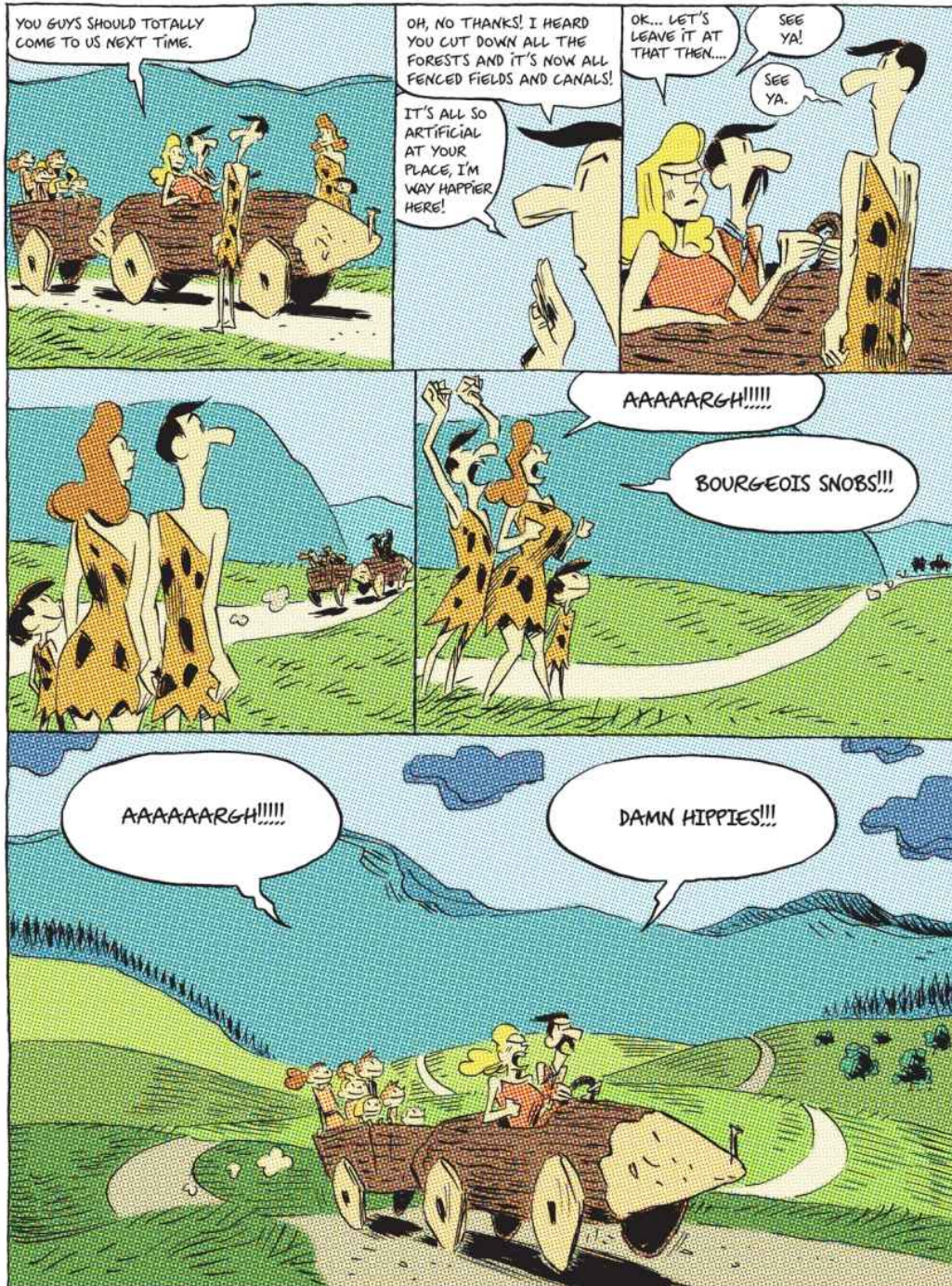


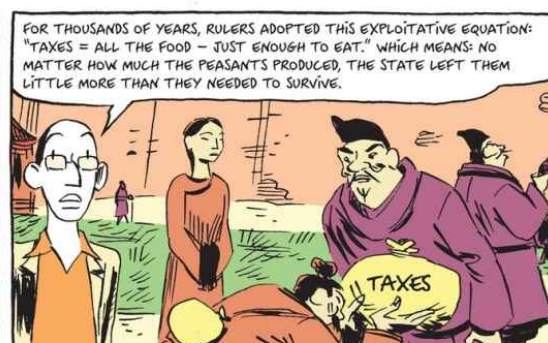
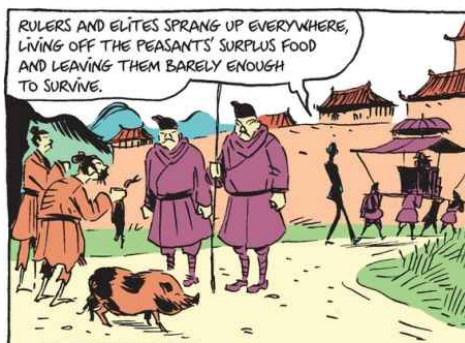
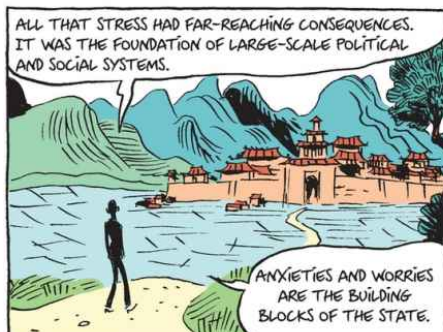
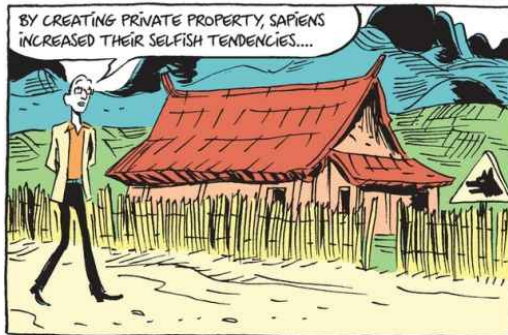


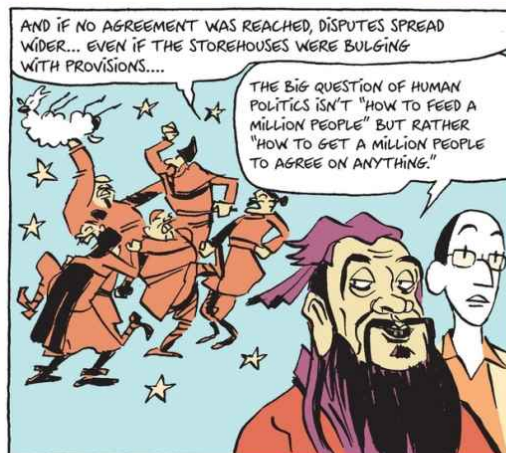
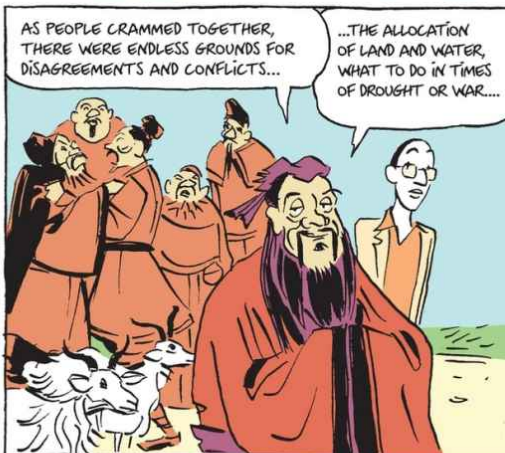
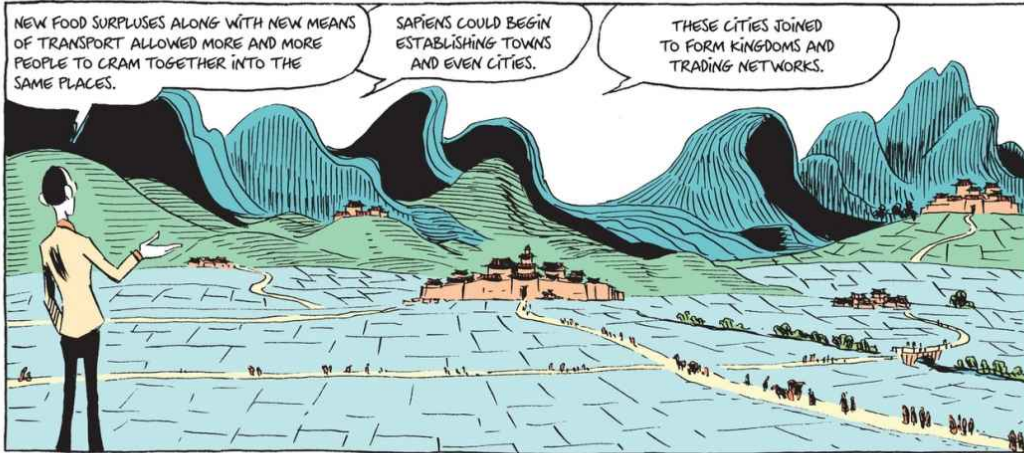


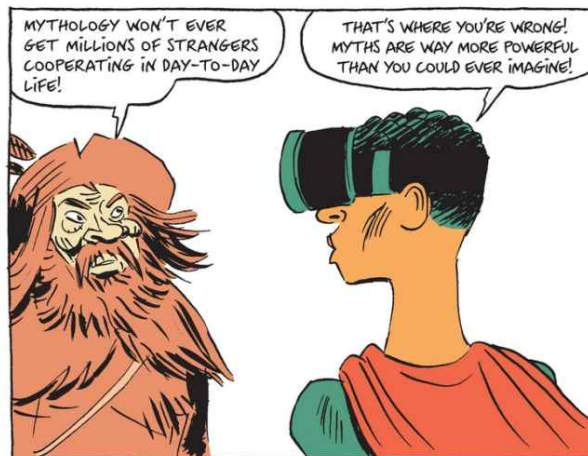
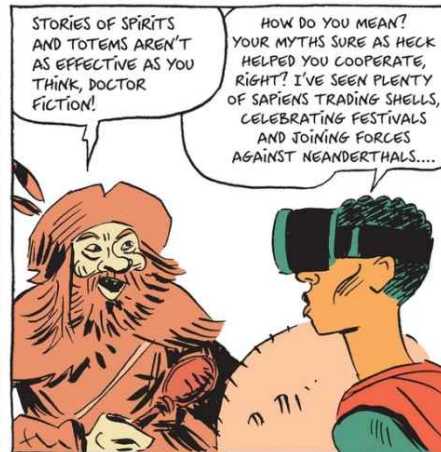
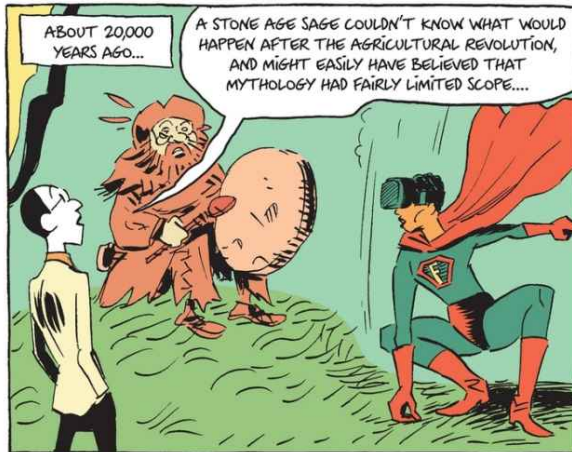
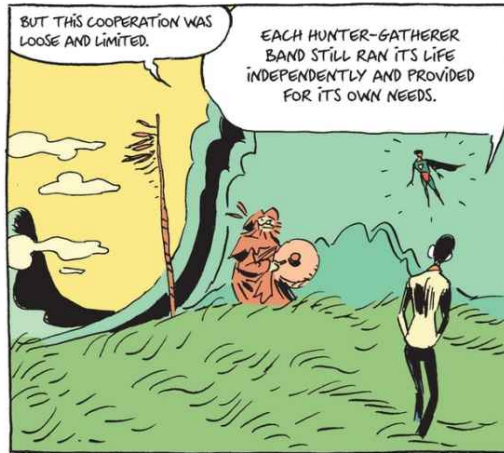
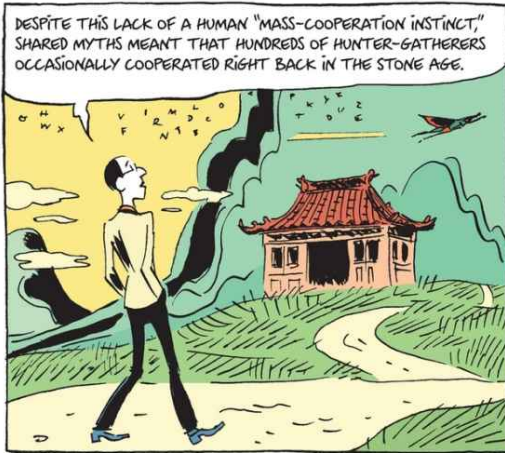














FANTASY TRIPS

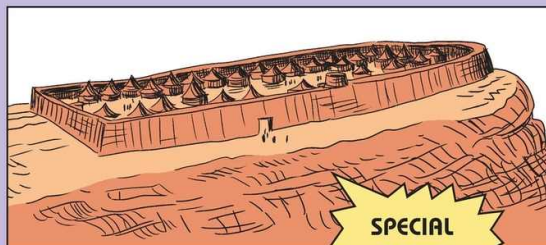
FOR SHAMANS, WITCH DOCTORS, DRUIDS...

📍 JERICHO OASE

- 10,000 years ago
- 1,000 inhabitants
- 1 small temple



- ▶ Help bring in the first sheaves of the harvest!
- ▶ Experience the local goat sacrifice ceremony!



**SPECIAL
OFFER**



**MUST
HAVE!**

📍 GATALHÖYÜK TOWN

The Anatolia of your dreams!

- 9,000 years ago
- 5,000 inhabitants
- 63 shrines



- ▶ Don't miss the spring bull festival!
- ▶ Improve your luck in life with a bull sacrifice!
- ▶ Worship the great female spirit!
- ▶ Rest easy in Neolithic luxury!

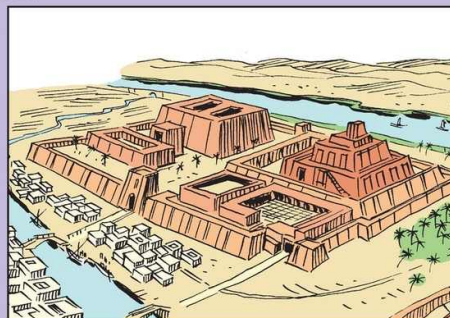
📍 MESOPOTAMIA

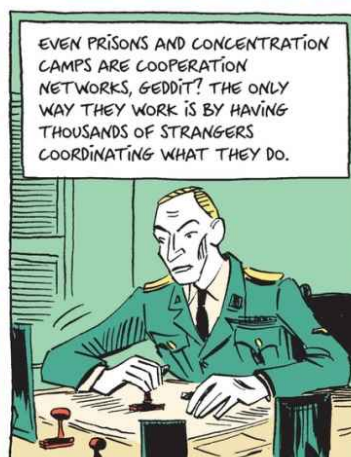
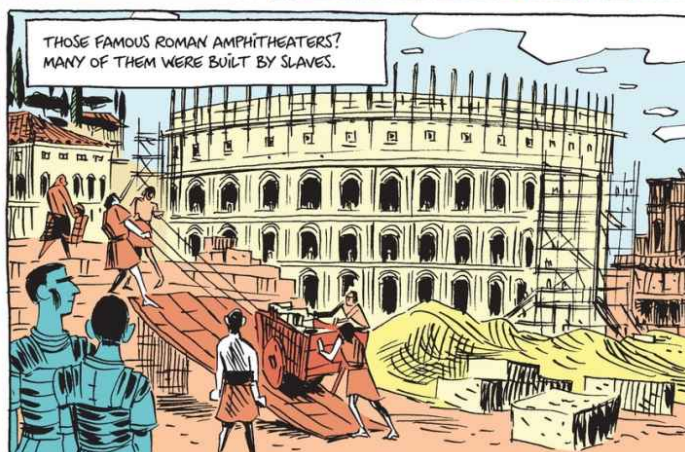
Where the fun never stops!

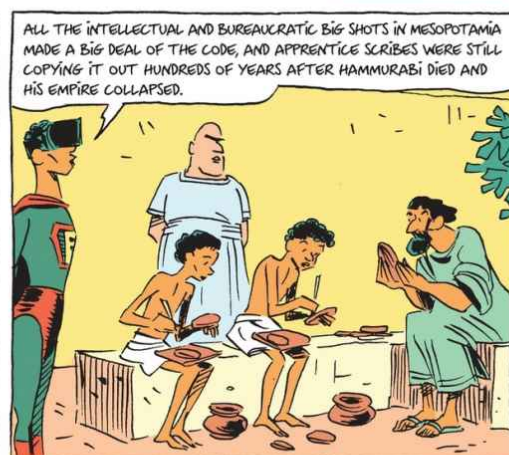
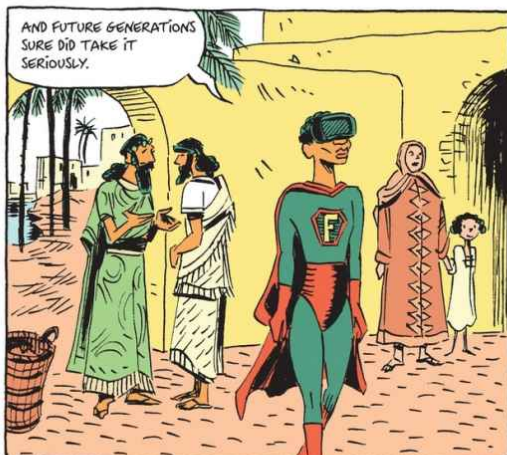
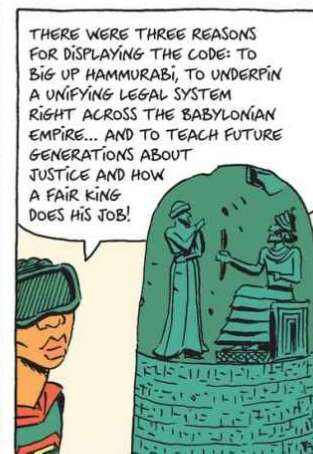
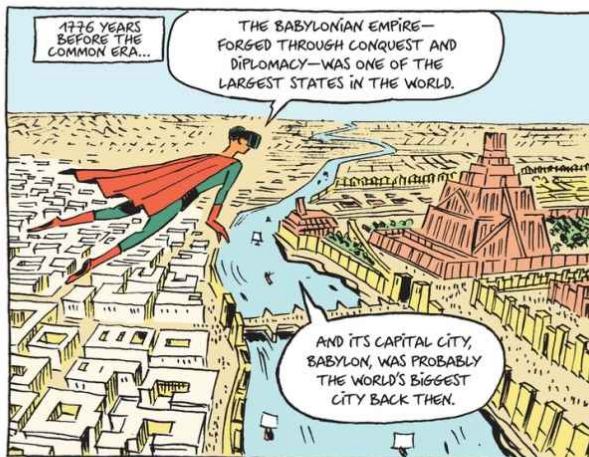
- 5,000 years ago
- Kingdoms of more than 100,000 inhabitants

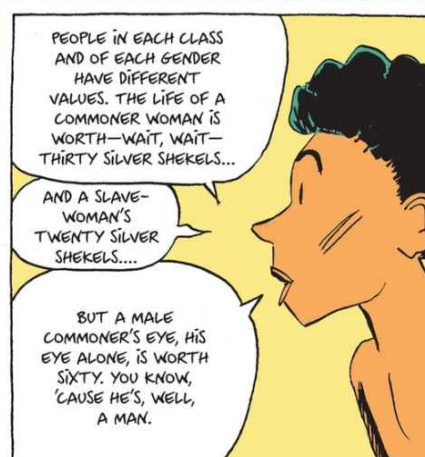
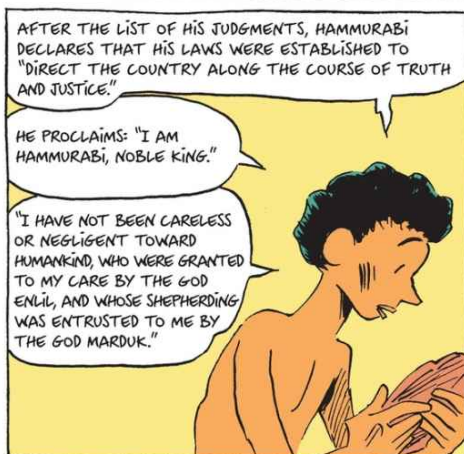
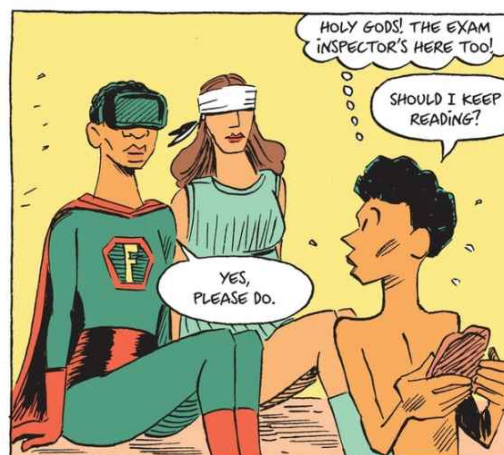


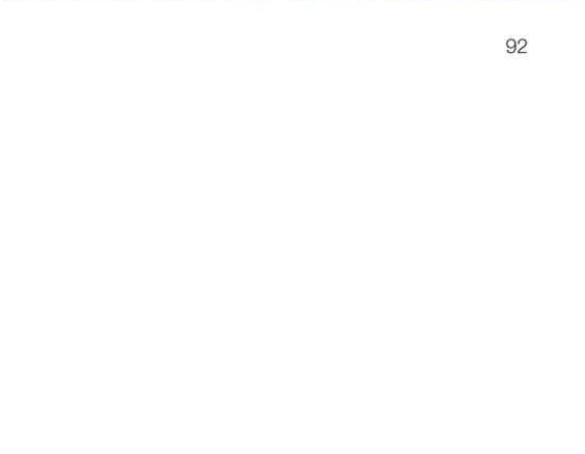
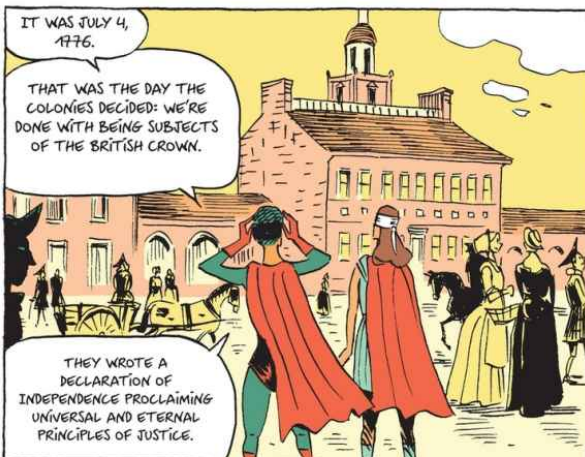
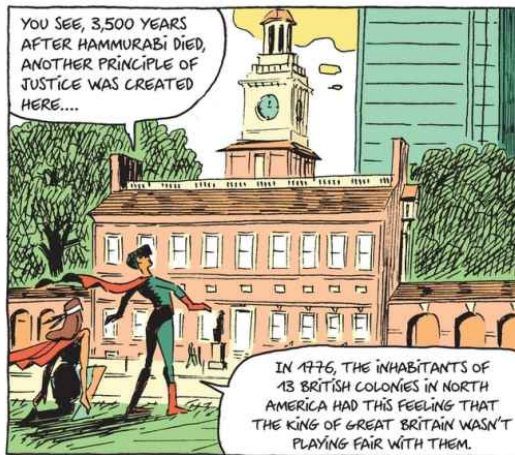
- ▶ Visit the Abzu temple of Enki, god of deep waters and magic!
- ▶ Let Ishtar teach you all about love, sex... and war!
- ▶ Try out the 12-step Gilgamesh Immortality Plan™!

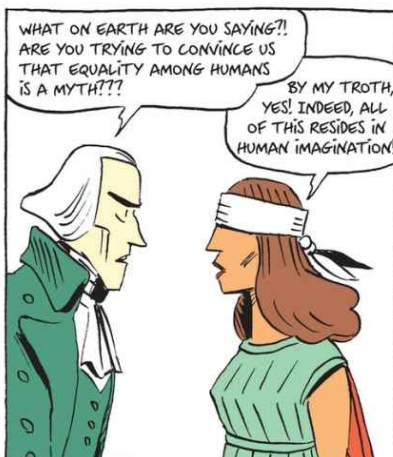
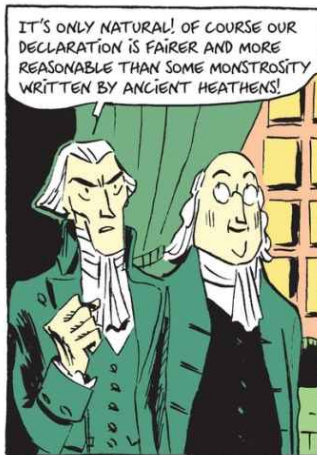


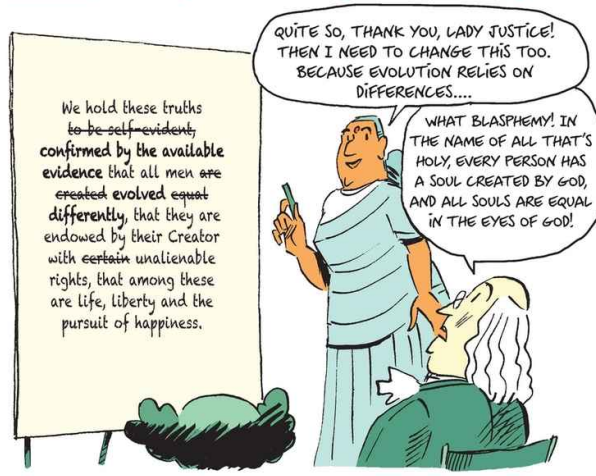
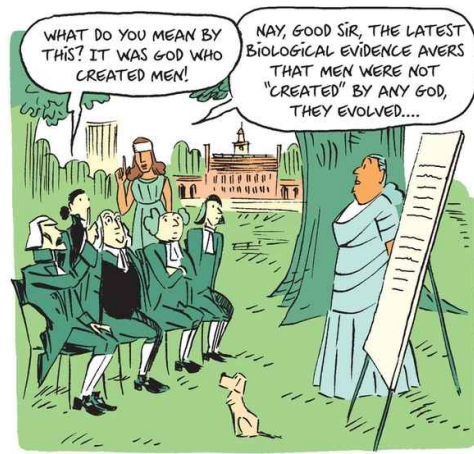
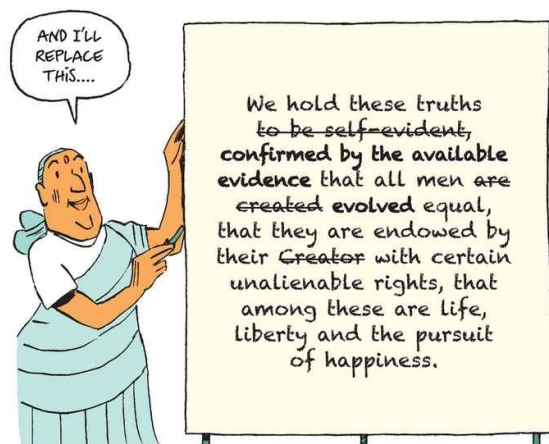
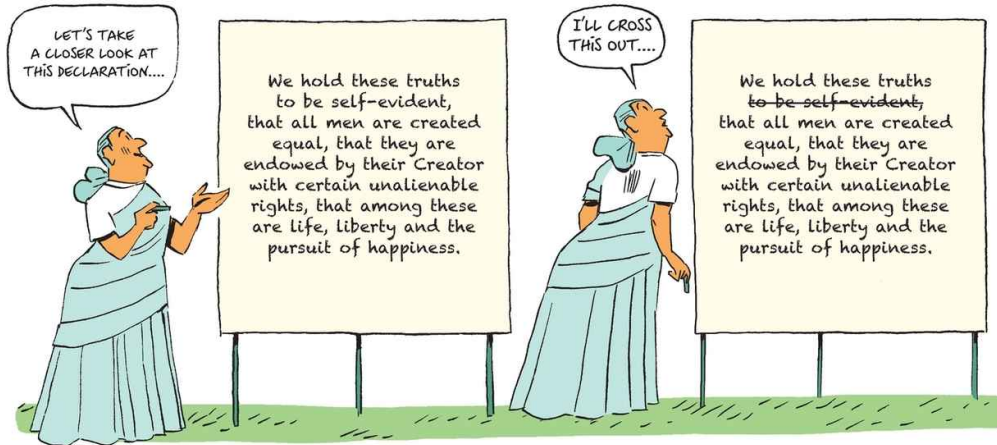


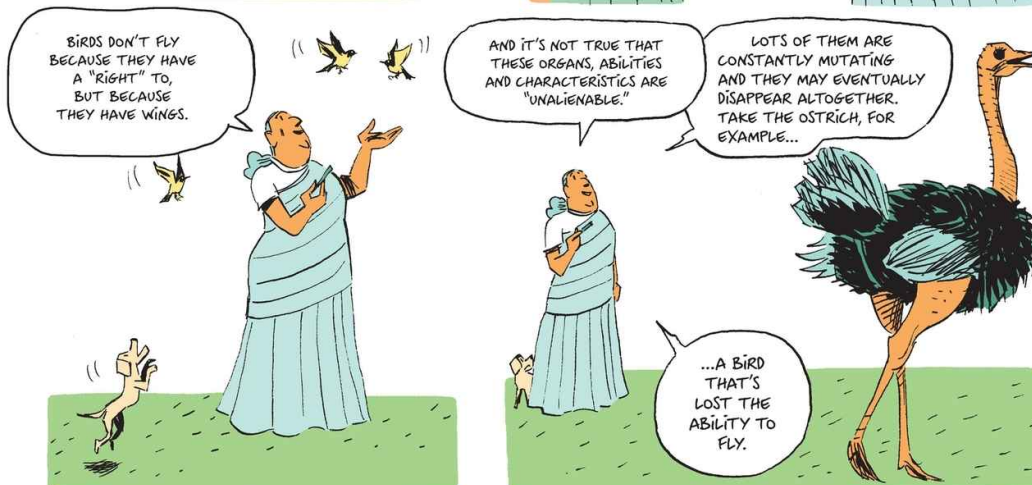
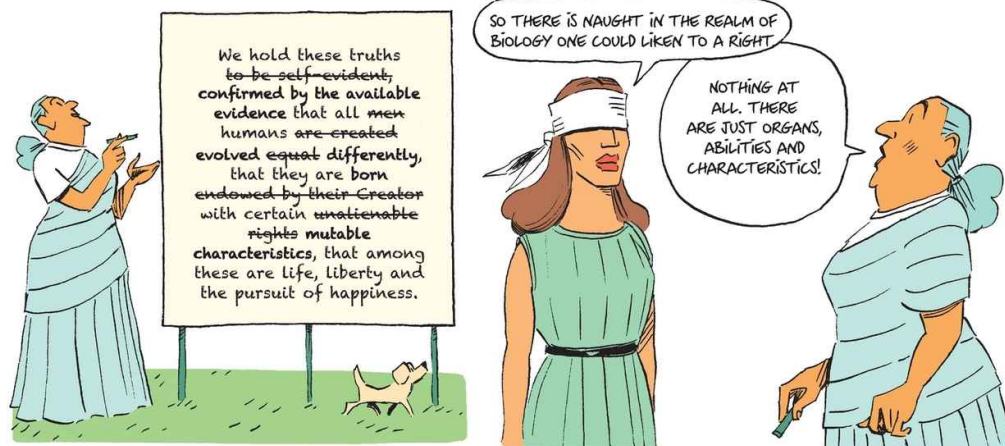
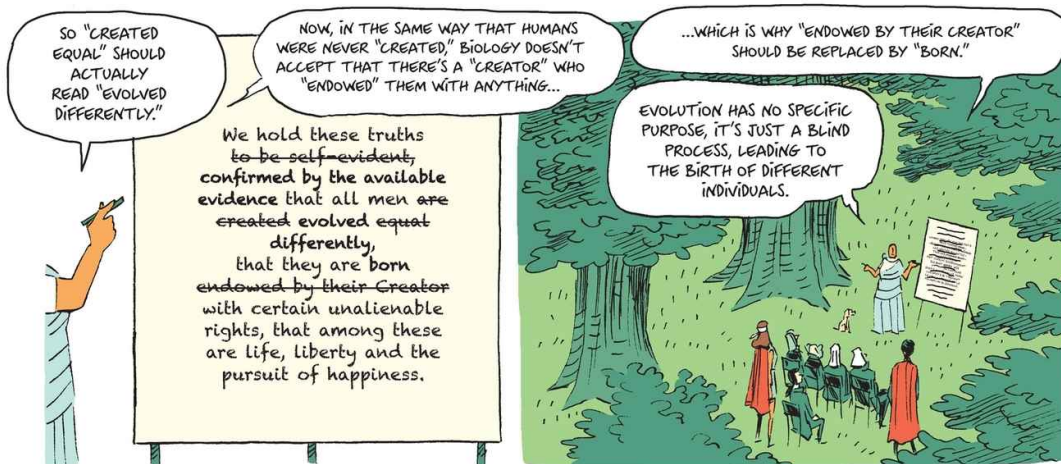


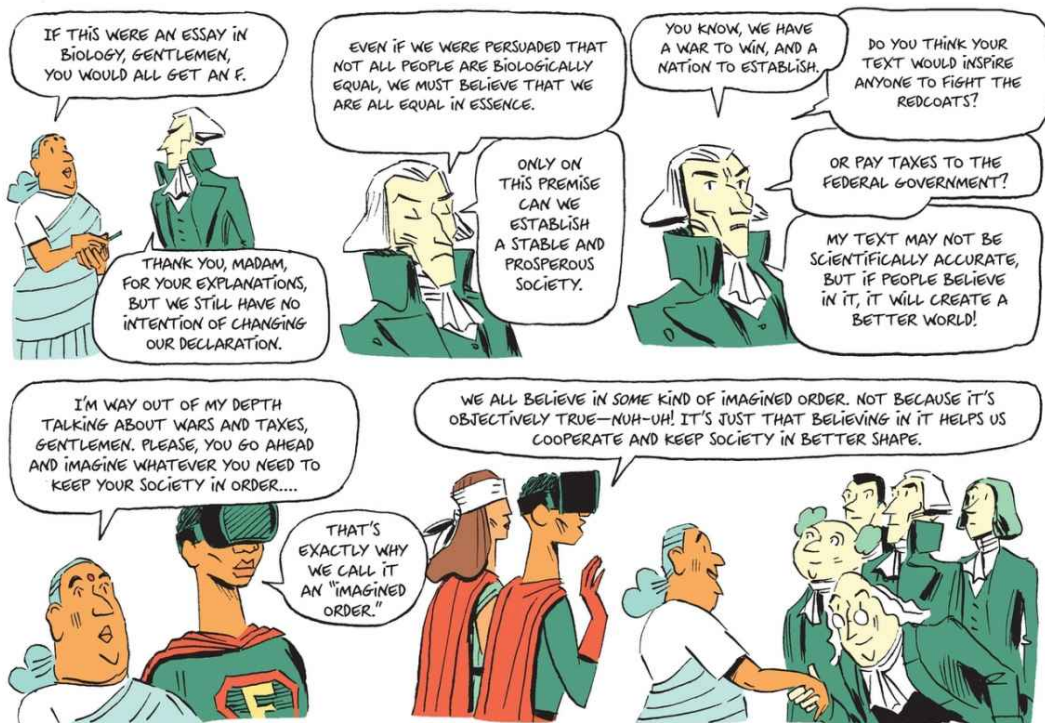


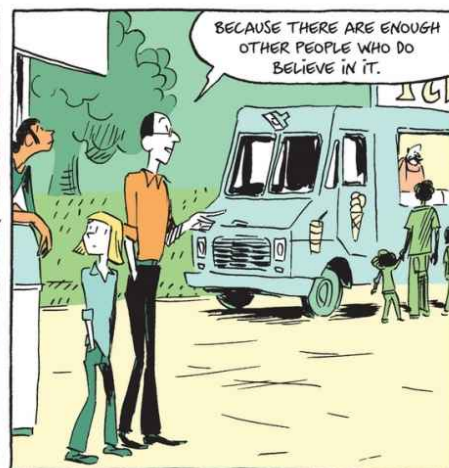
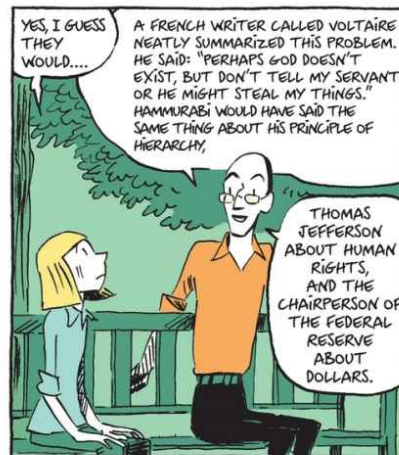
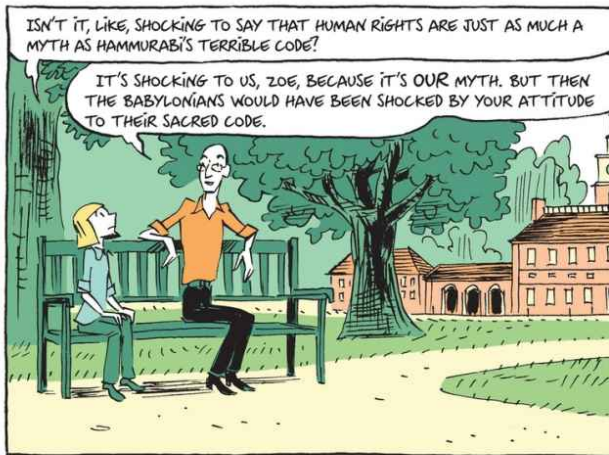


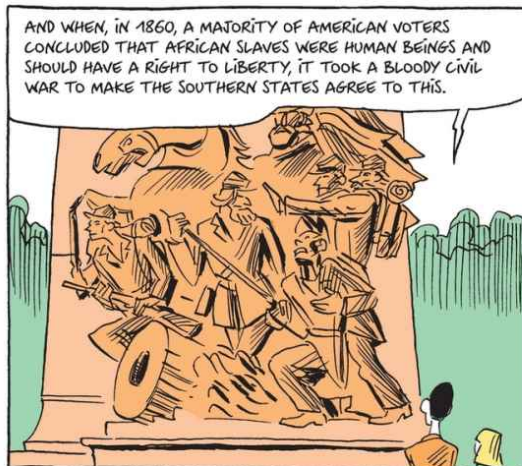
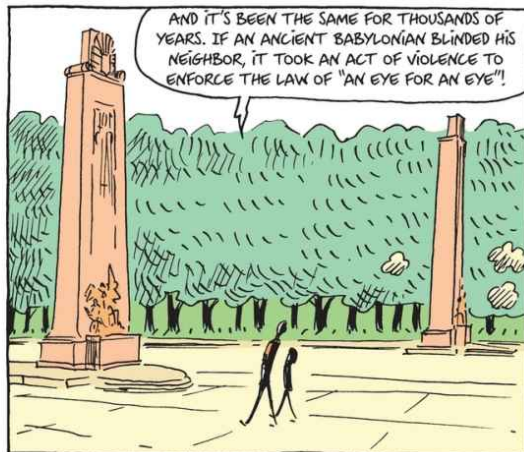
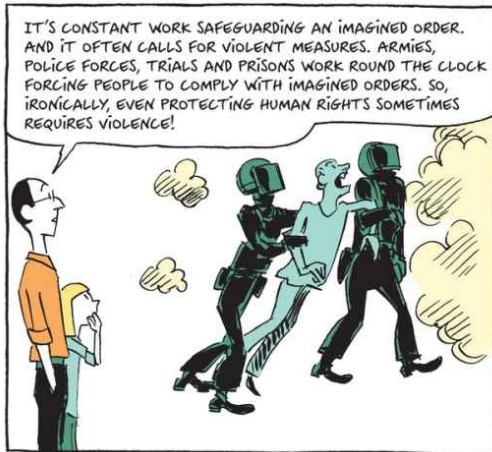








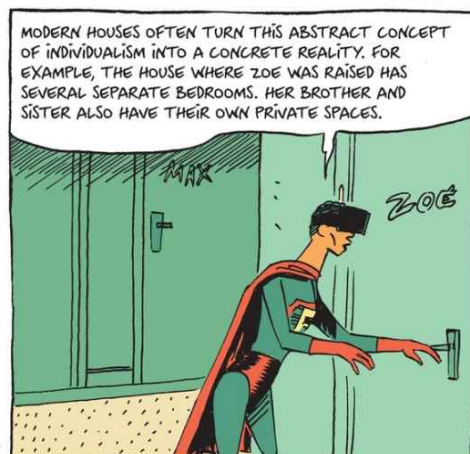
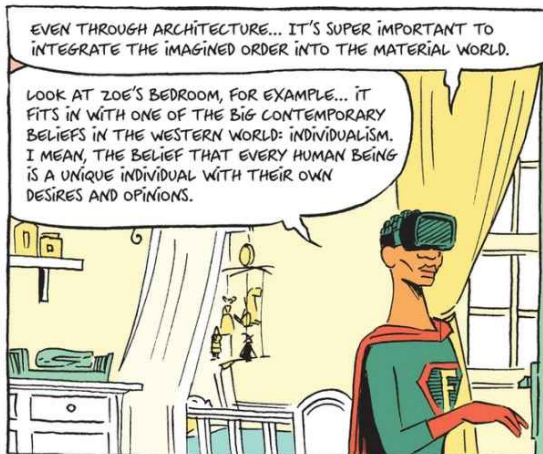
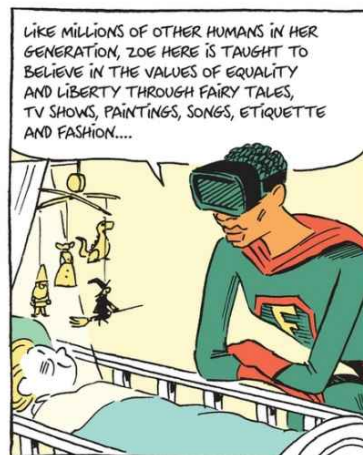






CHRISTIANITY WOULDN'T HAVE LASTED 2,000 YEARS UNLESS AT LEAST SOME OF ITS LEADERS HONESTLY BELIEVED THE CHRISTIAN MYTHS....

IF BANKERS AND INVESTORS DIDN'T HAVE A DEEP FAITH IN CAPITALISM, OUR CURRENT ECONOMIC SYSTEM WOULD HAVE COLLAPSED LONG AGO.





TAKE EUROPE IN THE MIDDLE AGES: PEOPLE DIDN'T BELIEVE IN INDIVIDUALISM—OR PRIVACY.



YOUR STATUS DEPENDED ON WHERE YOU WERE IN THE SOCIAL HIERARCHY AND WHAT OTHER PEOPLE SAID ABOUT YOU. BEING LAUGHED AT WAS THE WORST THING IN THE WORLD.



VERY GOOD, MY SON! IF ANYONE SHOULD LAUGH AT YOU, YOU MUST DEFEND YOUR HONOR, EVEN IF IT COSTS YOU YOUR LIFE!

LIKE OUR MODERN INDIVIDUALISM, THE VALUE SYSTEM IN THE MIDDLE AGES SHAPED EVEN THE ARCHITECTURE OF THEIR CASTLES.

COME WITH ME, I'LL SHOW YOU!



OBVIOUSLY, THERE WASN'T A WHOLE LOT OF PRIVACY IN A PEASANT'S HOVEL. BUT SURPRISINGLY, EVEN RICH PEOPLE'S CASTLES RARELY HAD CHILDREN'S BEDROOMS.

OR, COME TO THINK OF IT, SEPARATE BEDROOMS FOR ANYONE.



NO WAY YOU WOULD EVER SEE A SCENE LIKE THIS BACK THEN....

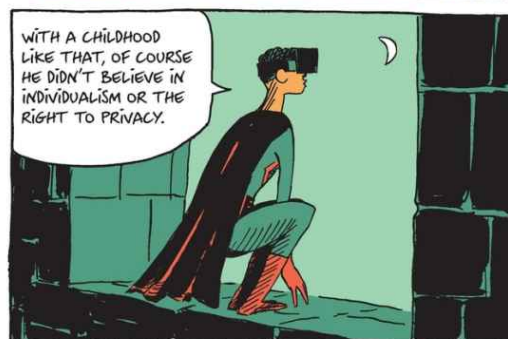
WAIT! WHO DARES CROSS MY THRESHOLD UNANNOUNCED?!?



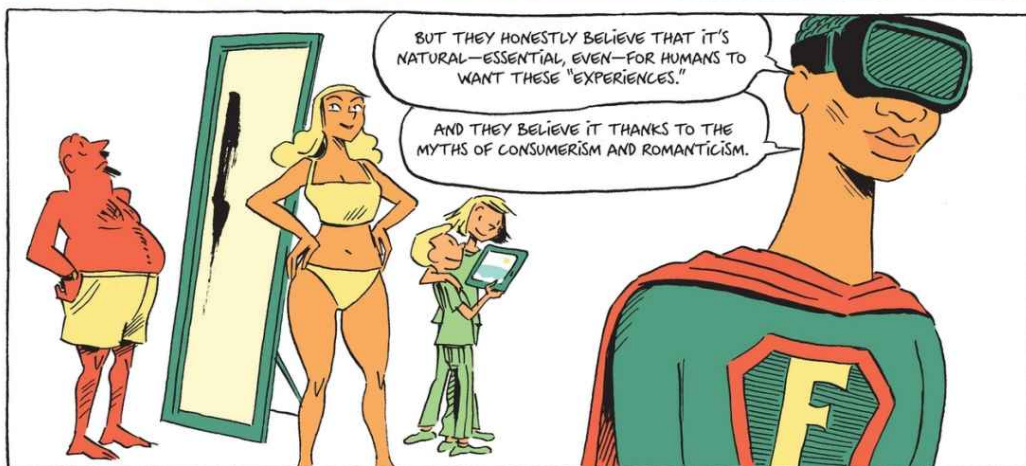
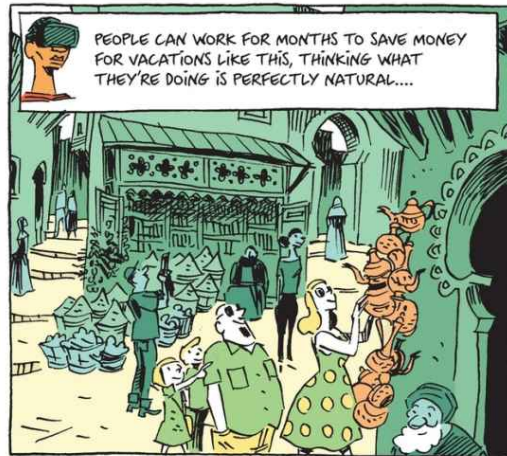
OUR YOUNG NOBLEMAN ACTUALLY SLEPT IN A LARGE ROOM WITH A BUNCH OF SIBLINGS, SERVANTS AND RETAINERS.

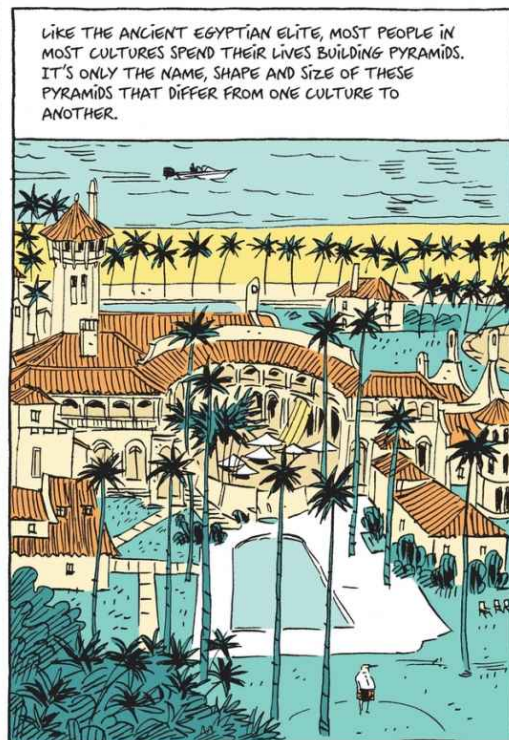
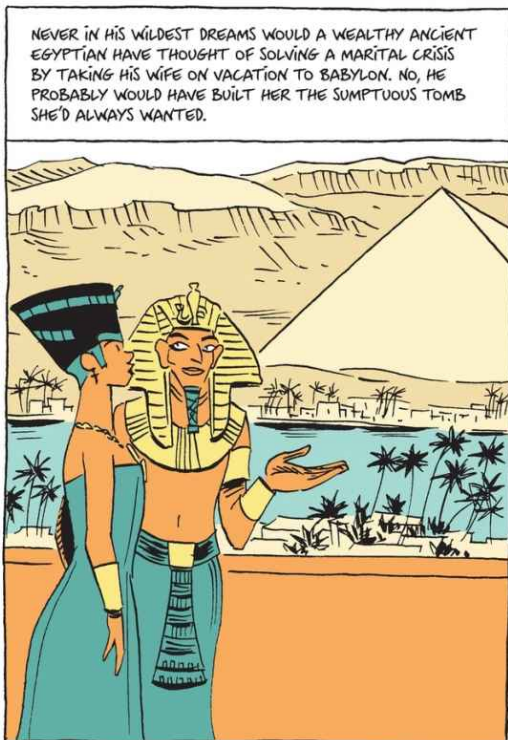


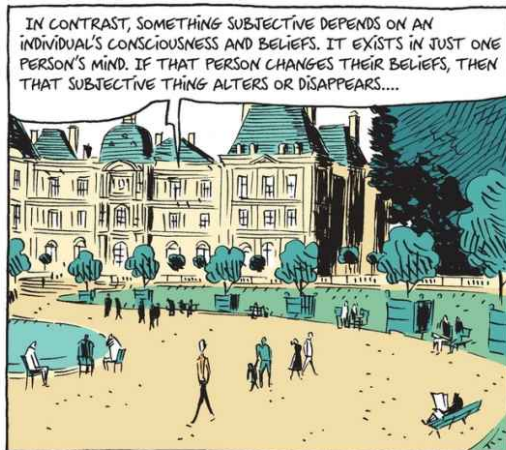
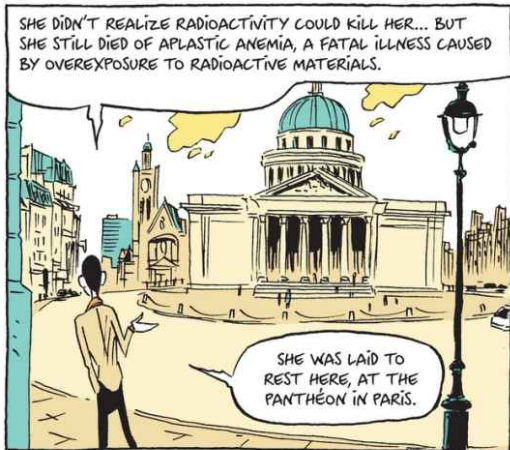
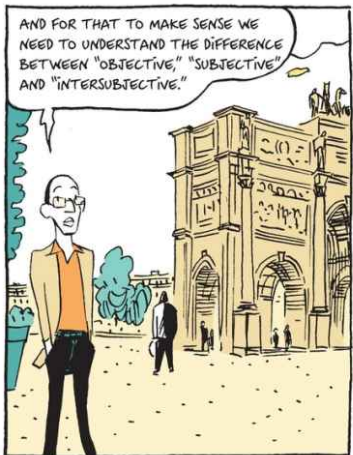
HE WAS ON SHOW THE WHOLE TIME, SO HE ALWAYS HAD TO THINK ABOUT WHAT OTHER PEOPLE MIGHT SEE AND SAY.

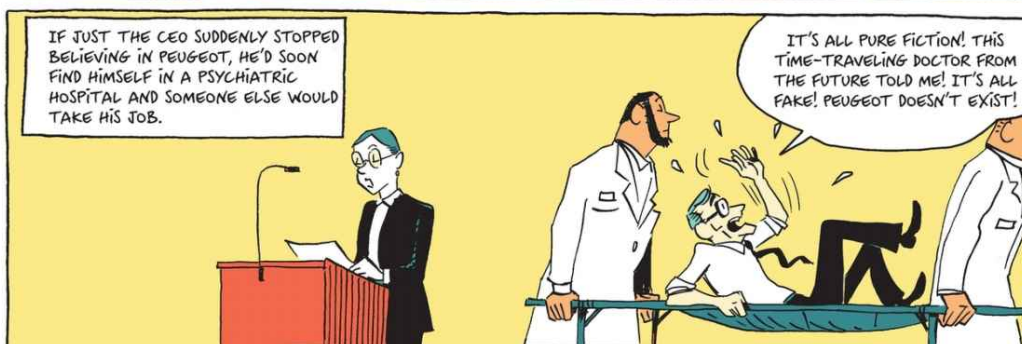
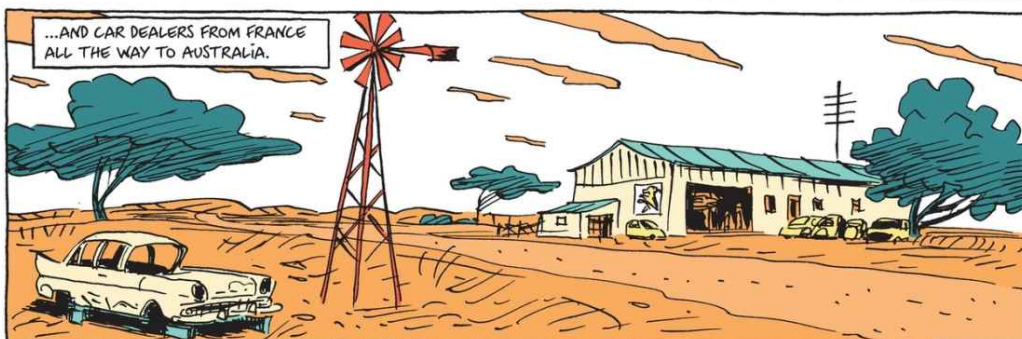
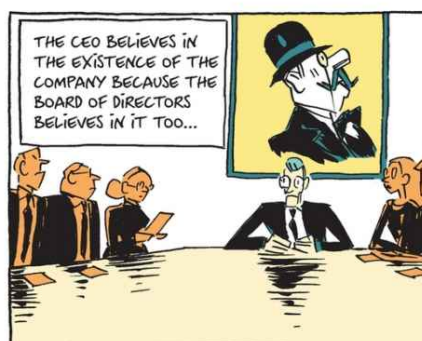


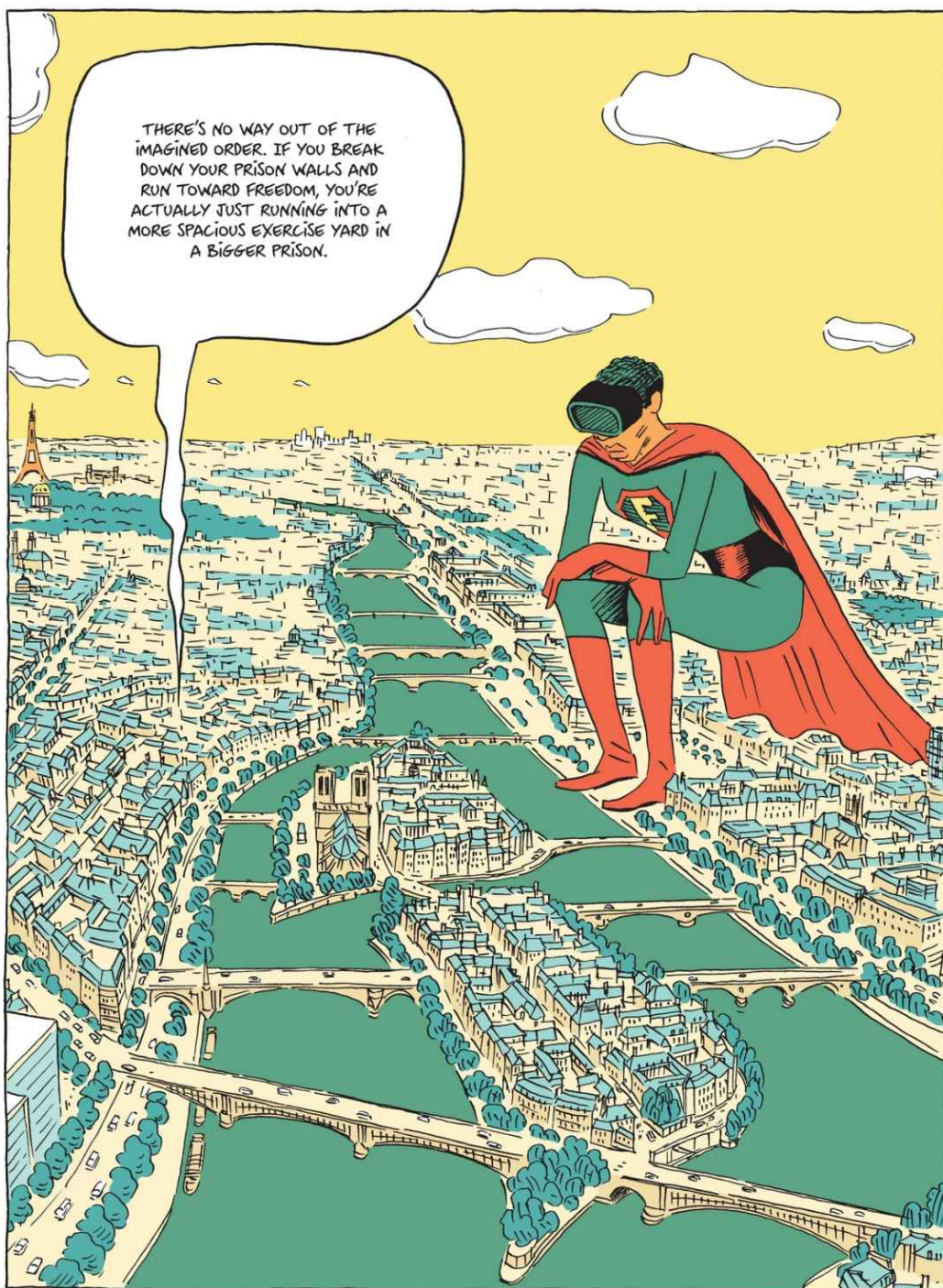
WITH A CHILDHOOD LIKE THAT, OF COURSE HE DIDN'T BELIEVE IN INDIVIDUALISM OR THE RIGHT TO PRIVACY.

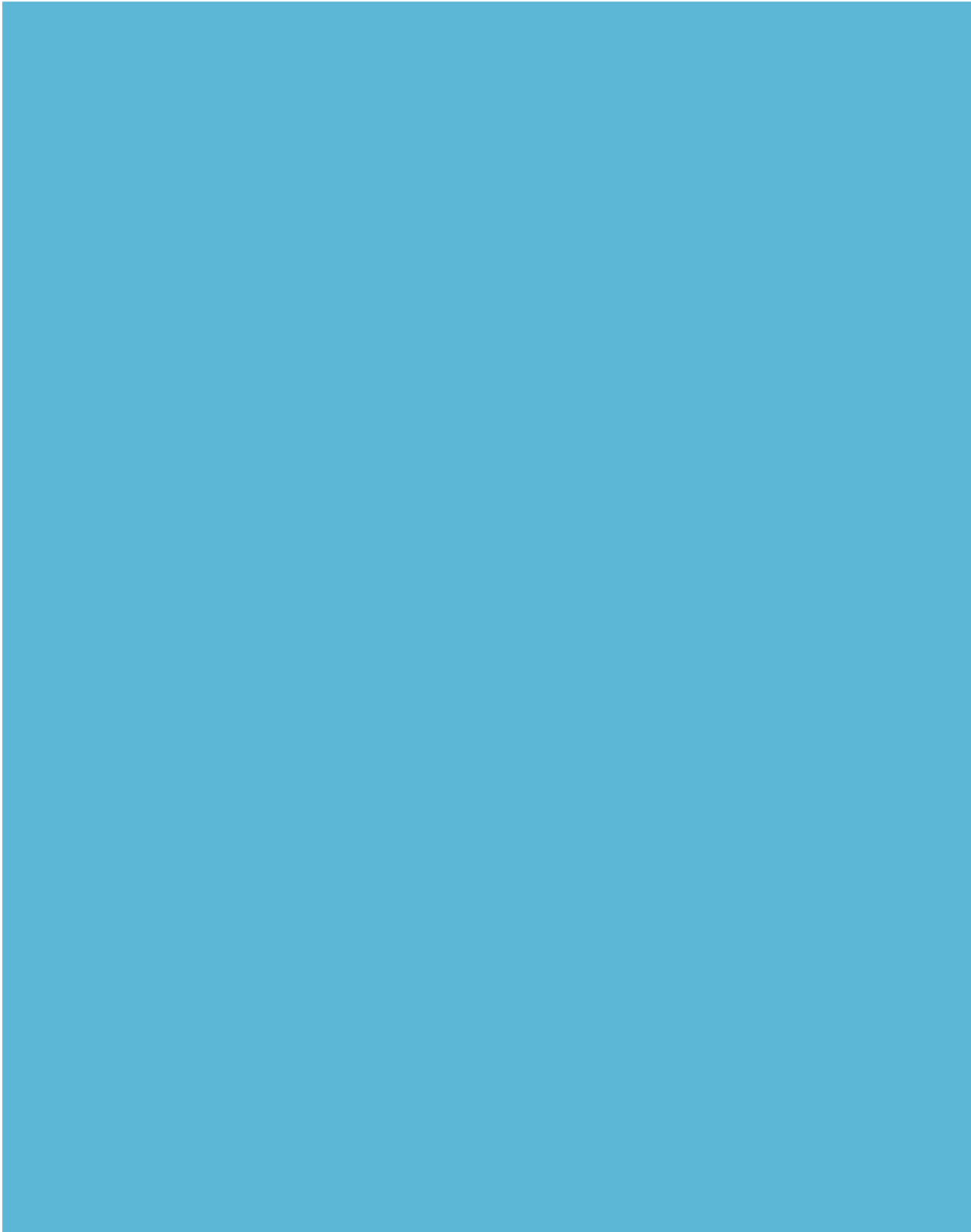




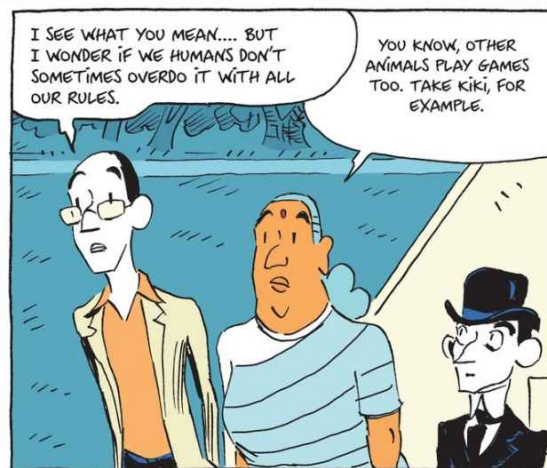
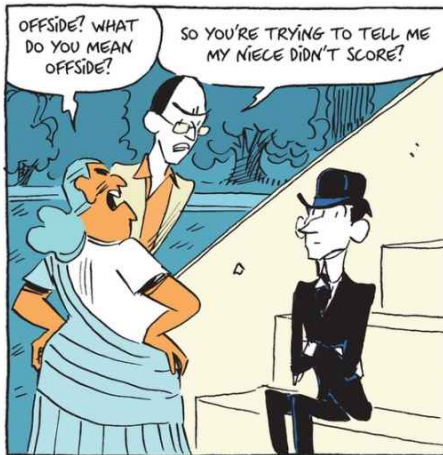




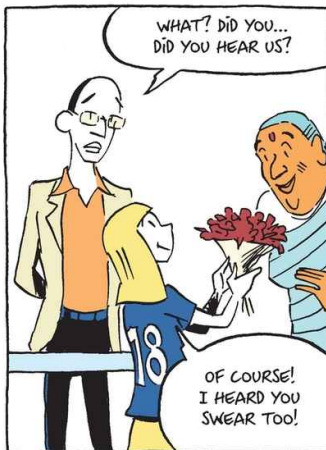


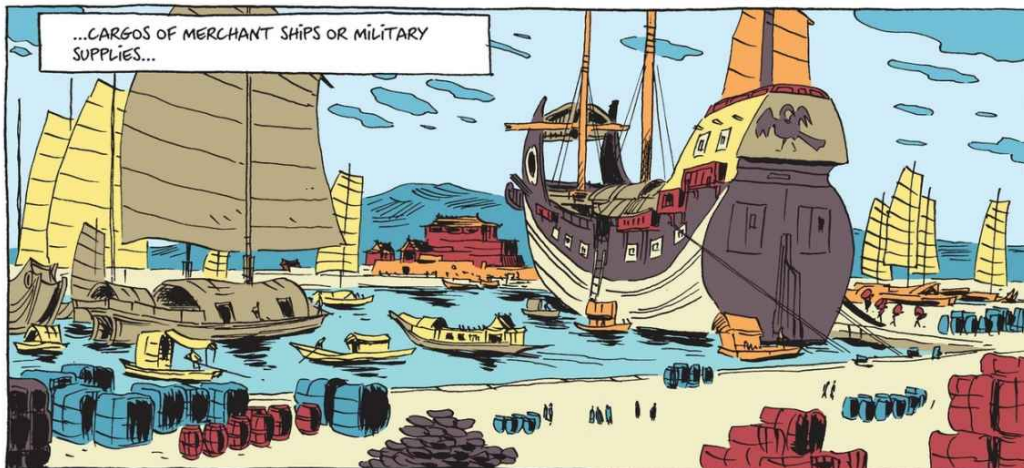
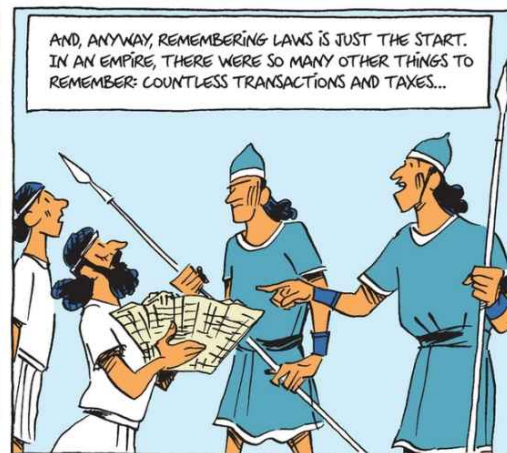
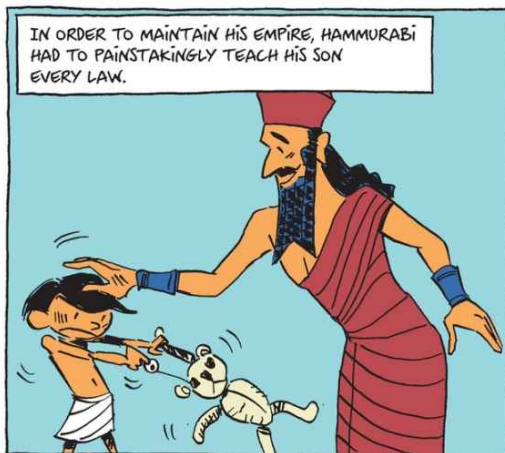
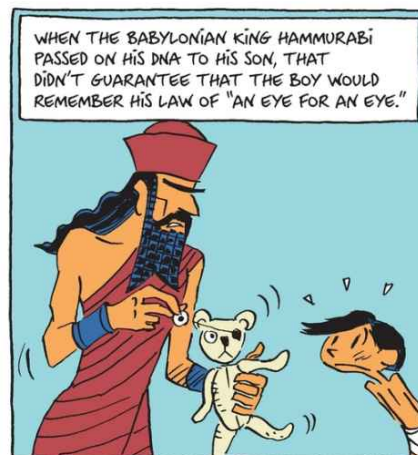
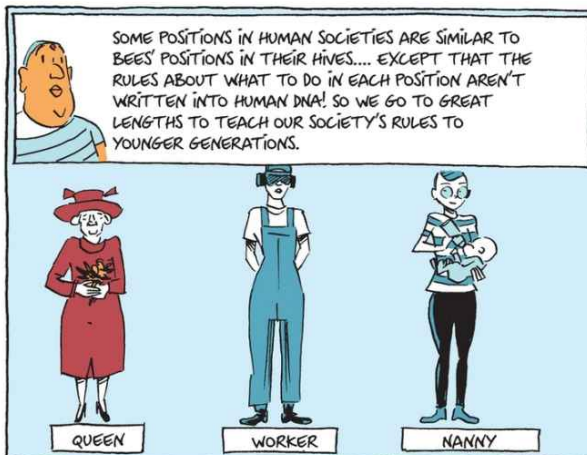


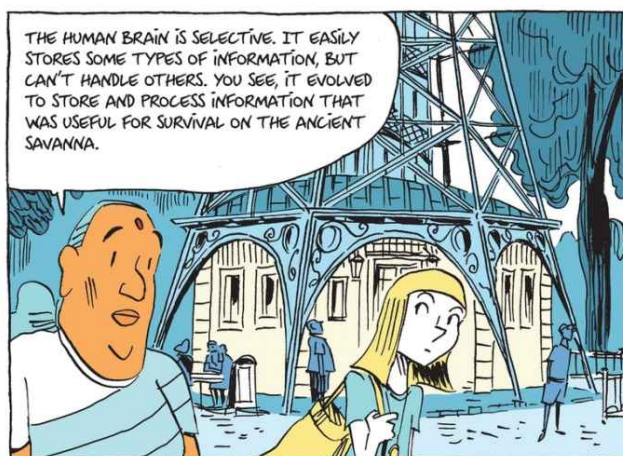
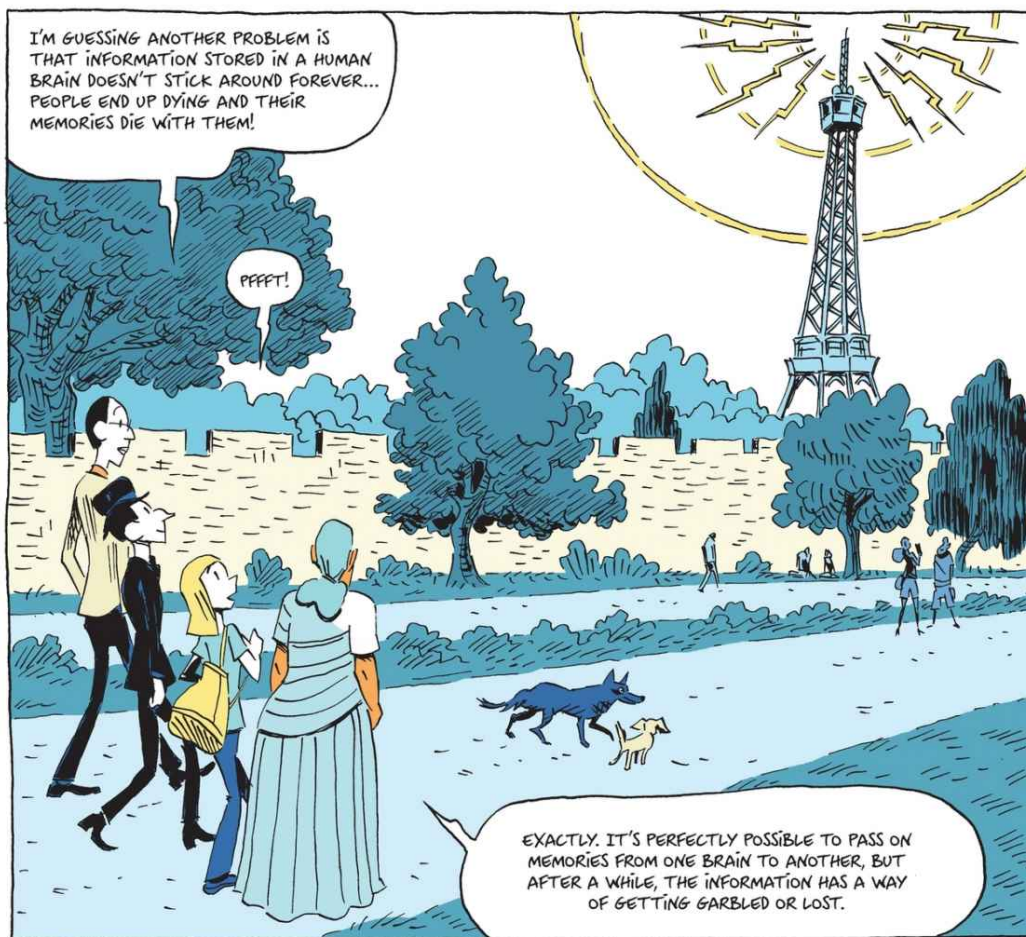


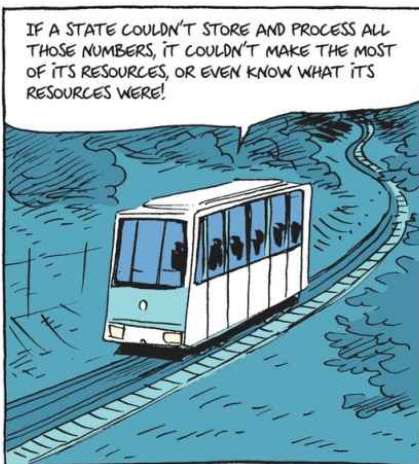
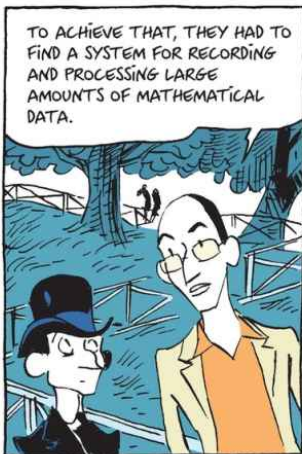
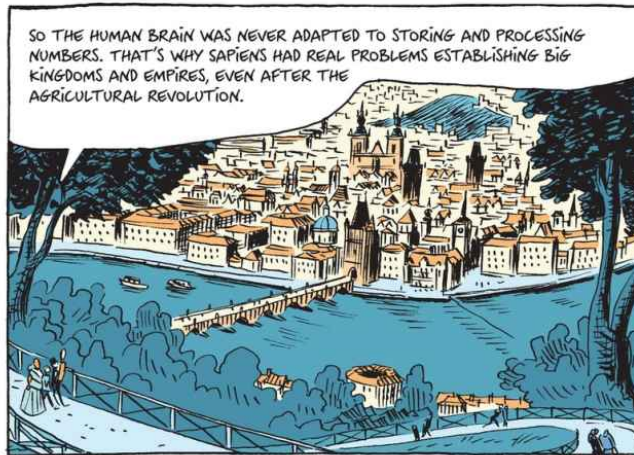
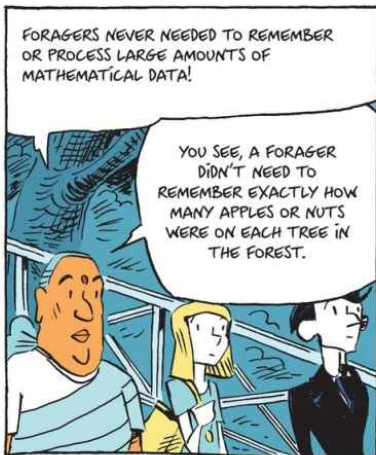


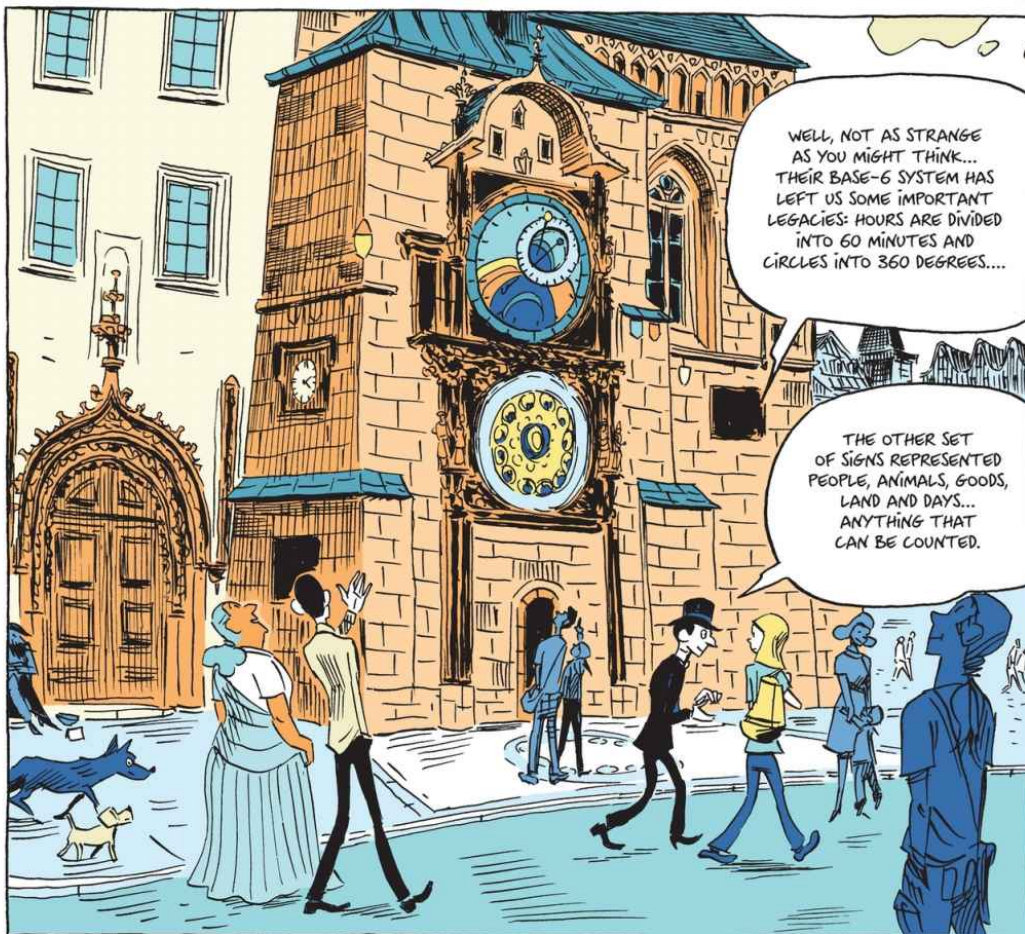
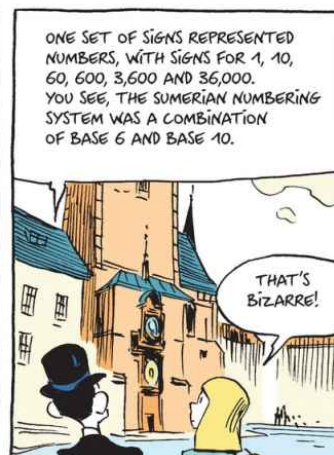
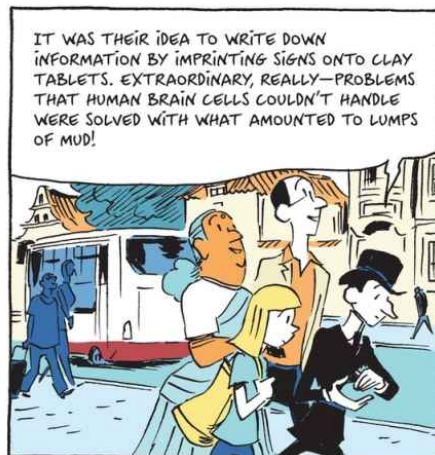


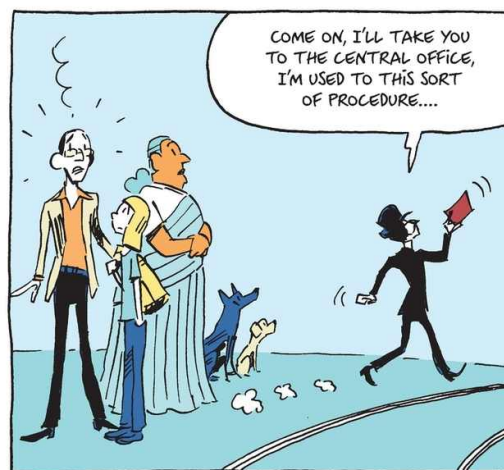
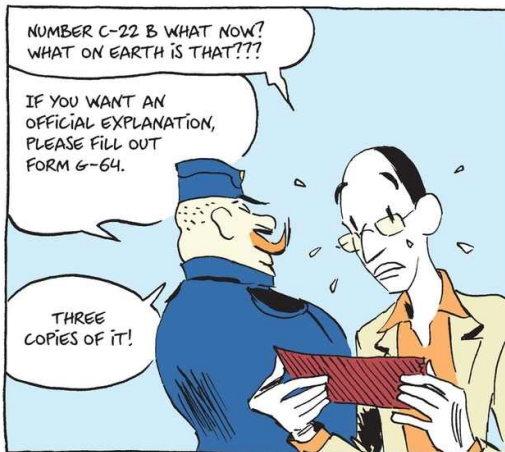
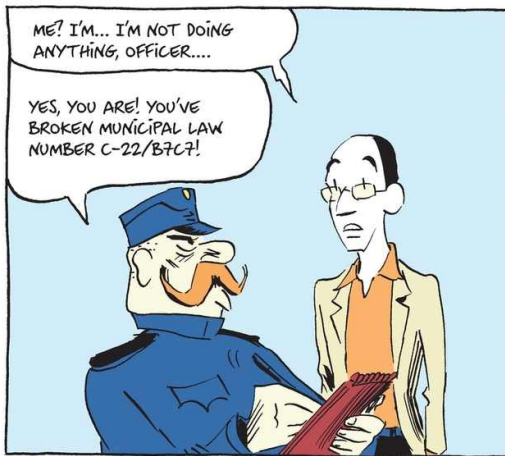


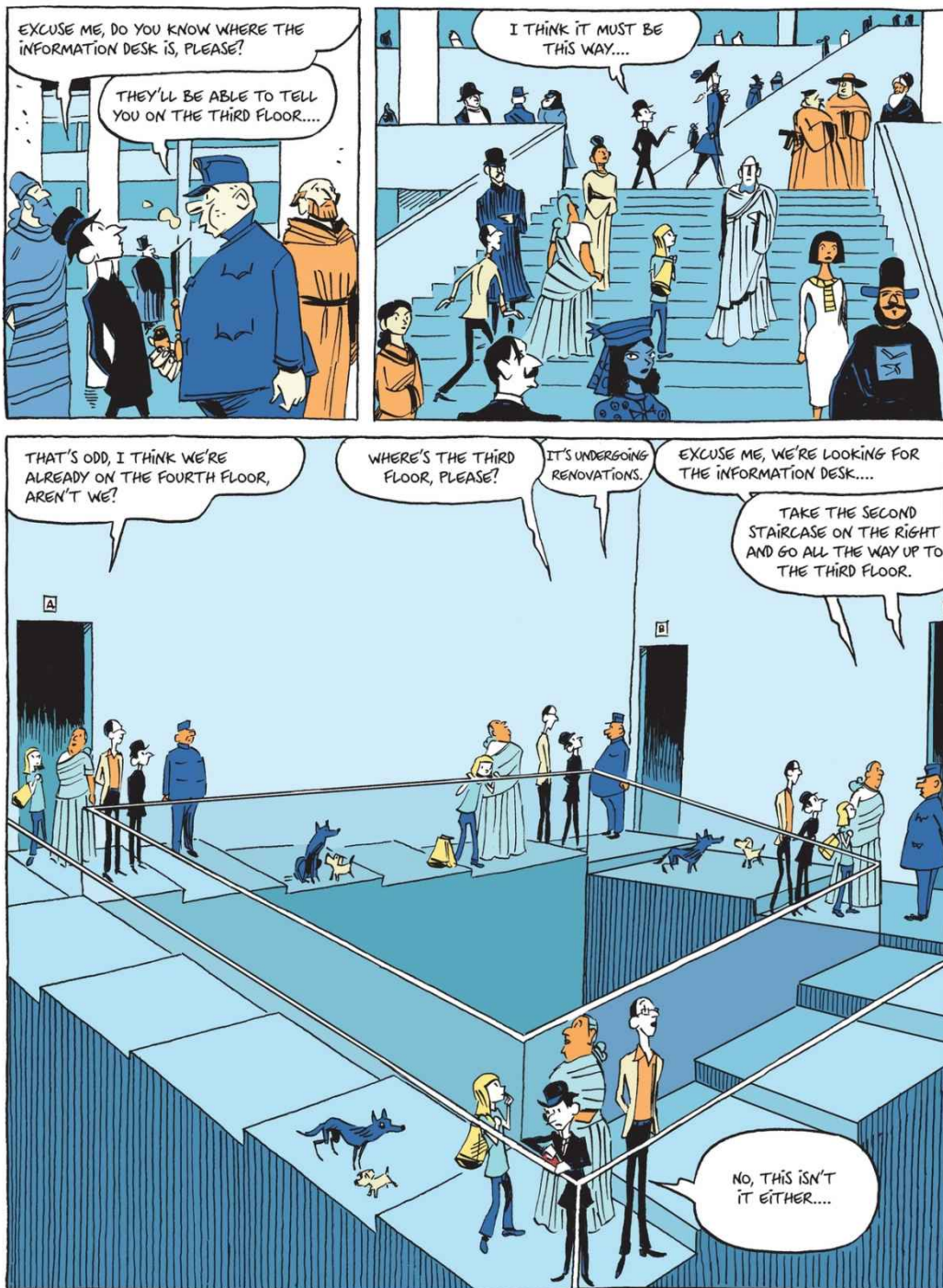


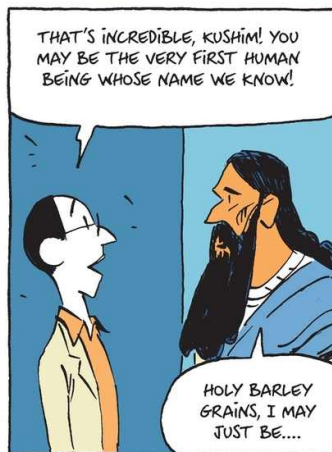
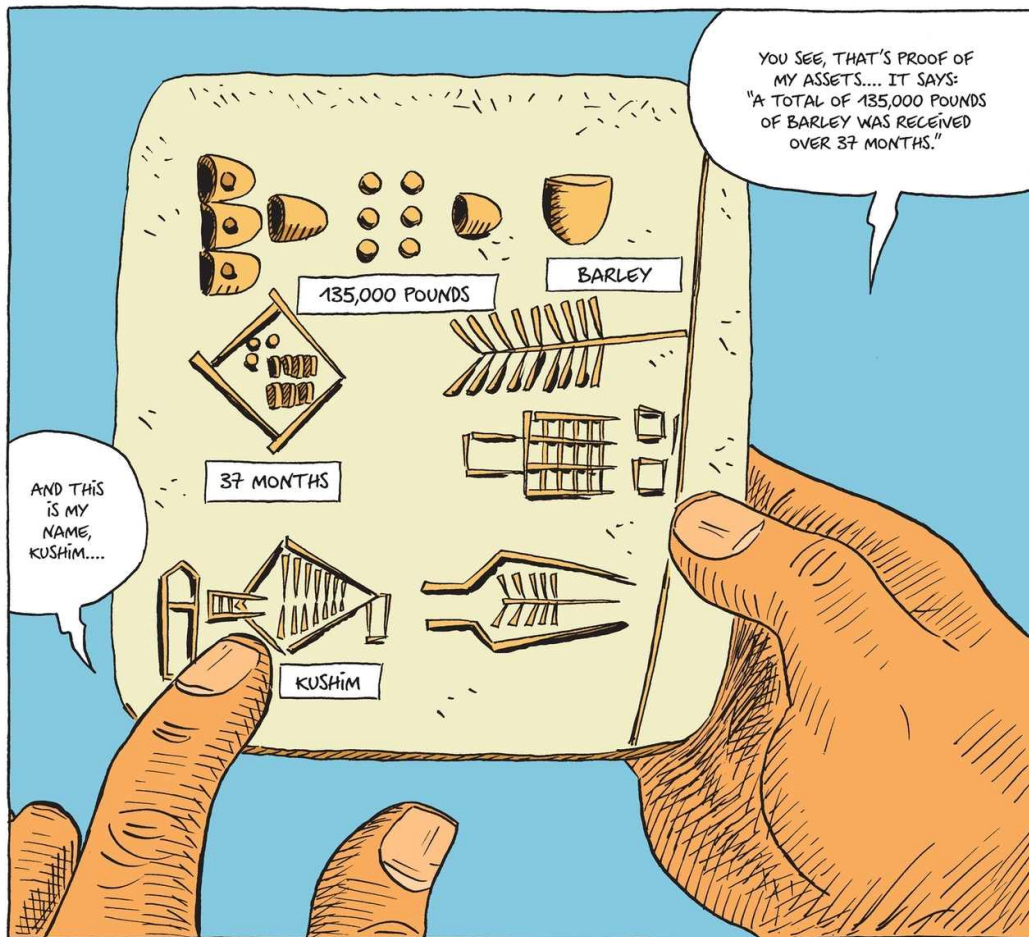


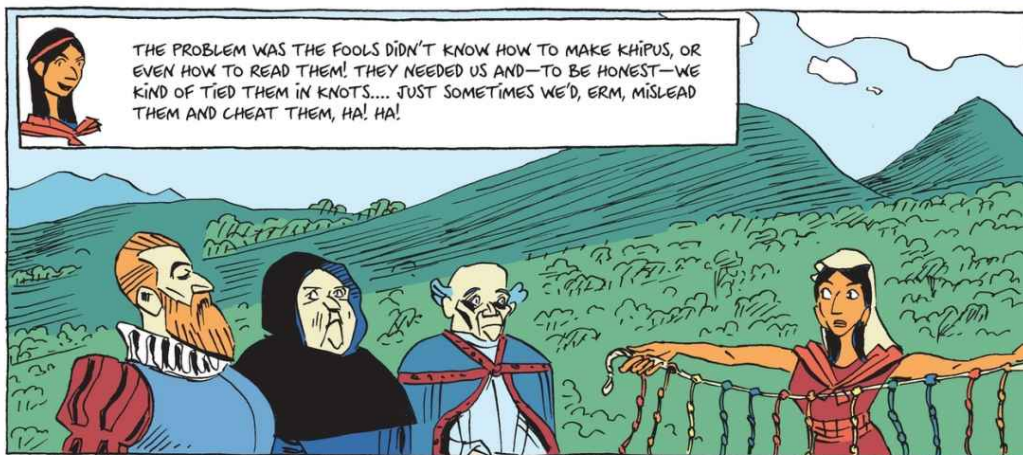
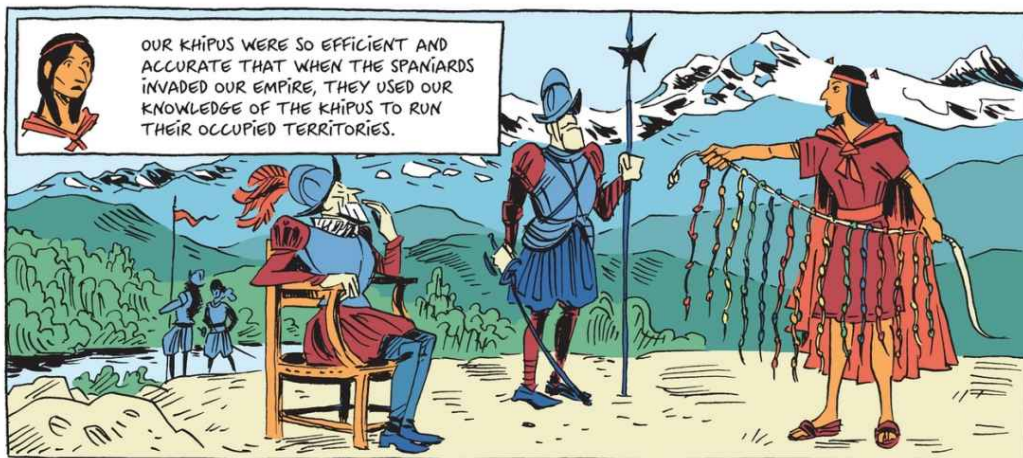


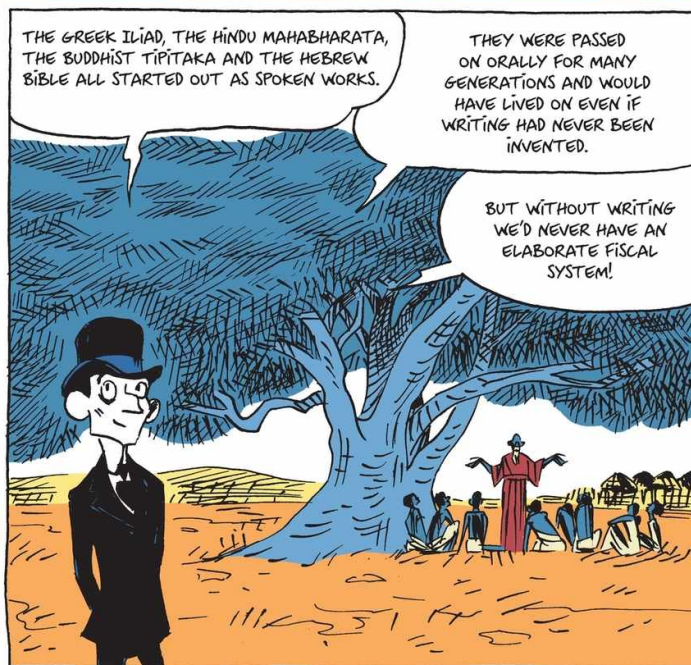
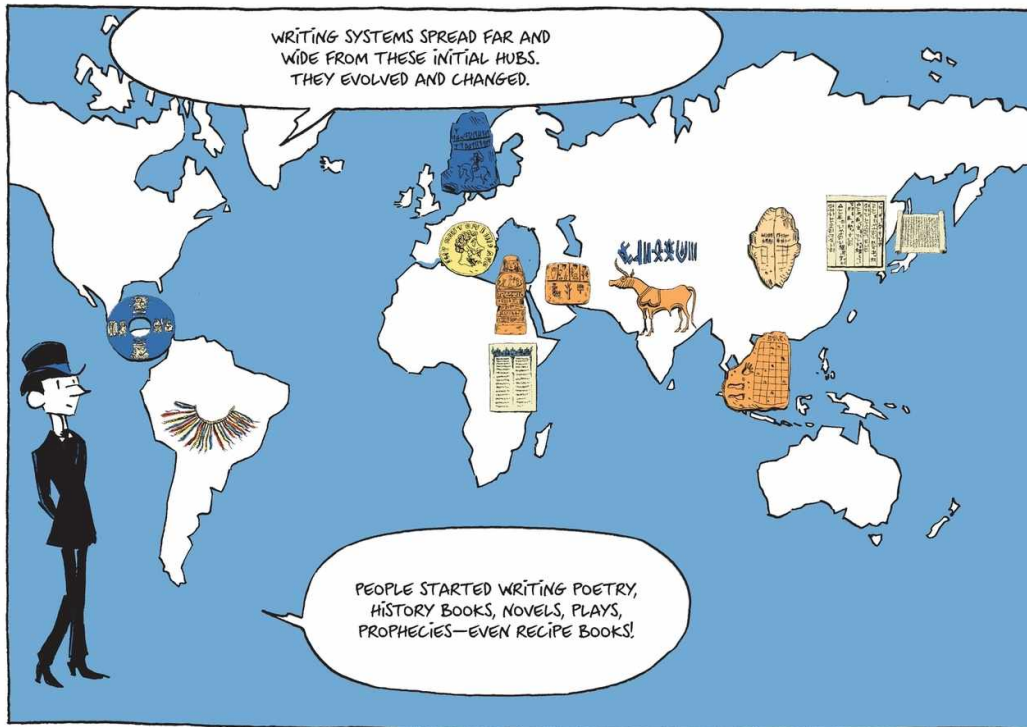


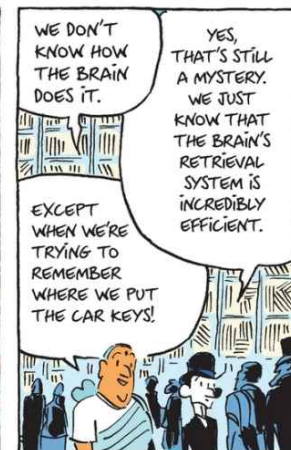


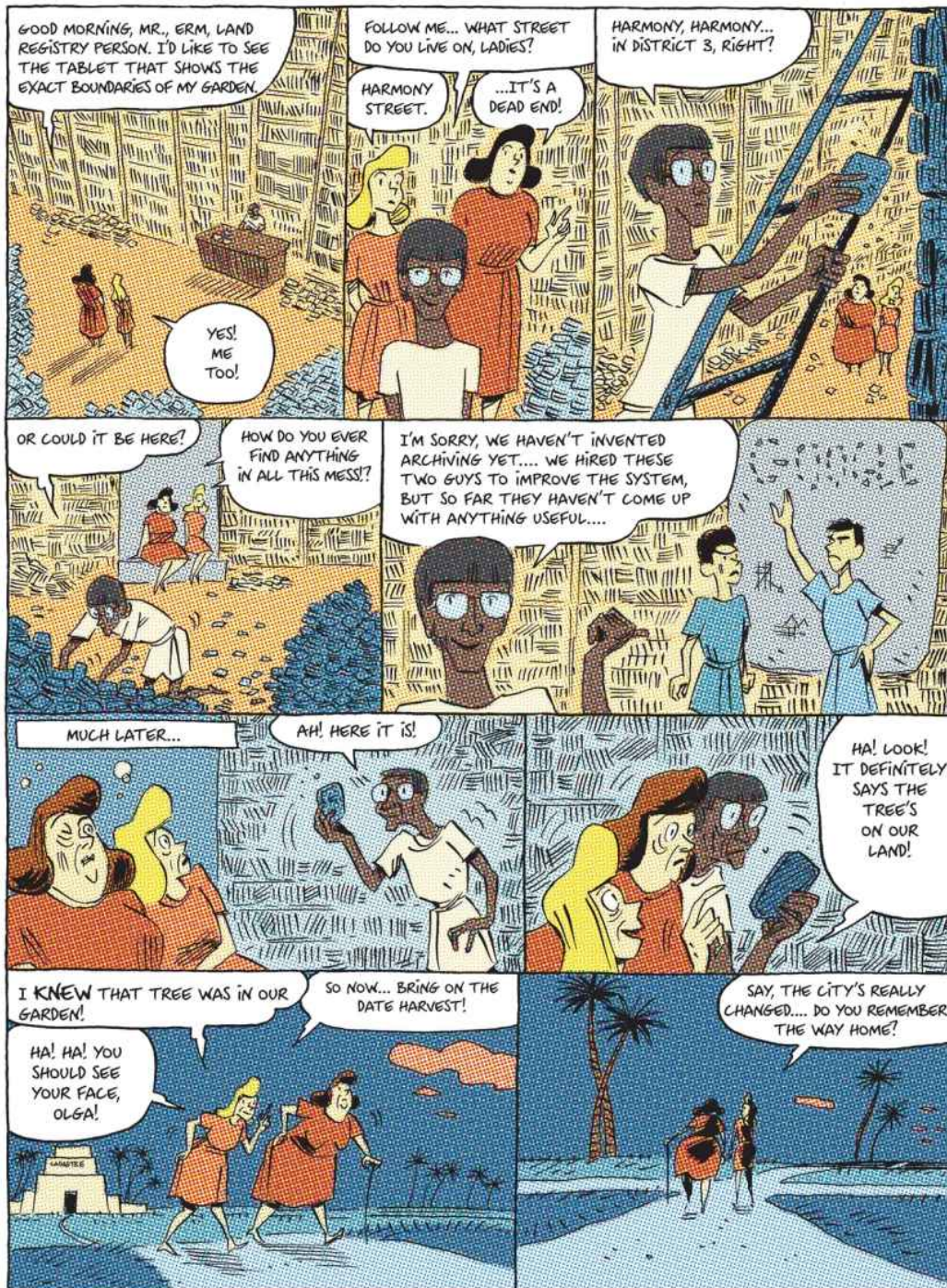














COMING UP WITH WAYS OF HANDLING WRITTEN MATERIAL DEFINITELY PROVED A LOT HARDER THAN INVENTING WRITING!

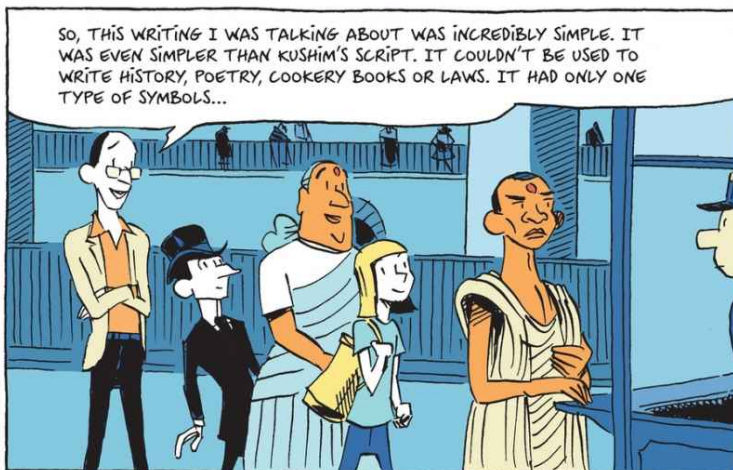
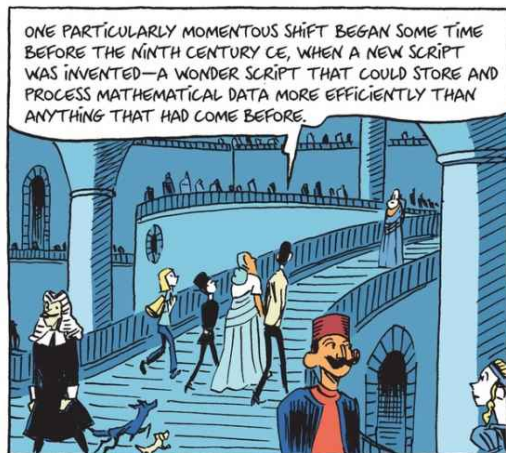
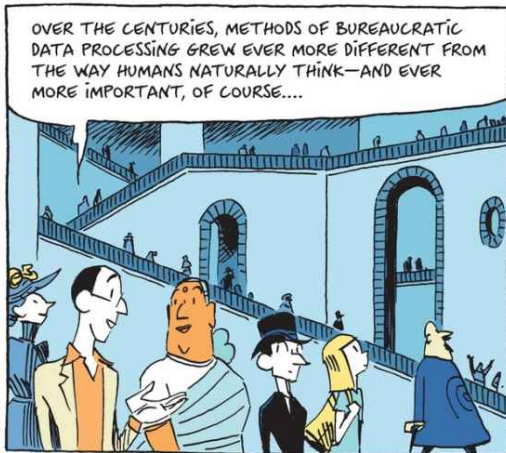
MANY CULTURES INVENTED WRITING SYSTEMS. WHAT'S SPECIAL ABOUT THE SUMERIANS, EGYPTIANS, CHINESE AND INCA WAS THAT THEY DEVELOPED NOT ONLY WRITING SYSTEMS...

...BUT ALSO BUREAUCRACY!

BUREAUCRACY WAS A NEW WAY OF THINKING. IT CAN PROCESS DATA IN A VERY DIFFERENT WAY TO THE HUMAN BRAIN!

IN OUR BRAINS, ALL THE INFORMATION IS FREELY ASSOCIATED.

SO, FOR EXAMPLE, THIS OFFICIAL HERE REMINDS ME OF THE ADVISER WHO HANDLES MY MORTGAGE... WHICH I SIGNED THE DAY I MET MILENA. I WONDER IF SHE'LL AGREE TO MARRY ME! OH, MY DARLING MILENA... THAT WOULD CERTAINLY HELP MY TAX RETURN PROBLEMS. BUT WILL THE FELLOWS AT THE TAX OFFICE GIVE ME MY TAX CUT? THEY'D BETTER; IF NOT I'LL TAKE THEM TO COURT! ACTUALLY, THE COURTHOUSE IS BEING OVERHAULED AT THE MOMENT. NEW CURTAINS AND EVERYTHING. ORANGE ONES. BUT I'M NOT VERY KEEN ON ORANGES. TOO SOUR... UM, WHAT WERE WE SAYING?



PRAŽSKÝ

ON TV1 at 8 pm |
SERIES ★★★

THE NUMBER GOLEM *The servant that enslaved its masters!*

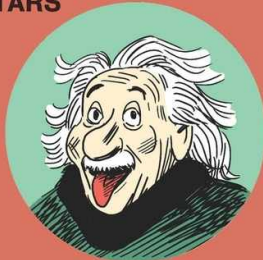
Recap of season 1

Its language is made up of just ten little signs but it has mesmerized humans the world over! Whether they speak Arabic, Hindi, English or Norwegian, almost all countries, businesses and organizations have turned to Number Golem to record and process their data!

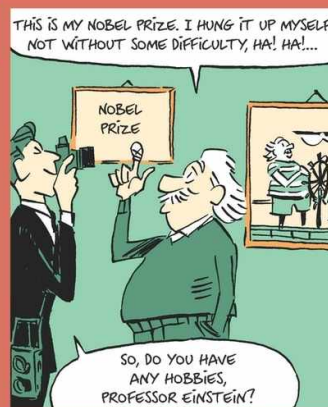


ON TV2 at 9 pm |
ENTERTAINMENT ★★★

AT HOME WITH THE STARS



This week: Albert Einstein



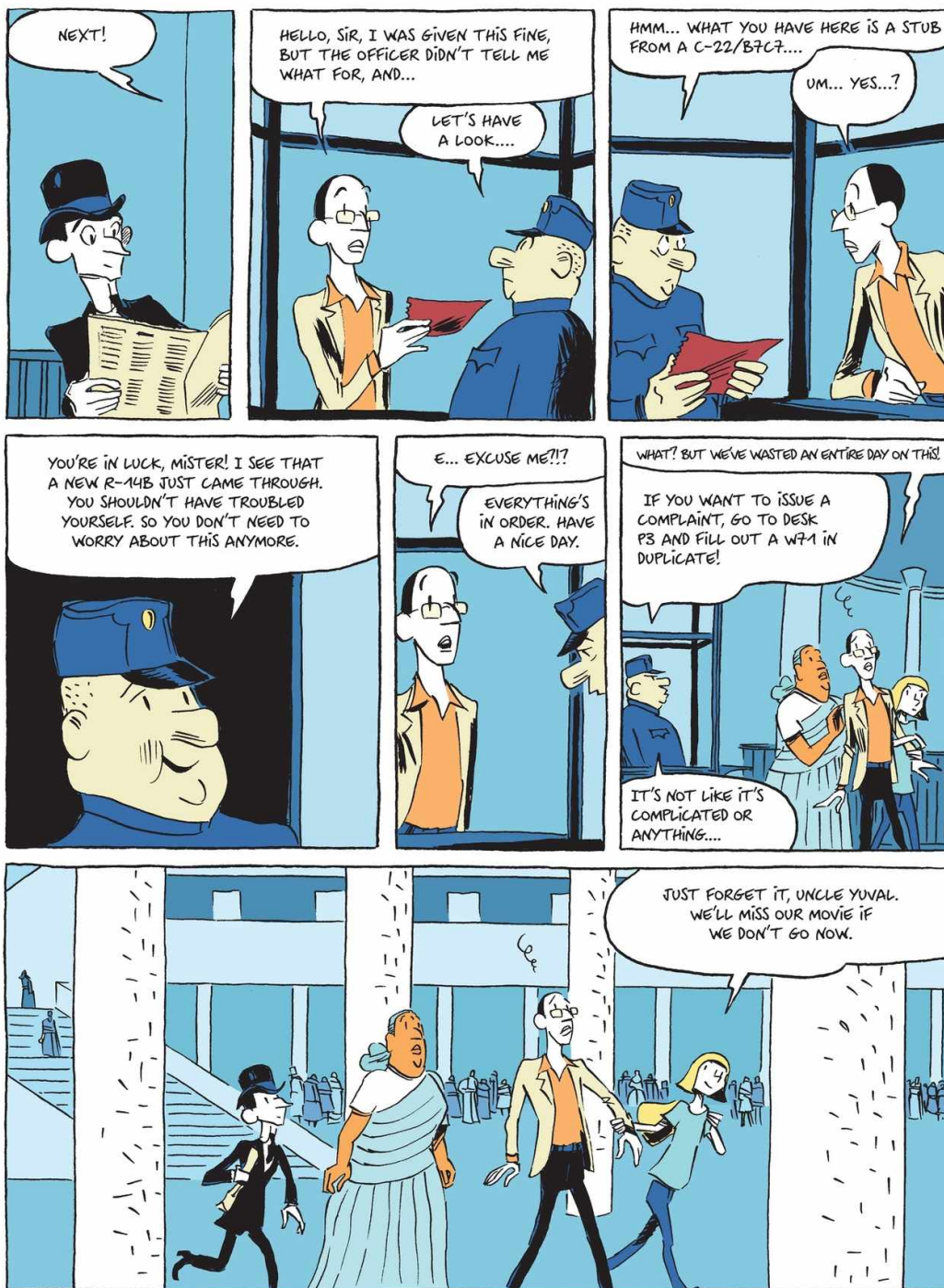
ON NERDFIX at 10 pm |
SERIES ★★★★★

THE PRISONERS OF 01

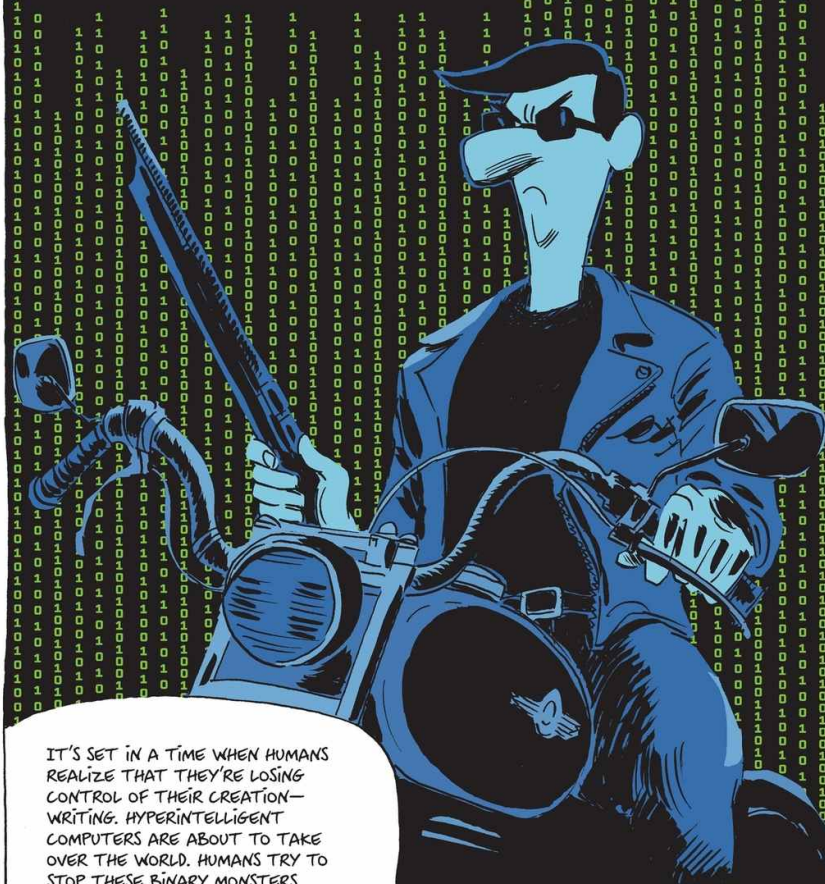
The chart-topping *Prisoners of 01* is the science fiction hit that's making waves! Imagine a world where computers have overtaken humans in the very field that allowed Homo Sapiens to become masters of the world: Intelligence and communication!

It all started in the Euphrates Valley 5,000 years ago when Sumerian geeks out-sourced data-processing from the human brain to clay tablets. In a mysterious village in Silicon Valley, this process reaches its peak thanks to a far more elaborate type of tablet.

Humans can no longer make sense of their world. Like Bill and Cindy, they've become prisoners of CLOUD_01, a new world leader, a monstrous cloud made up of an incalculable succession of zeros and ones!



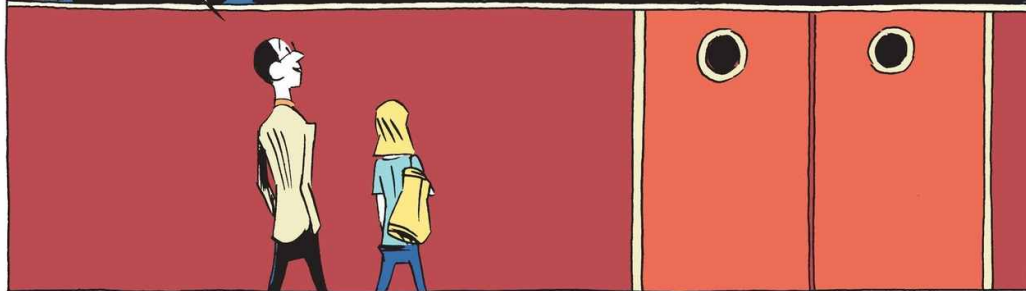
BILL SCHWARZENBERGER



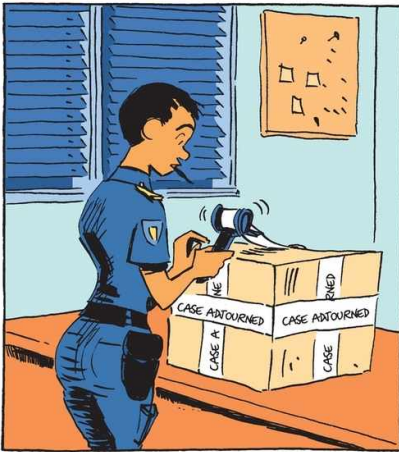
IT'S SET IN A TIME WHEN HUMANS
REALIZE THAT THEY'RE LOSING
CONTROL OF THEIR CREATION—
WRITING. HYPERINTELLIGENT
COMPUTERS ARE ABOUT TO TAKE
OVER THE WORLD. HUMANS TRY TO
STOP THESE BINARY MONSTERS,
BUT THE LONG LINES OF CODE HAVE
OTHER IDEAS AND WIPE OUT ALMOST
THE ENTIRE HUMAN RACE....

TERMINATOR 17

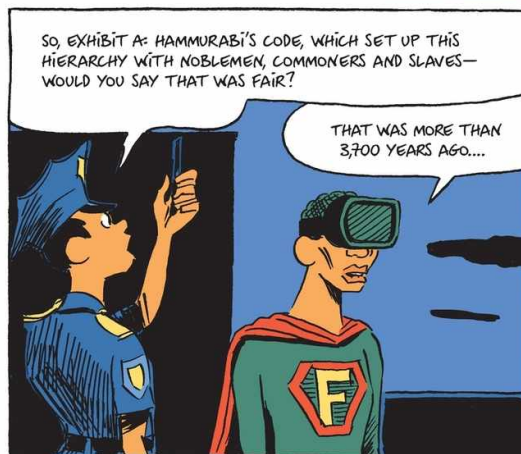
TWILIGHT OF THE SAPIENS

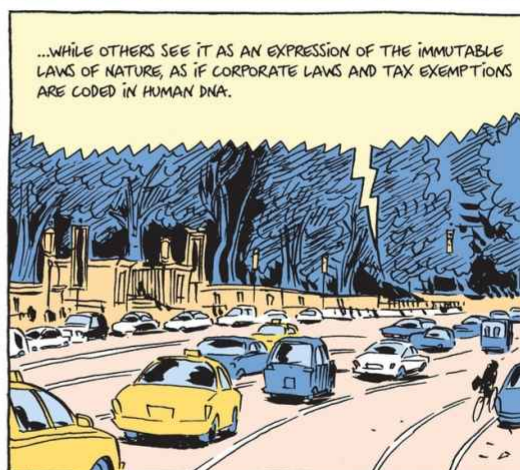
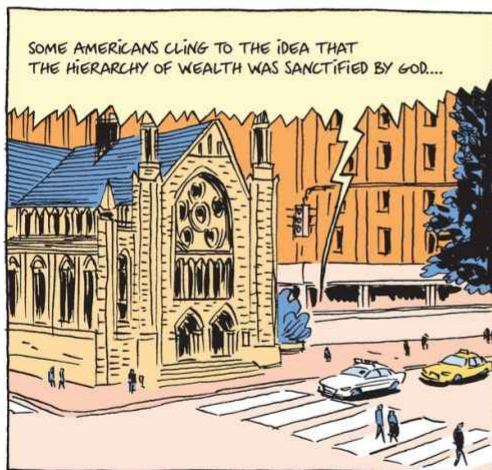
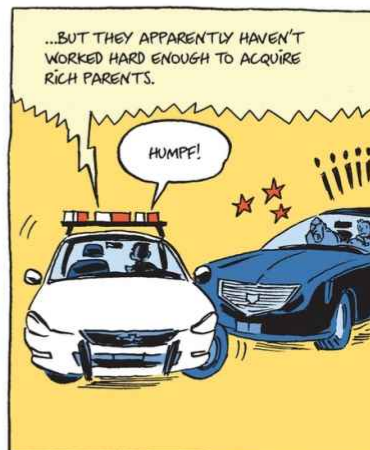
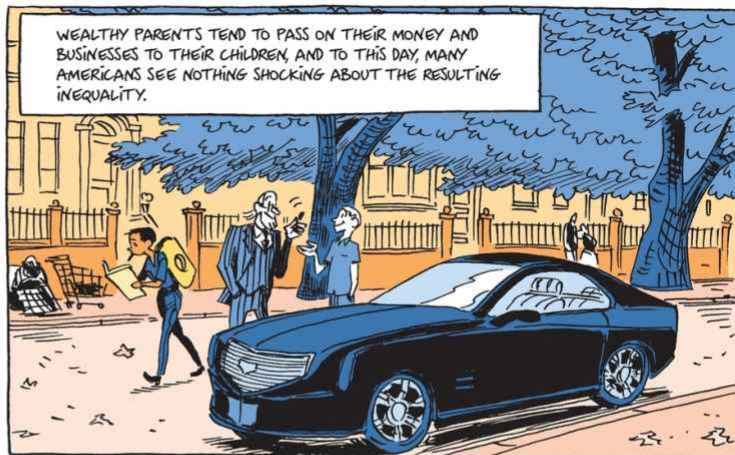


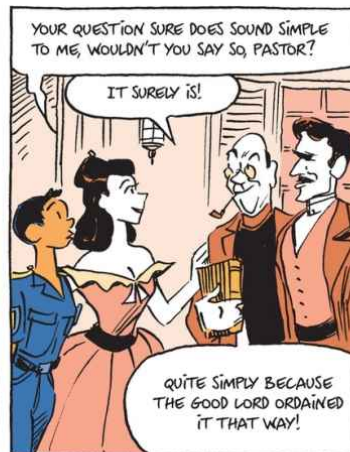
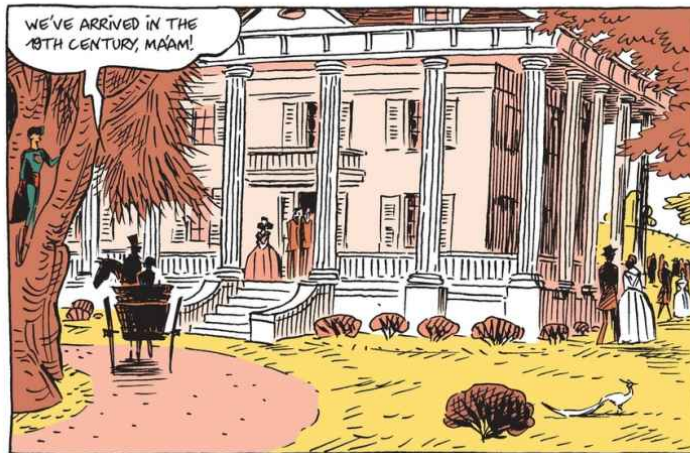
THE CABINET
OF DOCTOR FICTION



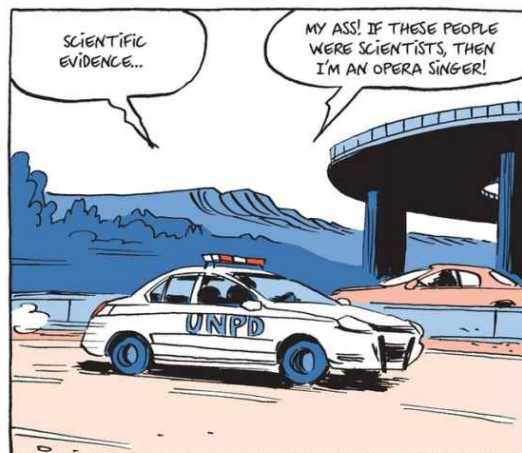
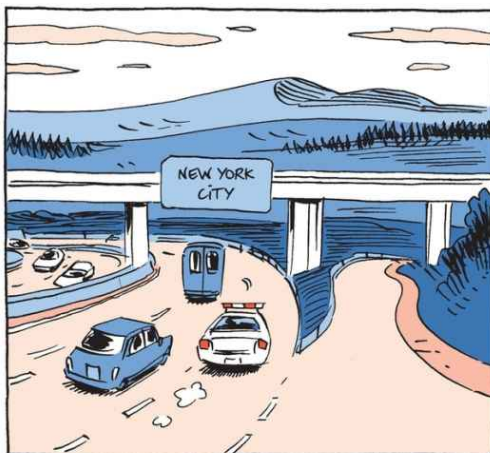
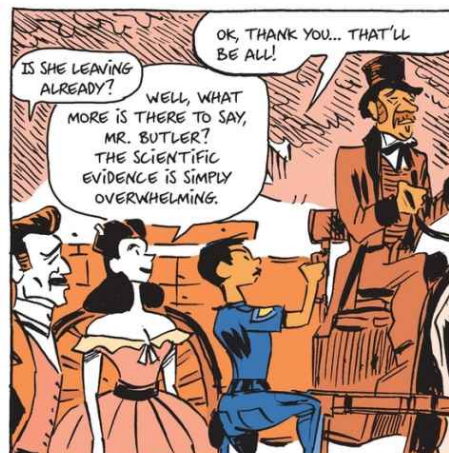
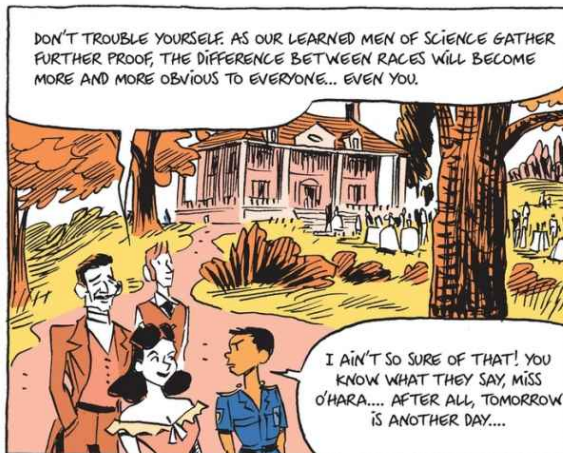


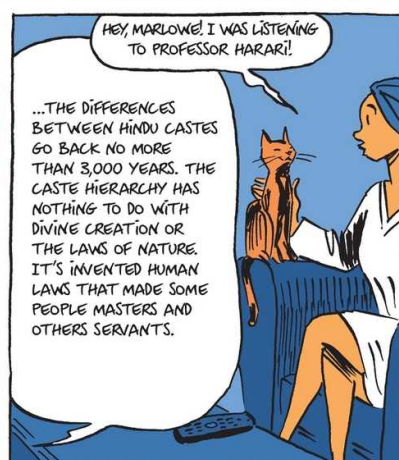
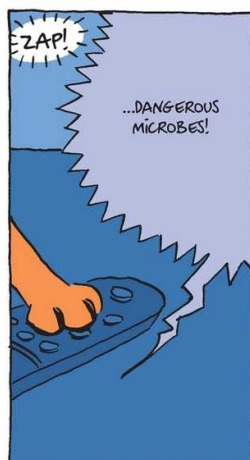
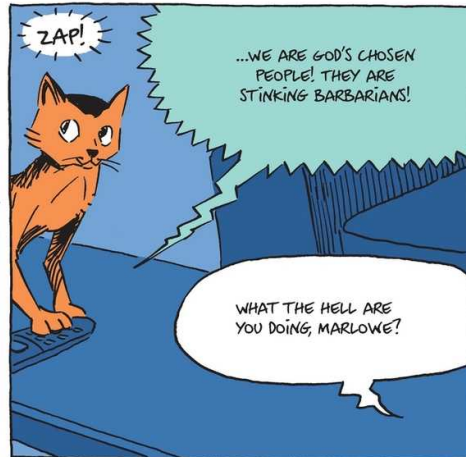
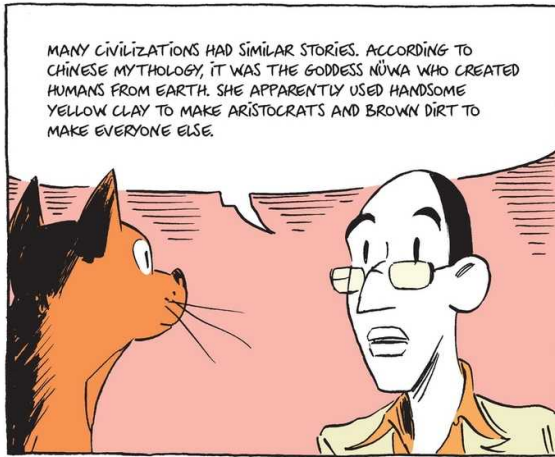


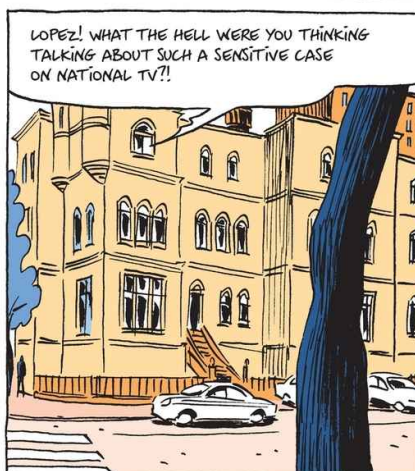


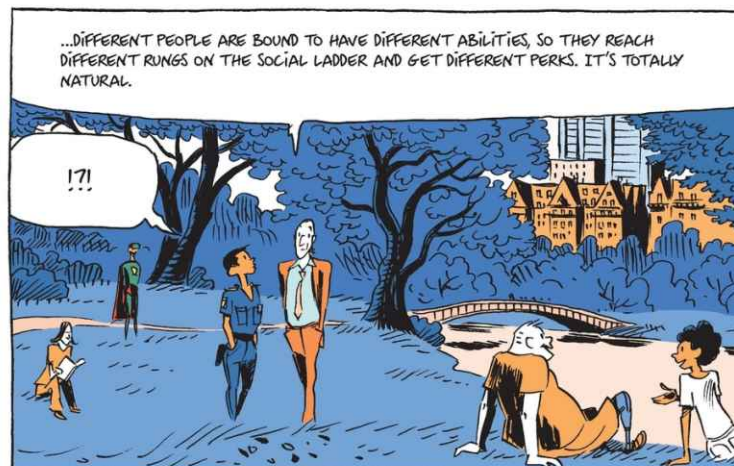
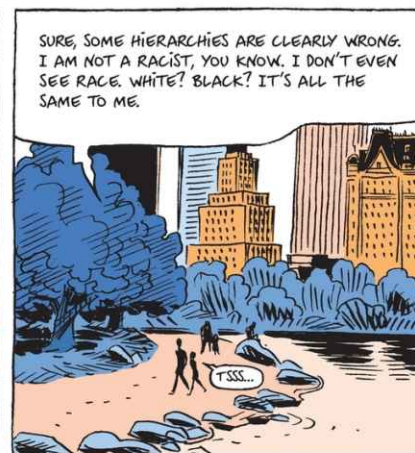


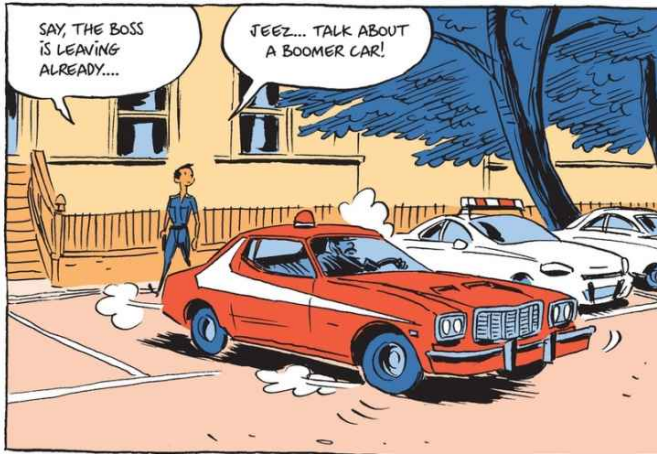
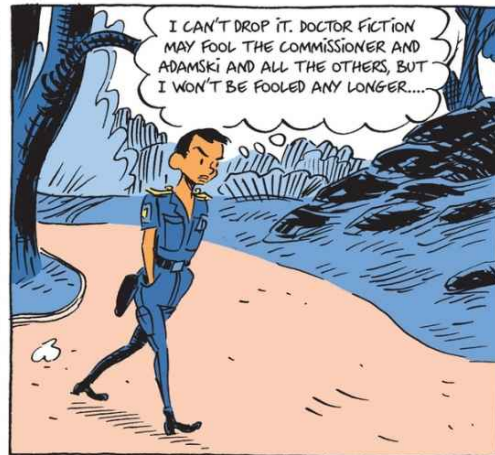
ARTHUR DE GOBINEAU'S THE MORAL AND INTELLECTUAL INFERIORITY OF RACES (1853)

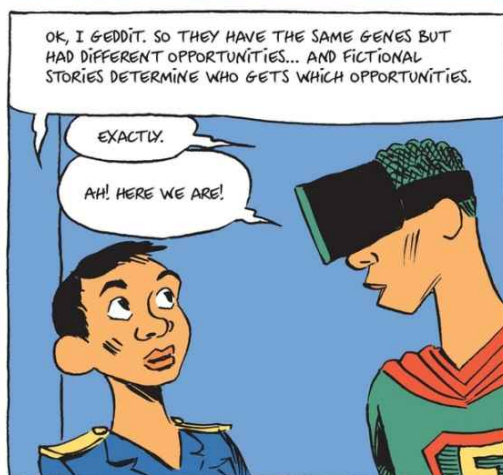
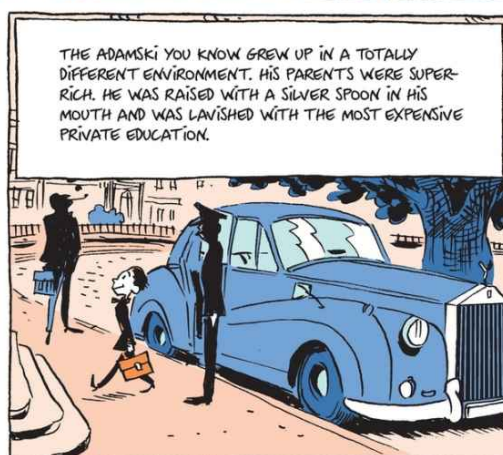
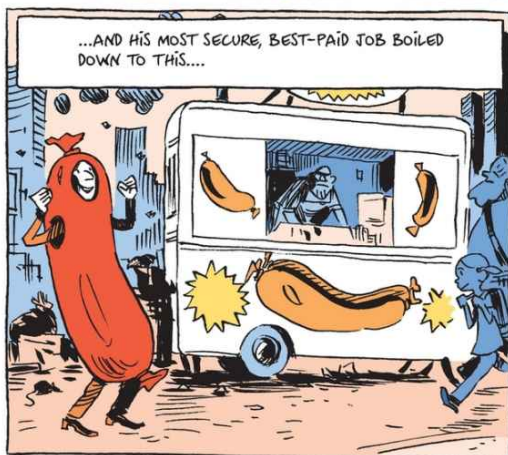
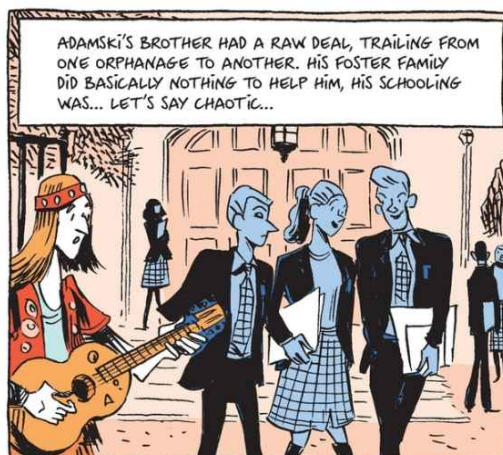


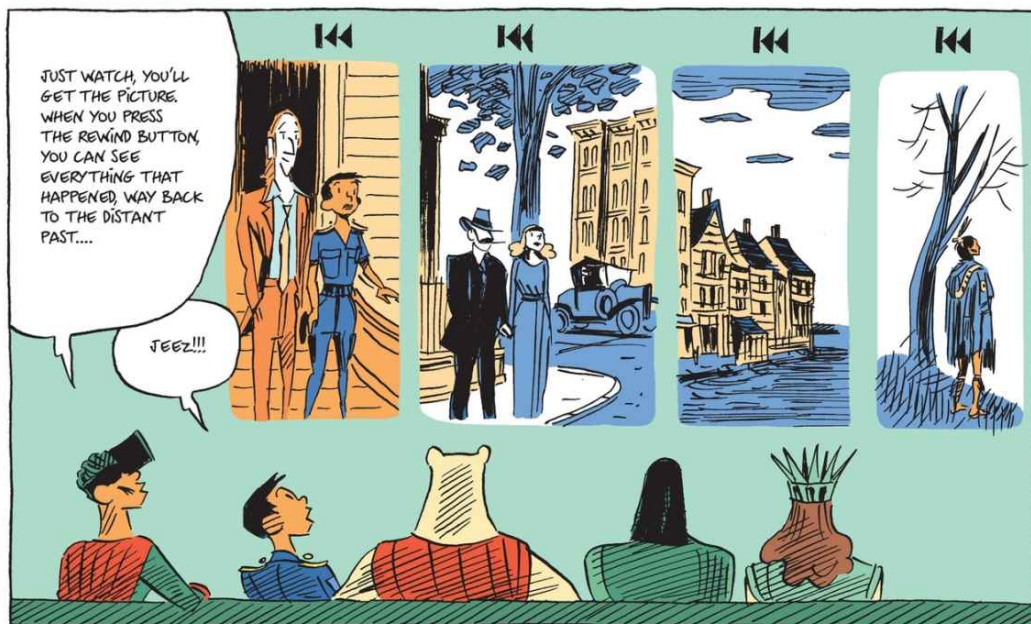


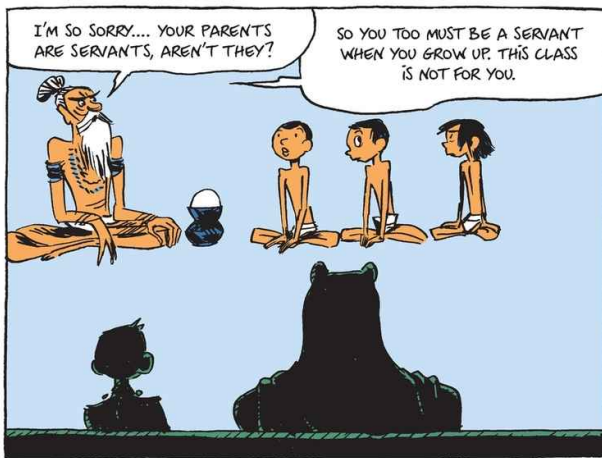












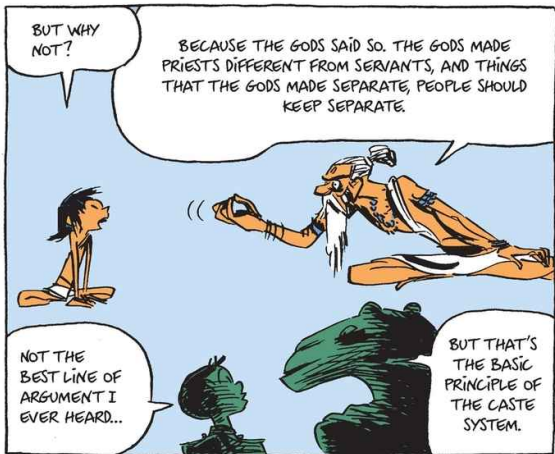
I'M SO SORRY.... YOUR PARENTS ARE SERVANTS, AREN'T THEY?

SO YOU TOO MUST BE A SERVANT WHEN YOU GROW UP. THIS CLASS IS NOT FOR YOU.



BUT I DON'T WANT TO BE A SERVANT LIKE MY PARENTS! I WANT TO BE A PRIEST!

NBODY CARES WHAT YOU WANT. SERVANTS CANNOT BECOME PRIESTS.



BUT WHY NOT?

BECAUSE THE GODS SAID SO. THE GODS MADE PRIESTS DIFFERENT FROM SERVANTS, AND THINGS THAT THE GODS MADE SEPARATE, PEOPLE SHOULD KEEP SEPARATE.

NOT THE BEST LINE OF ARGUMENT I EVER HEARD...

BUT THAT'S THE BASIC PRINCIPLE OF THE CASTE SYSTEM.



BUT WATCH, THERE'S MORE. TO PLAY UP THE IMPRESSION THAT SERVANTS AND PRIESTS WERE COMPLETELY DIFFERENT ENTITIES, THEY MADE EACH CASTE WEAR DIFFERENT CLOTHES, LIVE IN DIFFERENT NEIGHBORHOODS AND AVOID DOING THINGS TOGETHER....



NOW LISTEN TO THIS BRAHMIN FAMILY....

YOU WILL PLAY ONLY WITH BRAHMIN KIDS, NEVER WITH THOSE FILTHY SUDRAS, DO YOU UNDERSTAND?

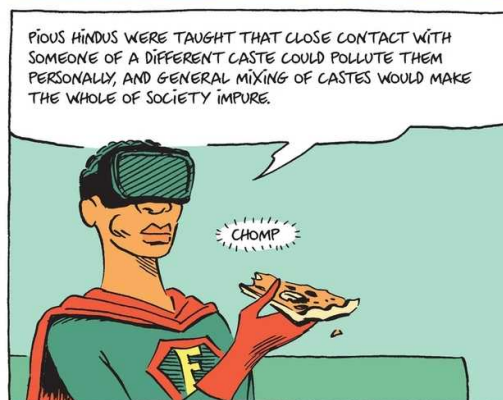
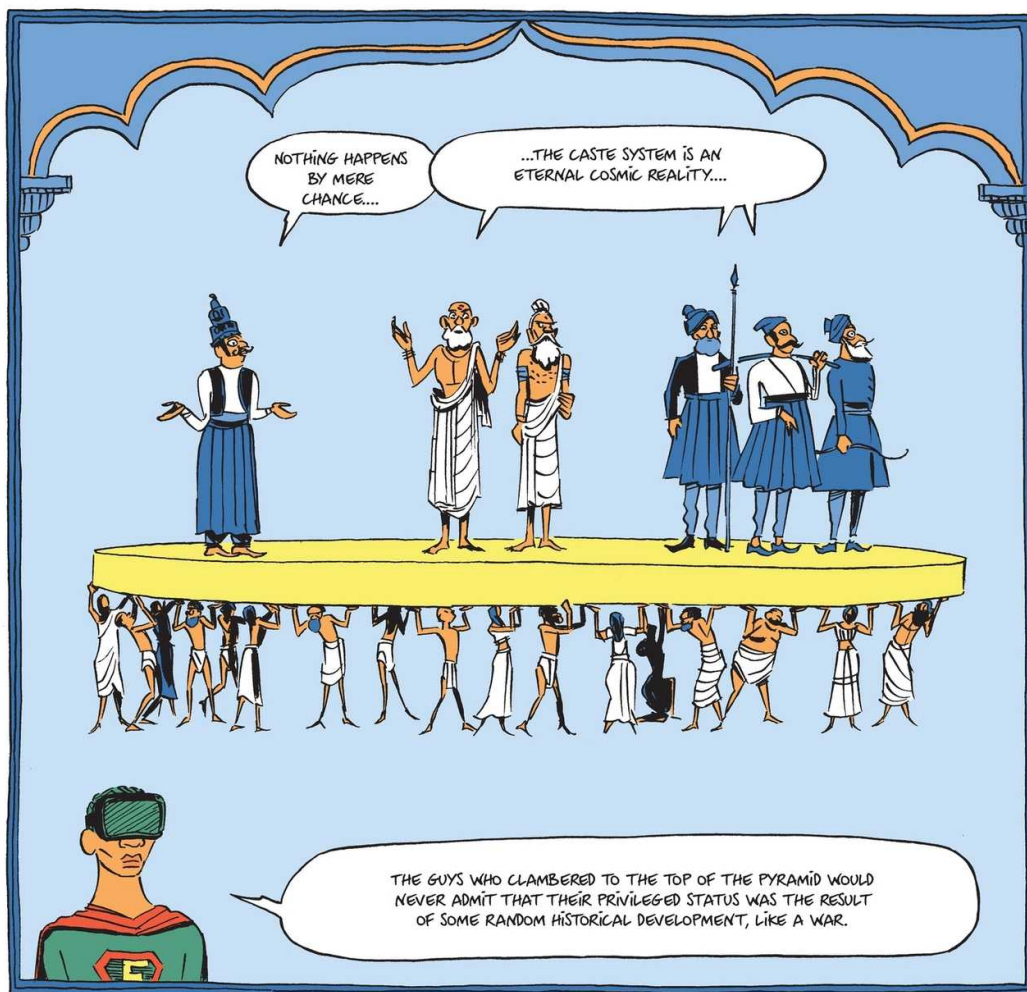
YES, FATHER!

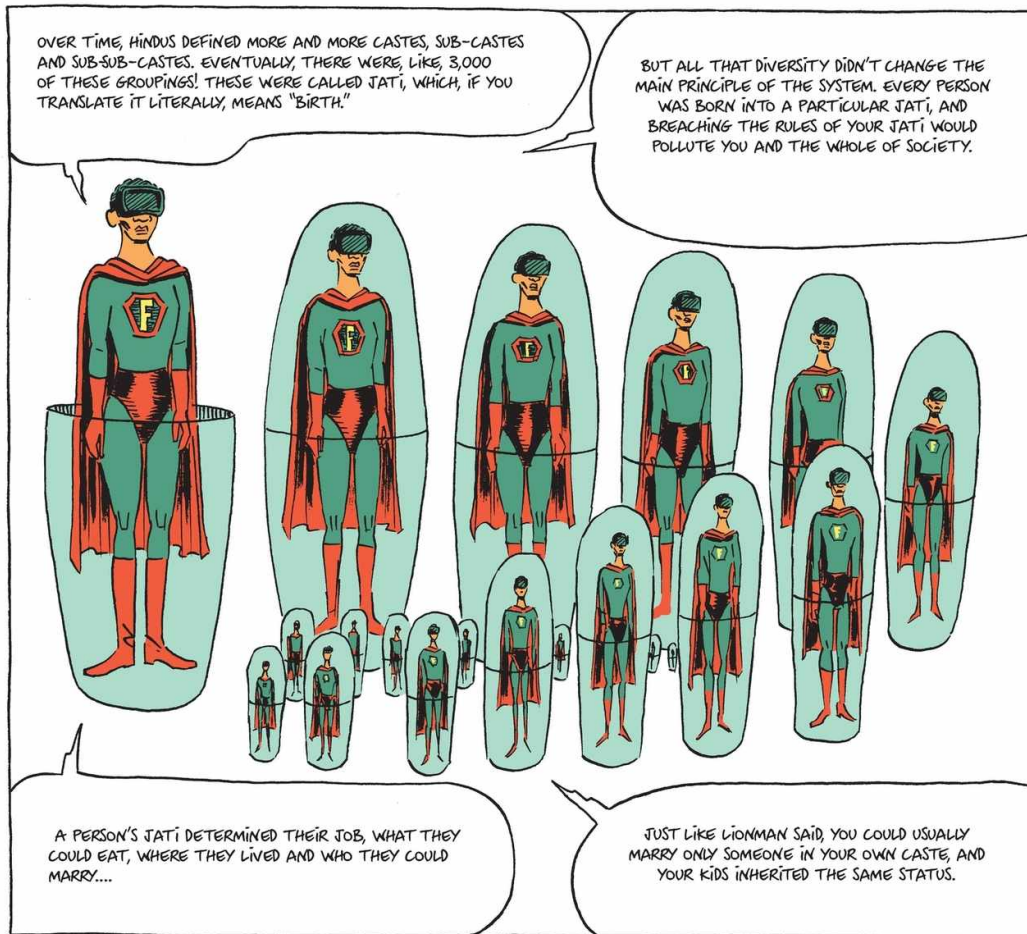
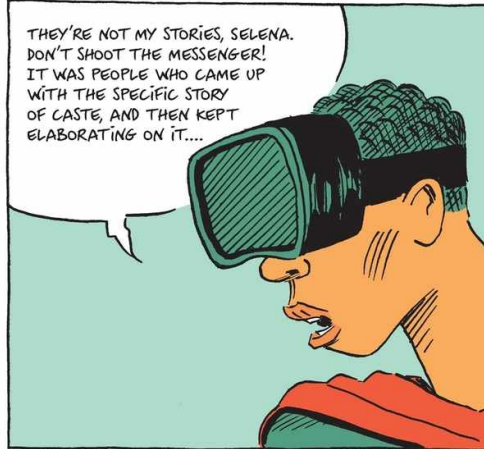
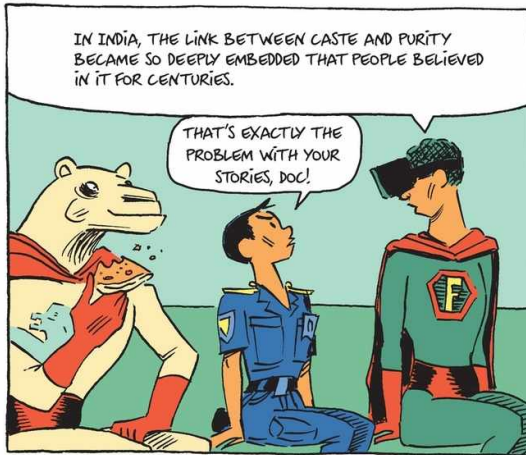


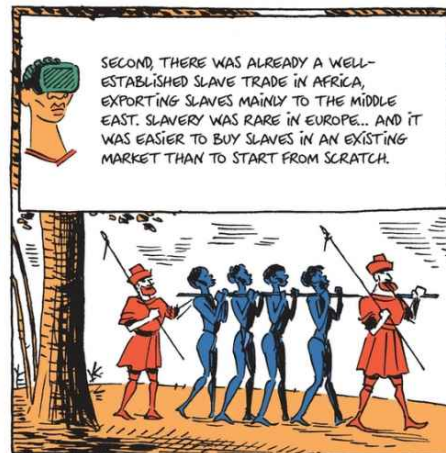
VERY GOOD! AND MAKE SURE YOU TALK TO THEM AS LITTLE AS POSSIBLE. AND IF I EVER CATCH YOU EATING WITH THEM, THERE'LL BE TROUBLE!

IT'S NUTS.... AND NONE OF THESE KIDS EVER QUESTIONED ALL THIS?

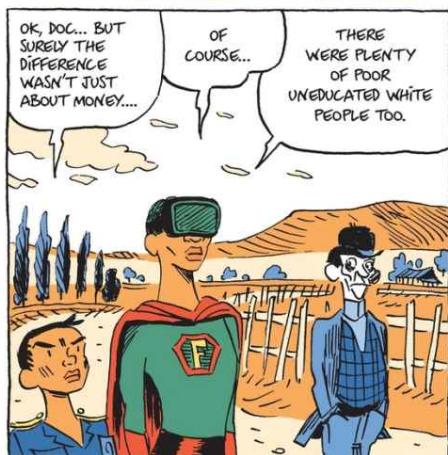
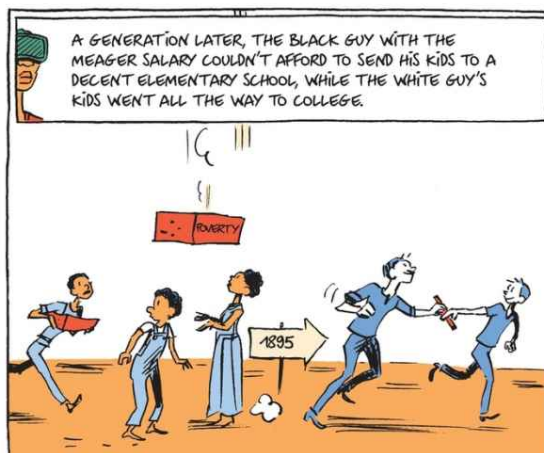
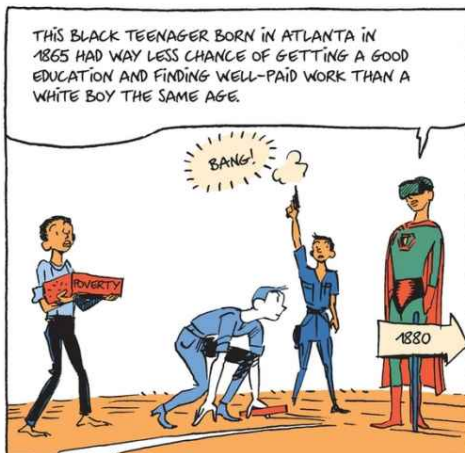
OH YES, SOME DID... WAIT AND SEE...











*JOSH WHITE GRANDPA

THE VICIOUS CIRCLE DIDN'T STOP THERE. AS RACIST MYTHS GREW STRONGER, WHITES FELT THE NEED TO CREATE NEW RULES TO KEEP BLACK PEOPLE IN THEIR PLACE AND PROTECT WHITE SOCIETY FROM THE SUPPOSEDLY POLLUTING EFFECTS OF RACE MIXTURE.

DAMN, WHERE CAN A MAN GET A SIMPLE CUP OF COFFEE....

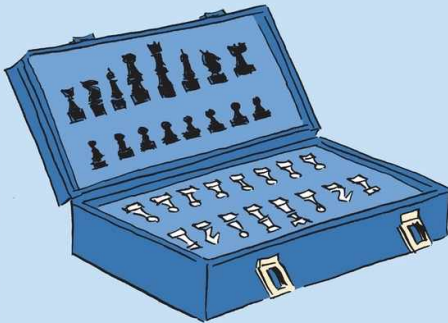
WHITE PEOPLE ONLY

THIS NEW REGIME OF RACIAL SEGREGATION WAS KNOWN AS THE "JIM CROW LAWS," AFTER THE FICTITIOUS CHARACTER JIM CROW, WHO EMBODIED RACIST STEREOTYPES ABOUT BLACK PEOPLE.

WHITE ONLY

COLORED

THESE LAWS WERE JUSTIFIED BY RACIST MYTHS—AND IN TURN STRENGTHENED THOSE MYTHS.



BLACK PEOPLE WERE BANNED FROM VOTING.

THEY'RE ALL IGNORANT AND IMMORAL, QUITE INCAPABLE OF VOTING INTELLIGENTLY!



BLACK CHILDREN WERE BANNED FROM WHITE SCHOOLS.

OH MY, NO, FOR PITY'S SAKE!

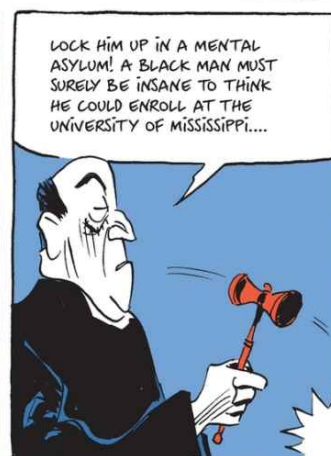
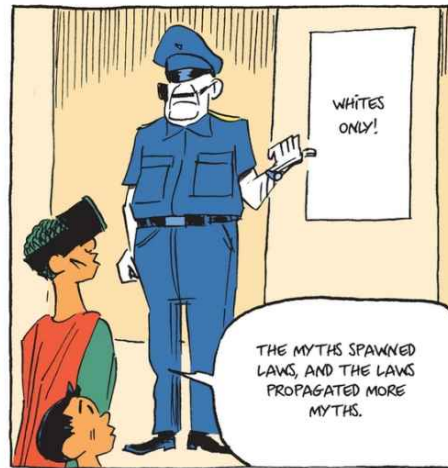
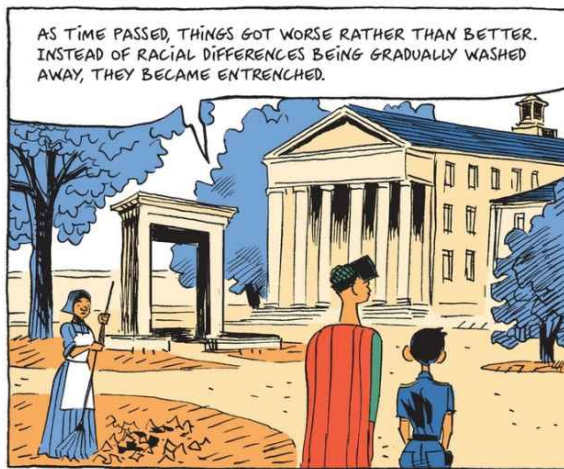
THEY'LL PASS ON THEIR WICKEDNESS AND DISGUSTING INFLUENCES TO OUR CHILDREN!

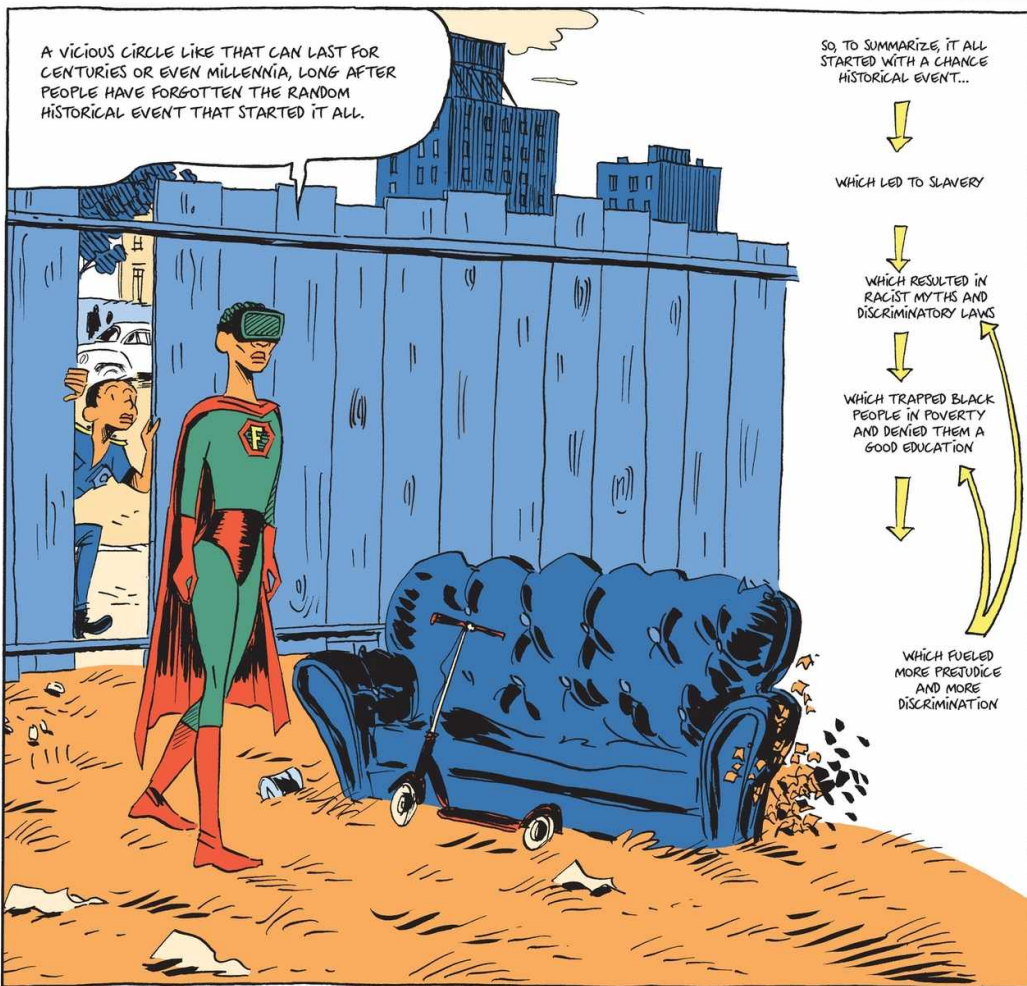


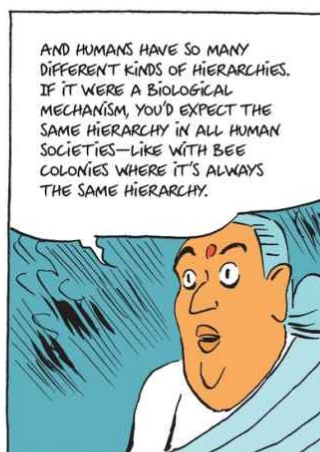
BLACK PEOPLE WERE BANNED FROM WHITE SHOPS.

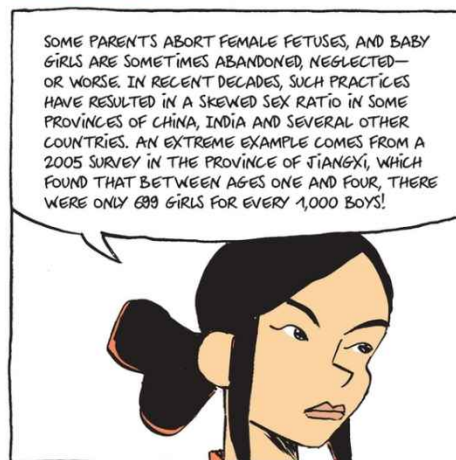
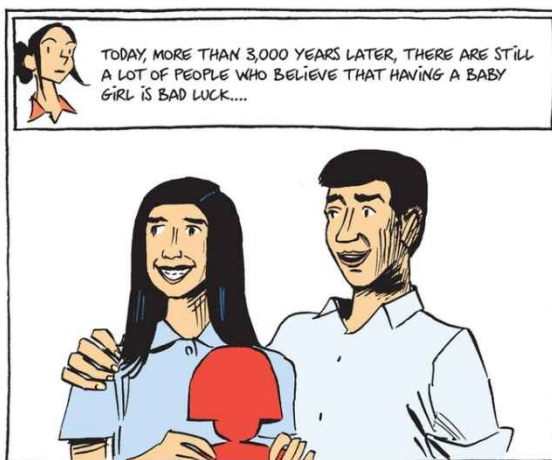
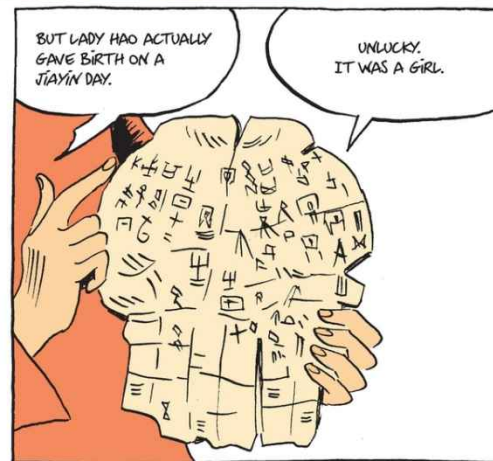
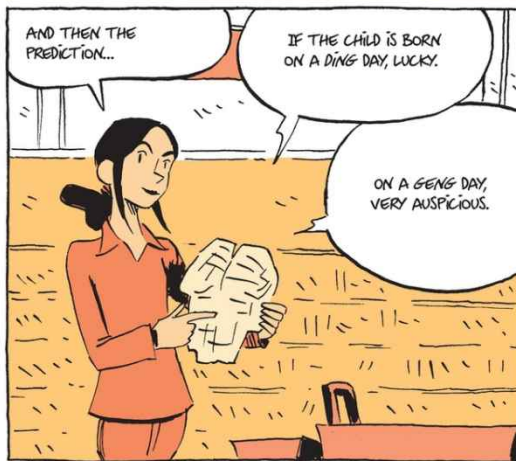
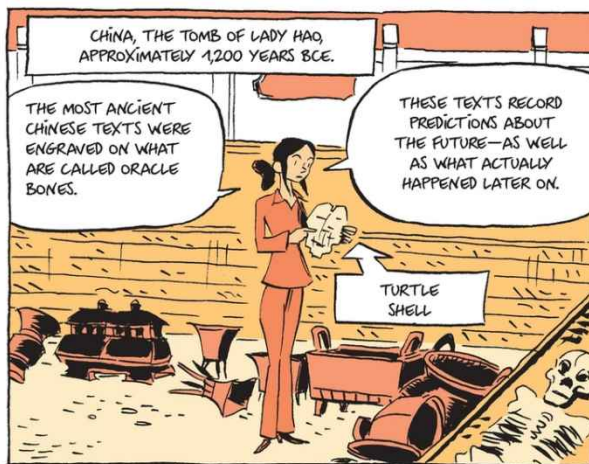
WE SURE DON'T NEED THIEVES ON OUR PREMISES!

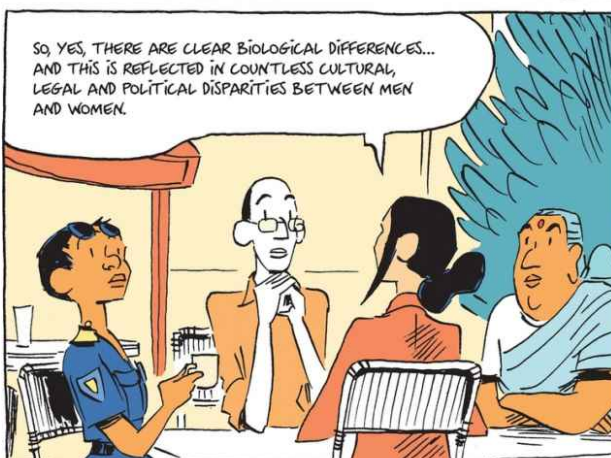
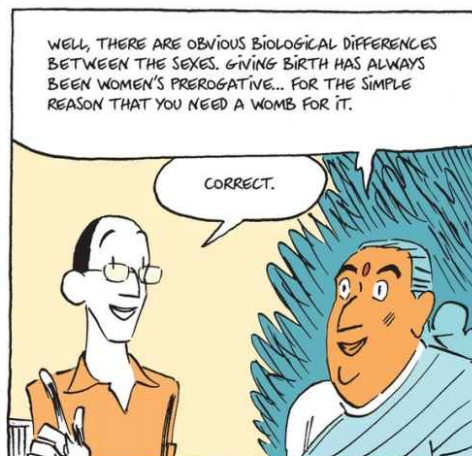
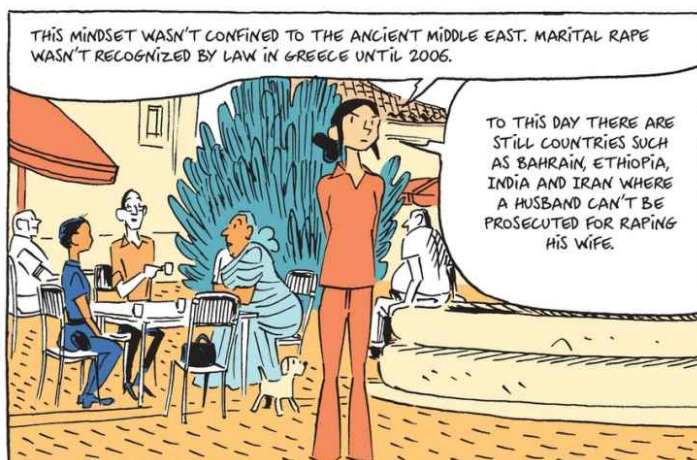
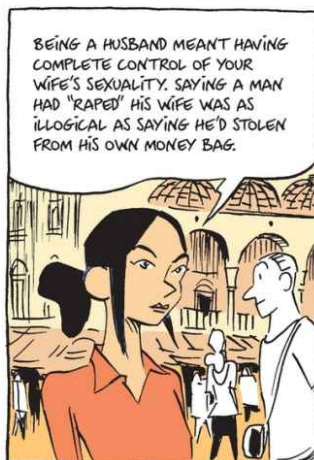


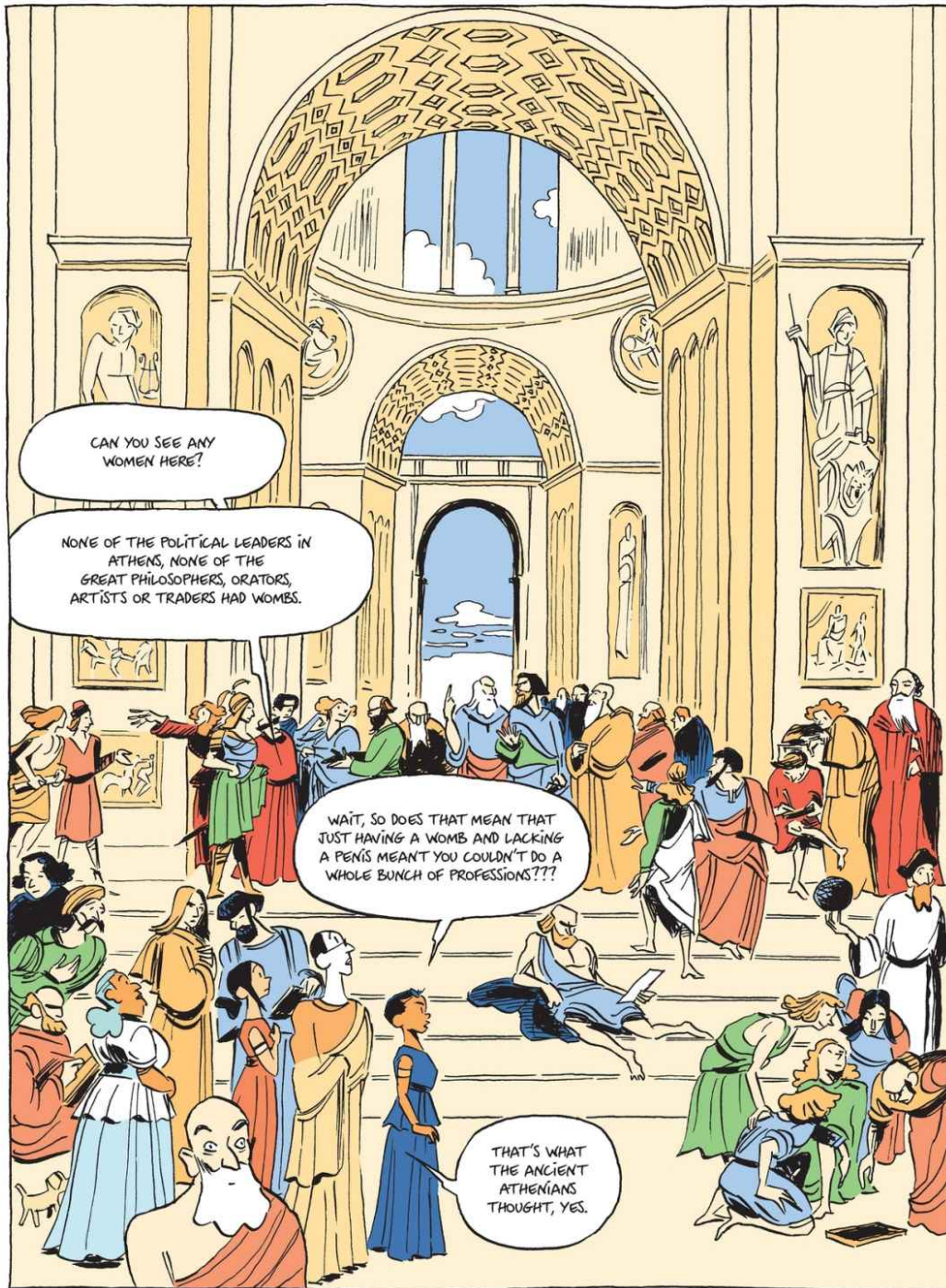










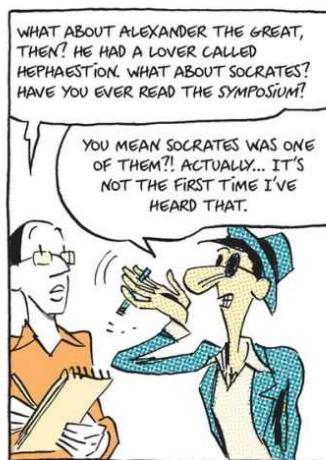
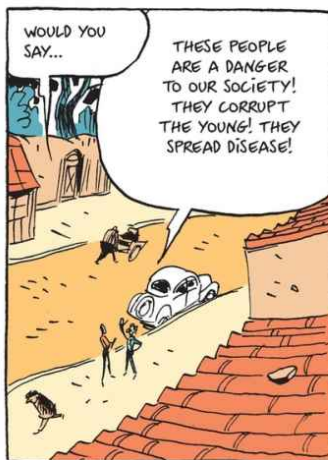
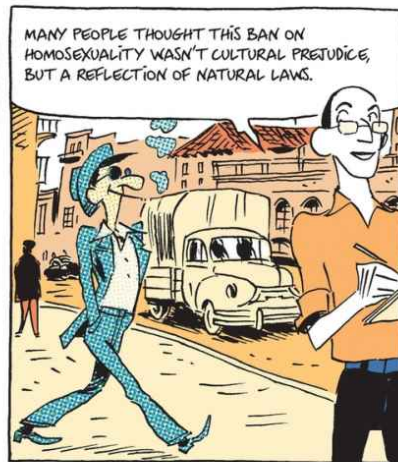
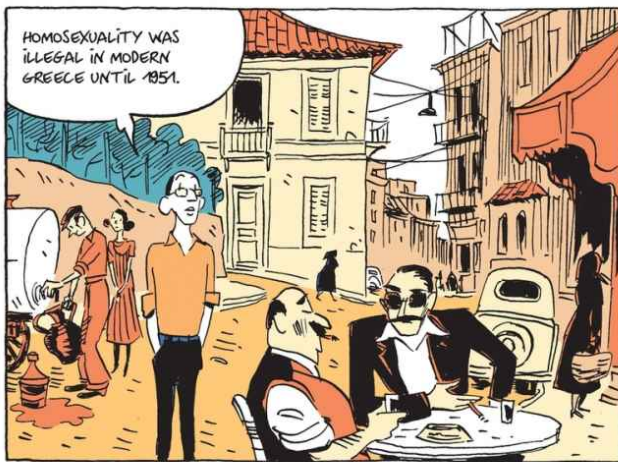


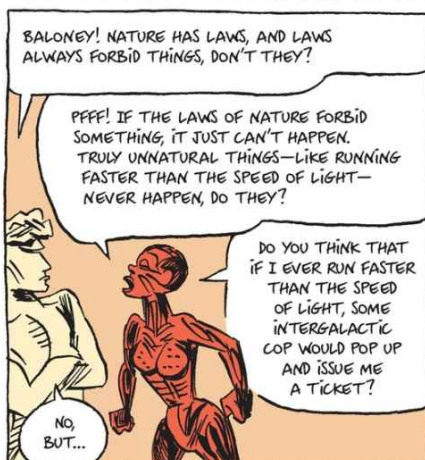
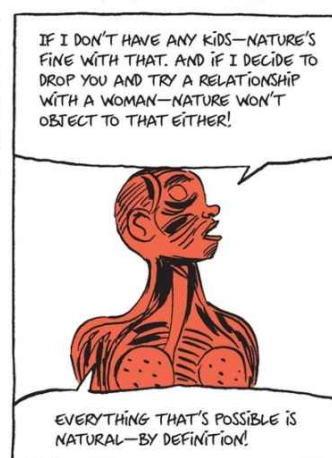
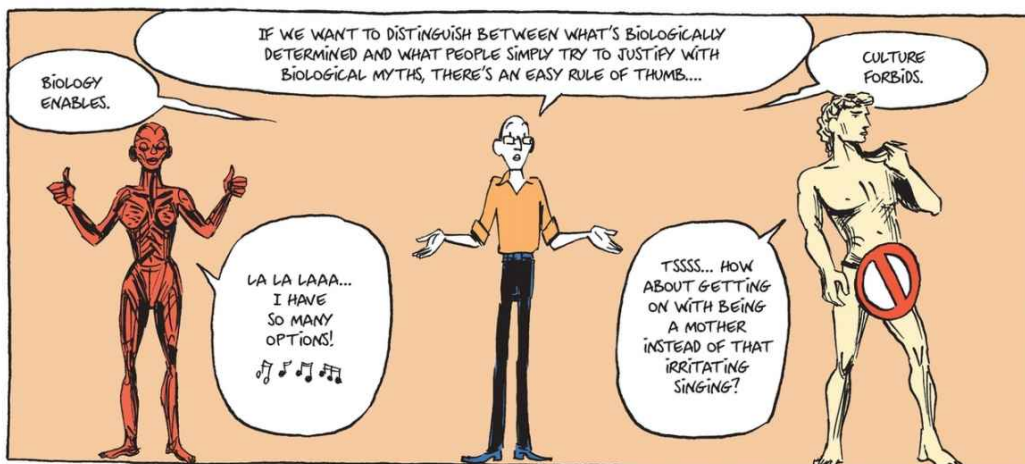
CAN YOU SEE ANY
WOMEN HERE?

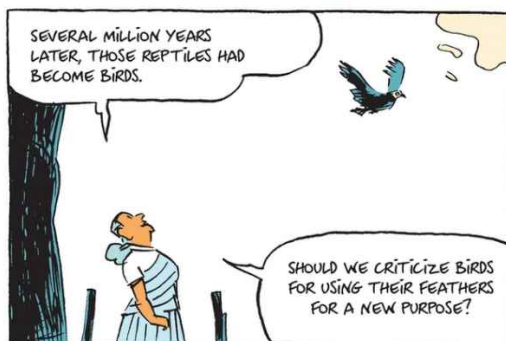
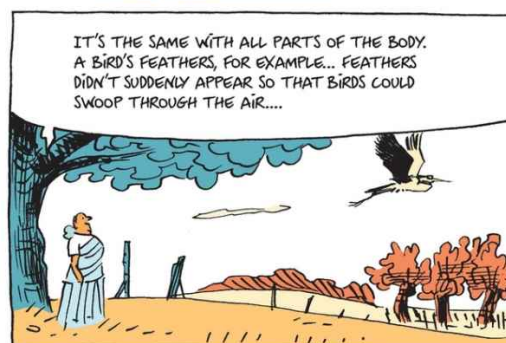
NONE OF THE POLITICAL LEADERS IN
ATHENS, NONE OF THE
GREAT PHILOSOPHERS, ORATORS,
ARTISTS OR TRADERS HAD WOMES.

WAIT, SO DOES THAT MEAN THAT
JUST HAVING A WOMB AND LACKING
A PENIS MEANT YOU COULDN'T DO A
WHOLE BUNCH OF PROFESSIONS???

THAT'S WHAT
THE ANCIENT
ATHENIANS
THOUGHT, YES.







BIOLOGICALLY, HUMANS ARE CATEGORIZED ALONG A MALE-FEMALE SPECTRUM.... MOST MALE SAPIENS HAVE ONE X CHROMOSOME AND ONE Y CHROMOSOME, WHILE MOST FEMALES HAVE TWO X CHROMOSOMES.

MALE XY
TESTOSTERONE
TESTICLES



FEMALE XX
ESTROGEN
UTERUS



BUT WHEN PEOPLE SAY "MAN" OR "WOMAN" THEY'RE USUALLY REFERRING TO A SOCIAL CONSTRUCT, NOT A BIOLOGICAL CATEGORY. A MAN ISN'T A SAPIENS WITH XY CHROMOSOMES, BUT SOMEONE WHO'S ASSIGNED SO-CALLED MASCULINE ROLES, RIGHTS AND DUTIES BY SOCIETY. WHILE A WOMAN ISN'T A SAPIENS WITH XX CHROMOSOMES, BUT SOMEONE WHO PLAYS A FEMININE ROLE IN THE IMAGINED ORDER OF SOCIETY.



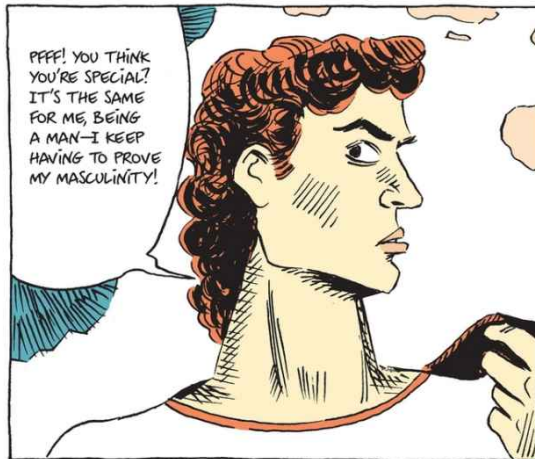
I ENGAGE IN POLITICS,
I CAN VOTE IN
ELECTIONS AND I MUST
DO MILITARY SERVICE.

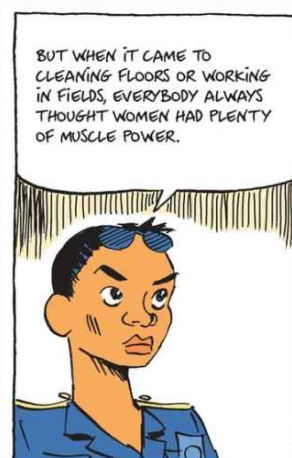
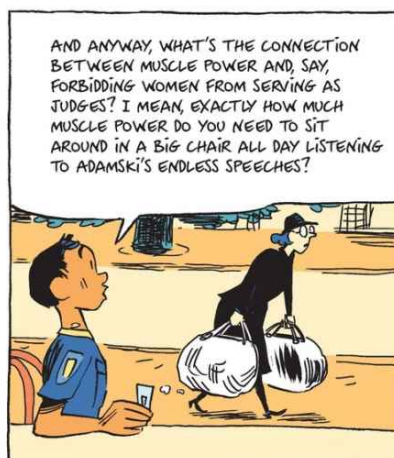
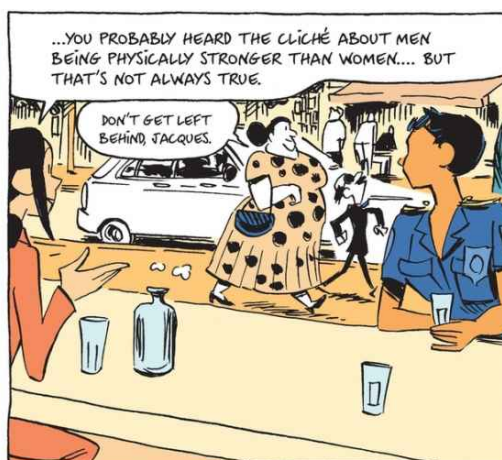


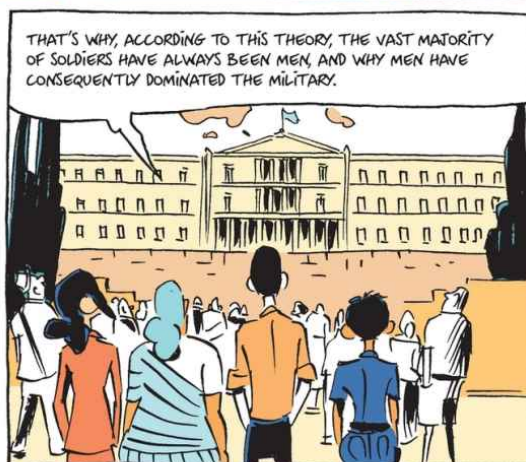
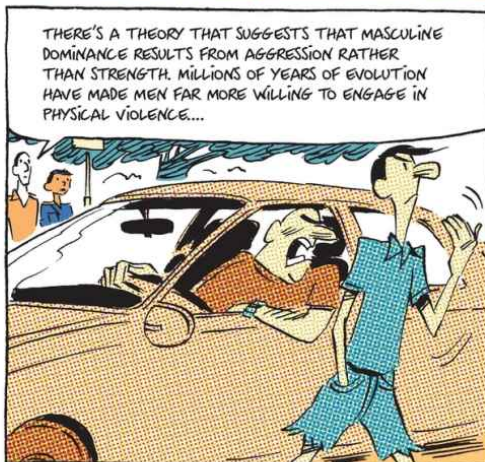
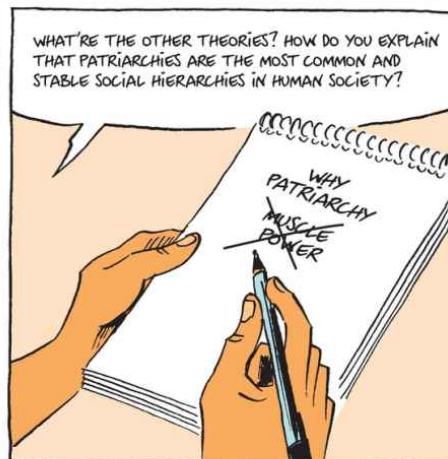
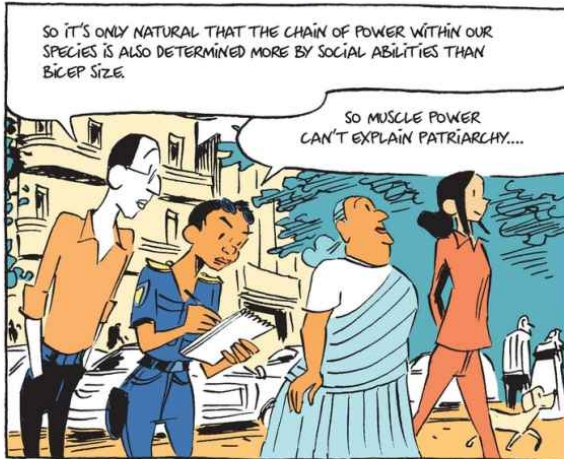
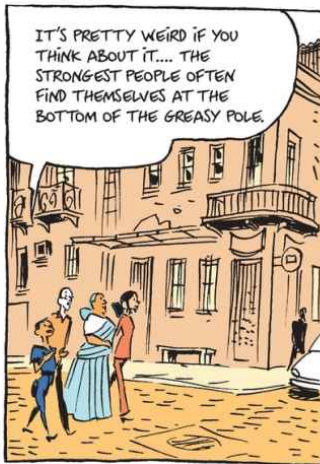
I RAISE CHILDREN,
LEARN TO WEAVE
AND MUST OBEY
MY HUSBAND.

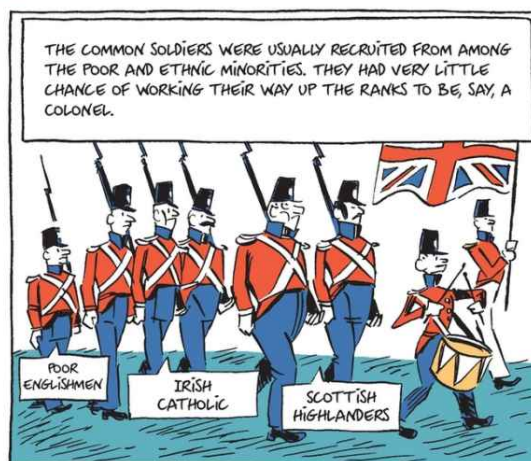
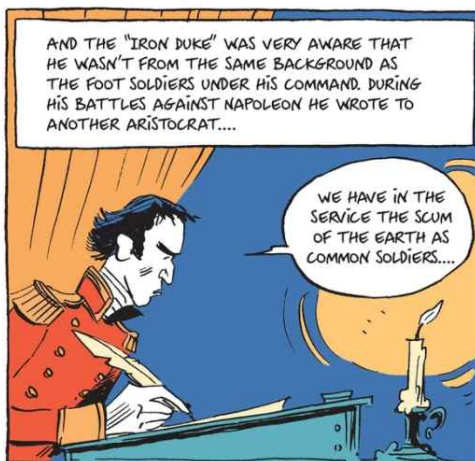
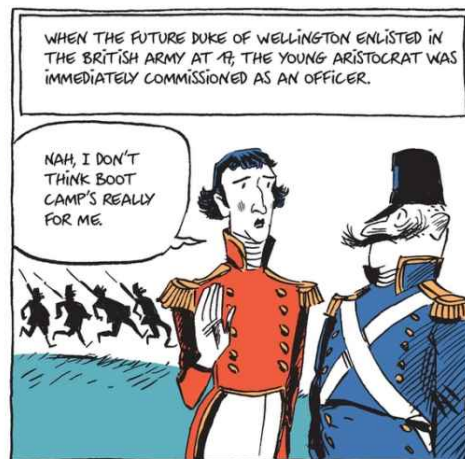
MEN'S AND WOMEN'S ROLES, RIGHTS AND DUTIES ARE DEFINED BY CULTURAL STORIES RATHER THAN BIOLOGY, SO THE MEANINGS OF "MASCULINITY" AND "FEMININITY" HAVE VARIED IMMENSELY FROM ONE SOCIETY TO ANOTHER. JUST LOOK HOW THEY DRESS!











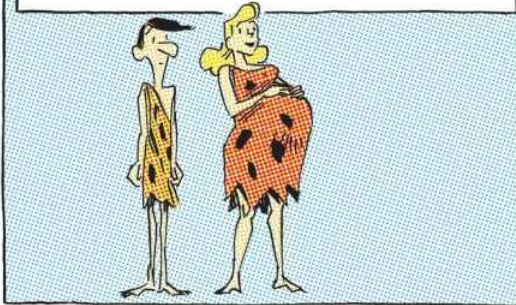
ON AVERAGE, WOMEN AREN'T AS PHYSICALLY STRONG AND AGGRESSIVE AS MEN. BUT IT'S NOT OUR SMALLER BICEPS OR OUR LOWER LEVELS OF TESTOSTERONE THAT STOPPED US BEING GENERALS OR POLITICAL LEADERS.

TO MANAGE A WAR YOU NEED MORE STAMINA AND CUNNING THAN MUSCLE OR RAW AGGRESSION. WARS ARE A FAR CRY FROM A SCUFFLE IN A BAR!

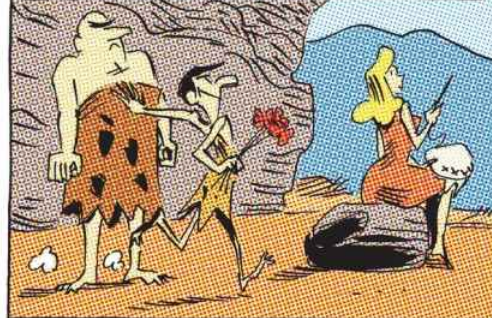
THE KEYS TO VICTORY ARE USUALLY MAINTAINING PEACE AT HOME, MAKING ALLIES ABROAD AND UNDERSTANDING WHAT OTHER PEOPLE ARE THINKING (ESPECIALLY YOUR ENEMIES).

WARS ARE COMPLEX UNDERTAKINGS THAT REQUIRE EXTRAORDINARY LEVELS OF ORGANIZATION, COOPERATION AND PLACATION.

AND THEN THERE'S A THIRD POPULAR THEORY. IT SUGGESTS THAT THE INEQUALITIES BETWEEN MEN AND WOMEN ARE NOT TO DO WITH MEN'S VIOLENCE AND BRUTE FORCE BUT ARE BECAUSE MEN AND WOMEN EVOLVED DIFFERENT REPRODUCTIVE STRATEGIES.



MEN COMPETED FOR OPPORTUNITIES TO IMPREGNATE AS MANY FERTILE WOMEN AS POSSIBLE. MISSION ACCOMPLISHED, THEY COULD IMMEDIATELY MOVE ON.



OVER TIME, IT WAS THE MOST AMBITIOUS, AGGRESSIVE AND COMPETITIVE MEN WHO PASSED ON THEIR MALE GENES TO FUTURE GENERATIONS.



THIS STRATEGY WOULD HAVE BEEN POINTLESS FOR A WOMAN. SHE HAD NO TROUBLE FINDING MEN WILLING TO IMPREGNATE HER....



BUT HER GENES WOULDN'T HAVE GONE FAR IF SHE DIDN'T CARRY THE FETUS FOR NINE DIFFICULT MONTHS AND THEN NURTURED HER CHILD FOR MANY YEARS TO COME.



IT WAS VERY TOUGH TO DO ALL THAT BY HERSELF. SO, ACCORDING TO THIS THEORY, SHE NEEDED A MAN'S HELP.



COME ON, BILL, YOU'LL NEVER GET THAT IN THE FRIDGE!

PROFESSOR YOSHITA'S RIGHT TO BE PUZZLED. IN ANIMAL SPECIES LIKE ELEPHANTS AND BONOBOS THE DYNAMIC BETWEEN DEPENDENT FEMALES AND COMPETITIVE MALES HAS PRODUCED NOT PATRIARCHIES BUT MATRIARCHAL SOCIETIES.



IT TAKES A LOT OF HELP AND COOPERATION TO RAISE YOUNG BONOBOS. SO MOTHERS HAVE TO DEVELOP THEIR SOCIAL SKILLS. THEY LEARN TO WORK TOGETHER, MAKE COMPROMISES AND UNDERSTAND WHAT OTHERS THINK AND WANT.



FEMALE BONOBOS USE THESE SKILLS TO BUILD STRONG NETWORKS OF FEMALE FRIENDS WHO HELP ONE ANOTHER.



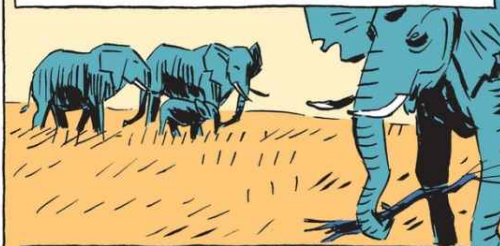
MEANWHILE, THE MALES SPEND THEIR TIME FIGHTING AND COMPETING AMONG THEMSELVES. THIS MEANS THE MALES DON'T DEVELOP THEIR COOPERATIVE SKILLS AND DON'T FORM MANY STRONG FRIENDSHIPS.



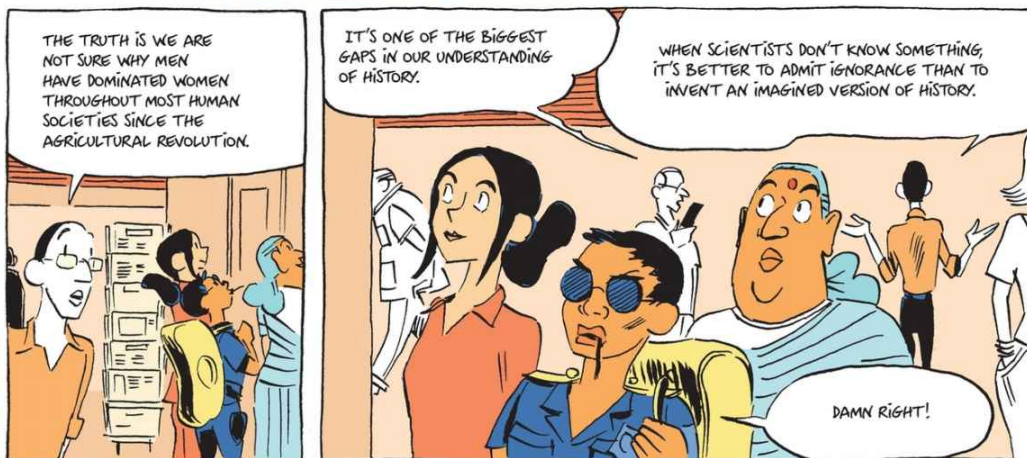
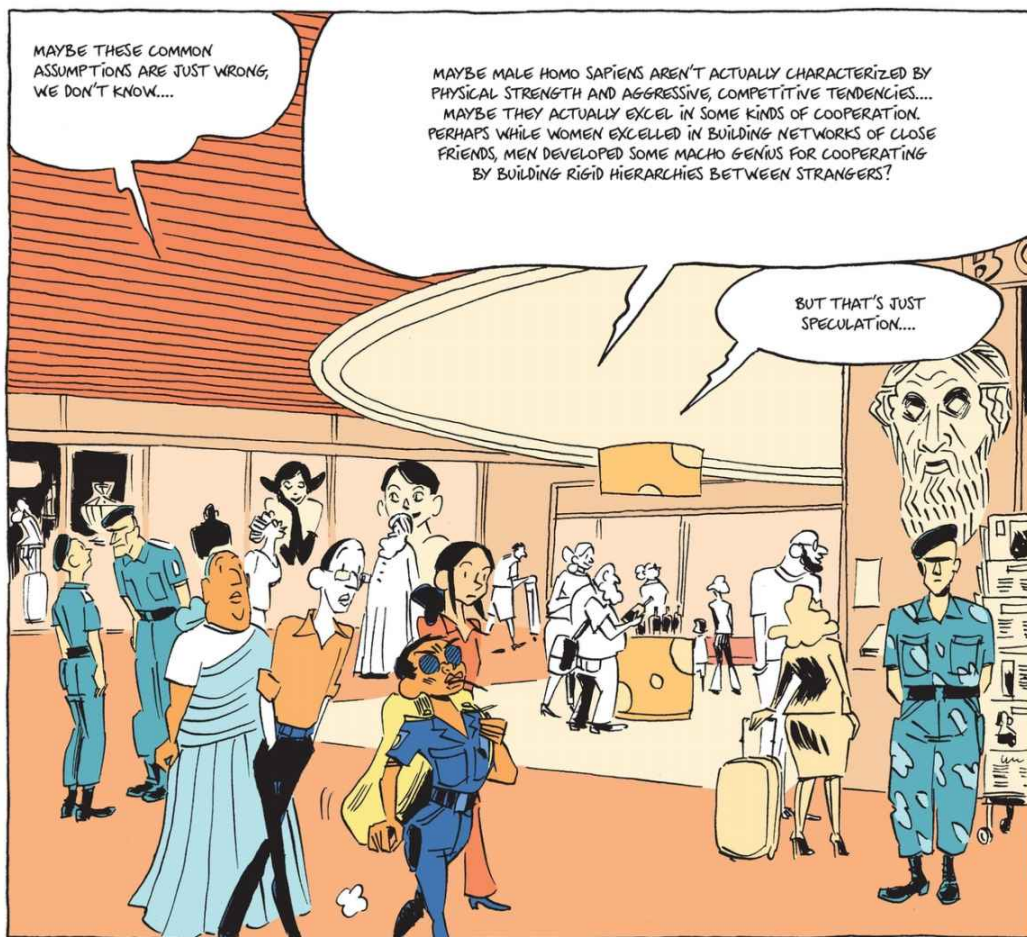
SO BONOBO SOCIETIES ARE DOMINATED BY FEMALE NETWORKS. BONOBO MALES ARE BIGGER AND STRONGER THAN THE FEMALES, BUT IF A MALE MISTREATS A FEMALE, HER FRIENDS ARE VERY QUICK TO HELP HER AND TEACH THE BULLY A LESSON.



IT'S THE SAME WITH AFRICAN ELEPHANTS. THEIR SOCIETIES ARE CONTROLLED BY DOMINANT FEMALES WHO MAKE ALL THE MAJOR DECISIONS ABOUT WHERE THE HERD WILL GO.



WHY DON'T WE SEE THE SAME DYNAMIC AMONG HOMO SAPIENS? WE DON'T KNOW.



EPILOGUE

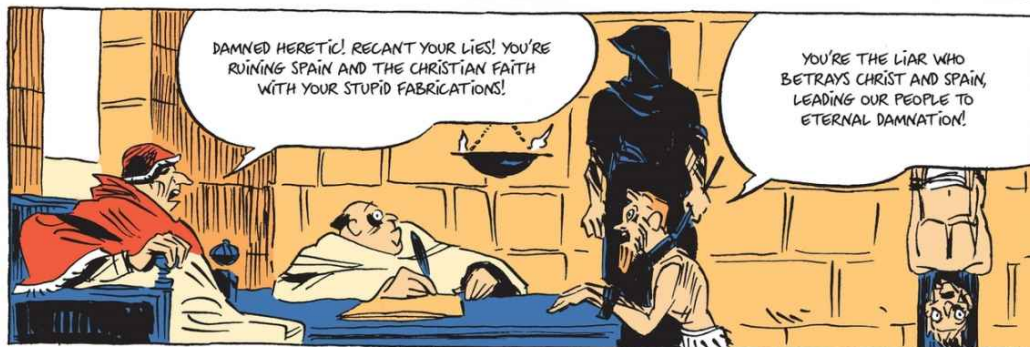
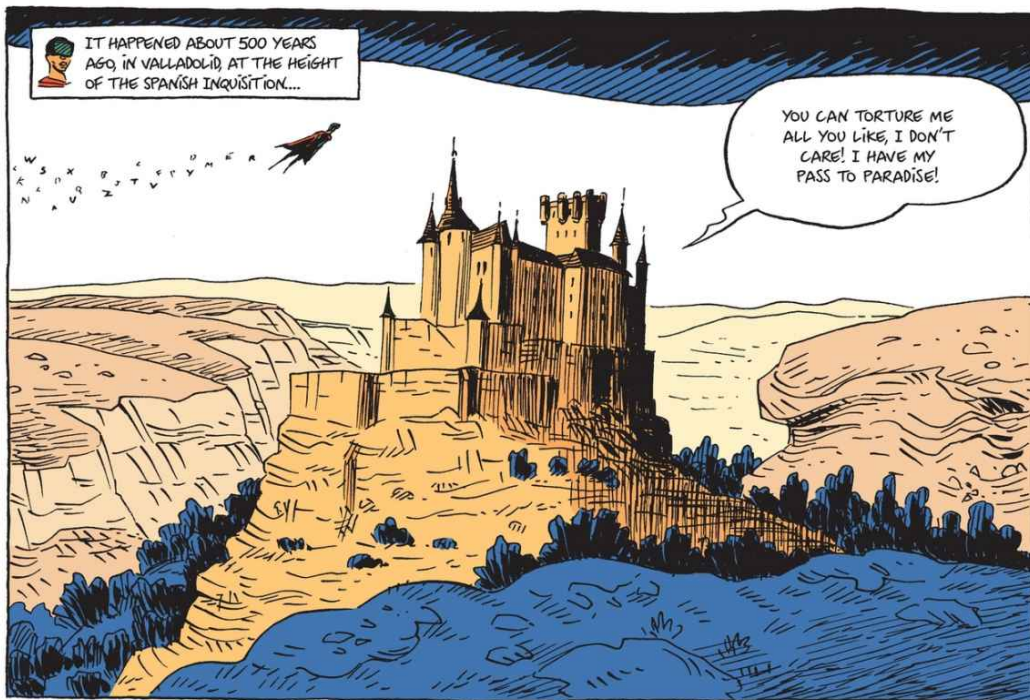
NEW YORK, A FEW DAYS
LATER...

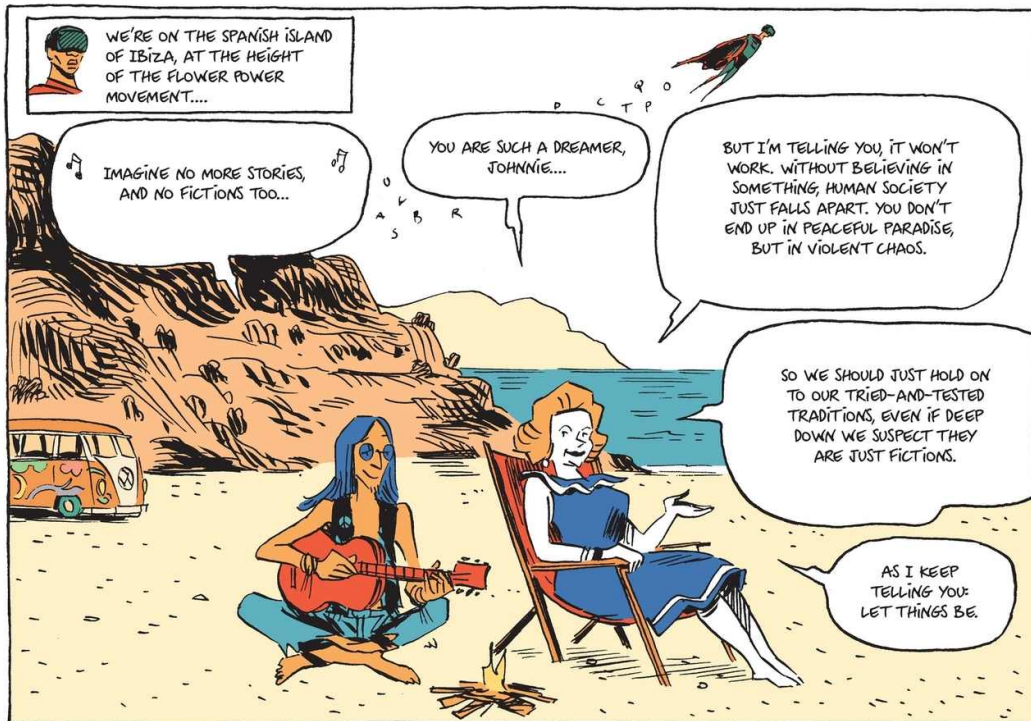
I KNOW IT'S
YOU, DOC!

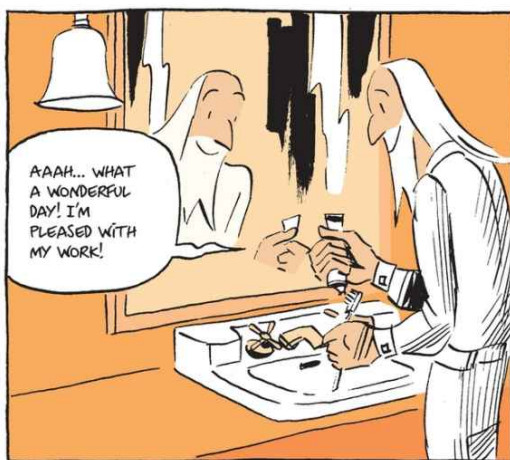
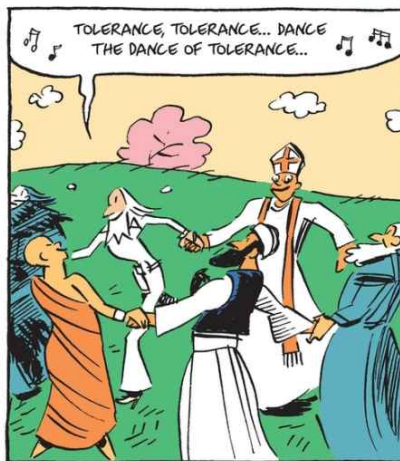
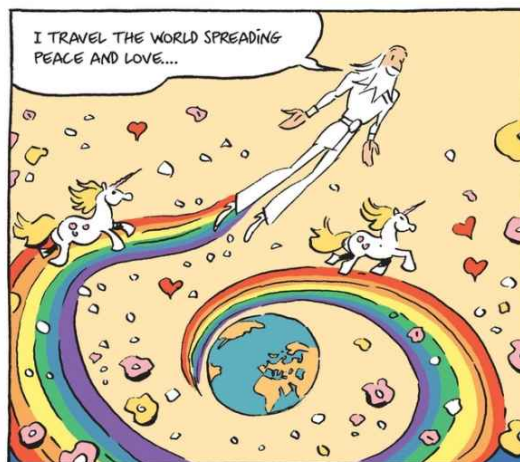
THE EVIDENCE IS
OVERWHELMING!

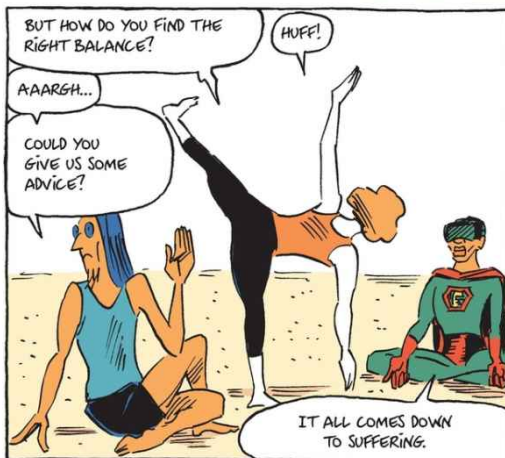
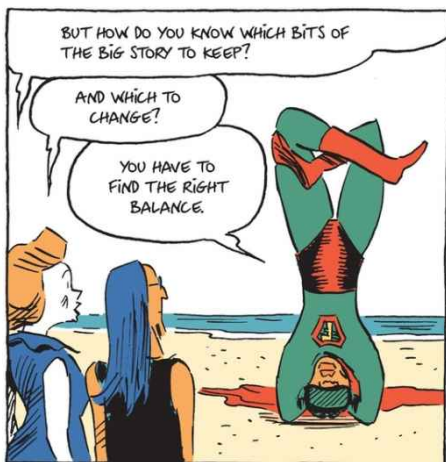
DREAM STORIES















ACKNOWLEDGMENTS

Creating a graphic novel is a team effort at the best of times, and certainly during a global pandemic.

I would like to thank the following people, whose collaboration and contributions made this project possible:

To David Vandermeulen and Daniel Casanave, who have poured their creative genius and energies into

coauthoring this graphic novel with me. Your ability to make me laugh

out loud over email is truly astounding, and finding new ways of

retelling human history together into the world. CEO Naama Avital, CMO Naama Wartenburg, Nina

Zivy, who bravely coordinated the

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this book together in these

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so well and the Sapienship and Dorotéo.

Storytelling team for a very special partnership.

DANIEL CASANAVE

Thank you to Célia and Noé for their help.

—CLAIRE CHAMPION

ABOUT THE CONTENTS OF THIS BOOK

The beauty of science is that it is always evolving: new discoveries are

forever changing our understanding of the world. This book's authors and editorial team have made an effort to ensure that its representation

of historical events is based on the latest scientific research available at

the time of writing. Many disputes persist among scholars about the interpretation of particular pieces of archaeological, genetic and textual

evidence, and some of these debates may never be satisfactorily resolved.

Future discoveries and innovations could upend our understanding of

the past, and we should all look forward to such breakthroughs. But this does not mean that everything is debatable. It can be said with certainty that several species of humans existed in the past, that the last remaining human species, Homo sapiens, domesticated plants and animals, unlocked the laws of nature and created globe-spanning empires using the power of stories. Every year we are learning more about how these transformations unfolded, and how they helped create the world that we now inhabit.

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