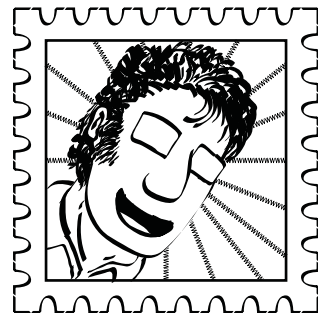
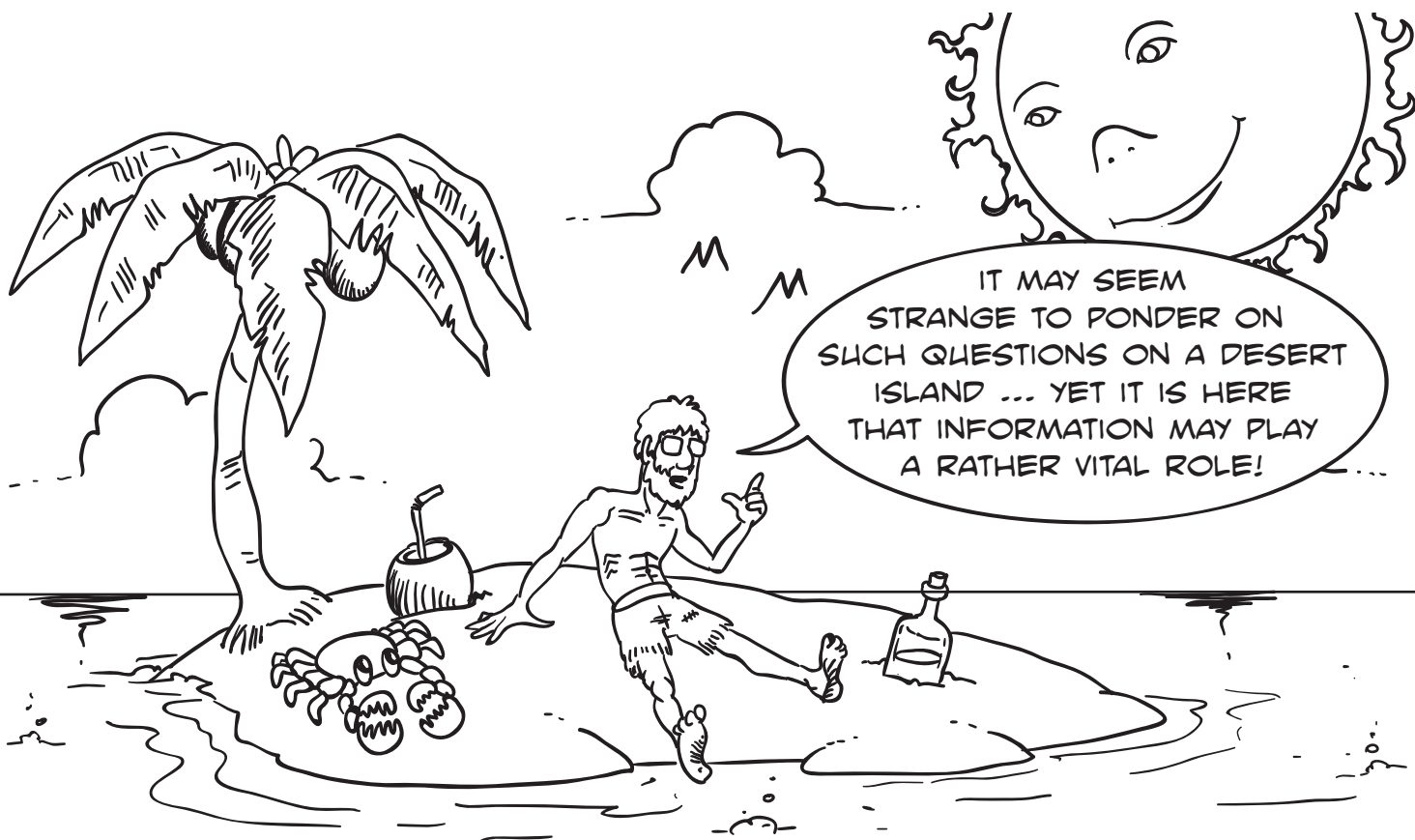


WHERE AND WHEN

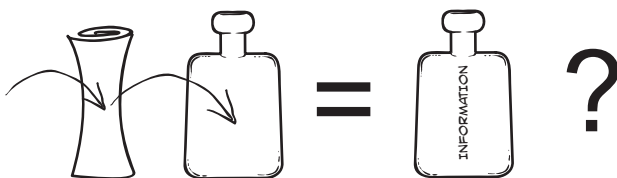


IS INFORMATION?



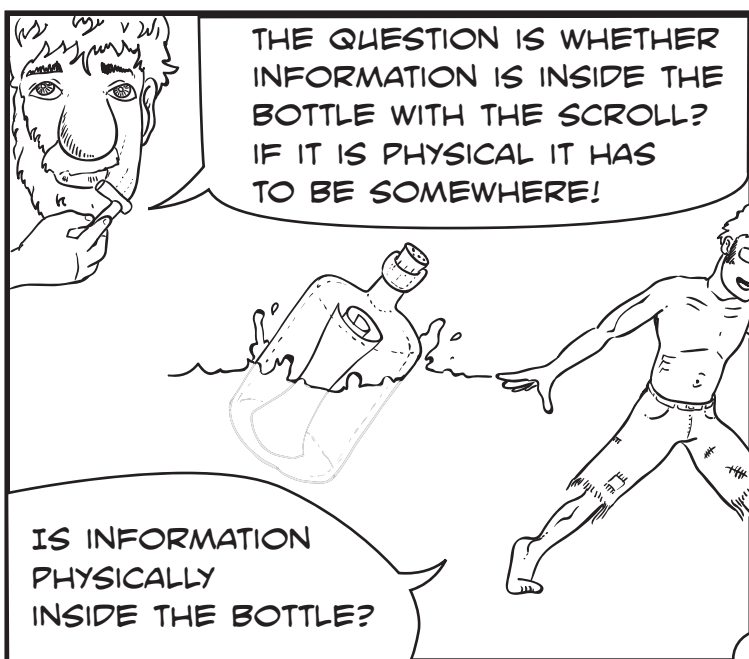
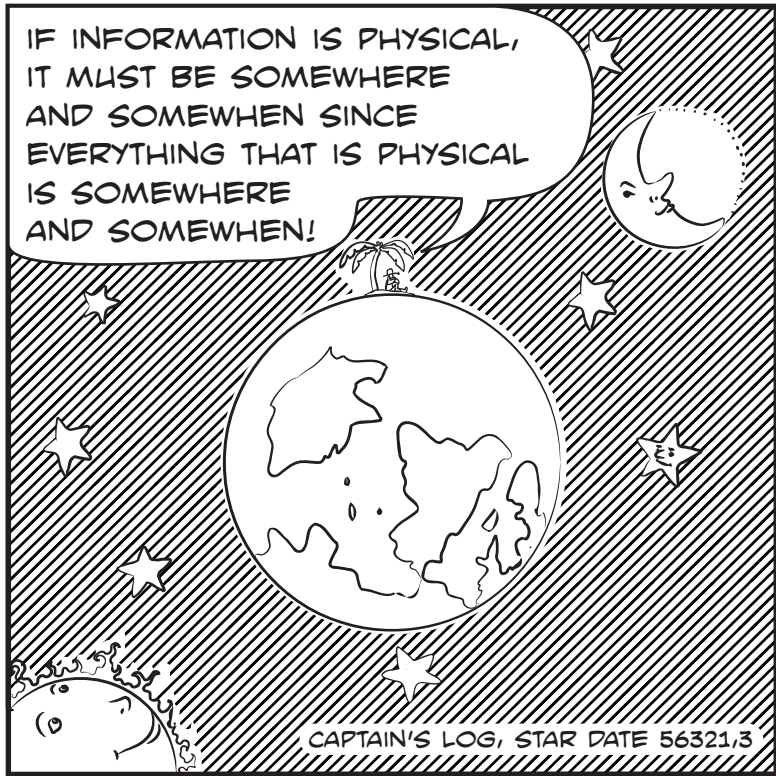
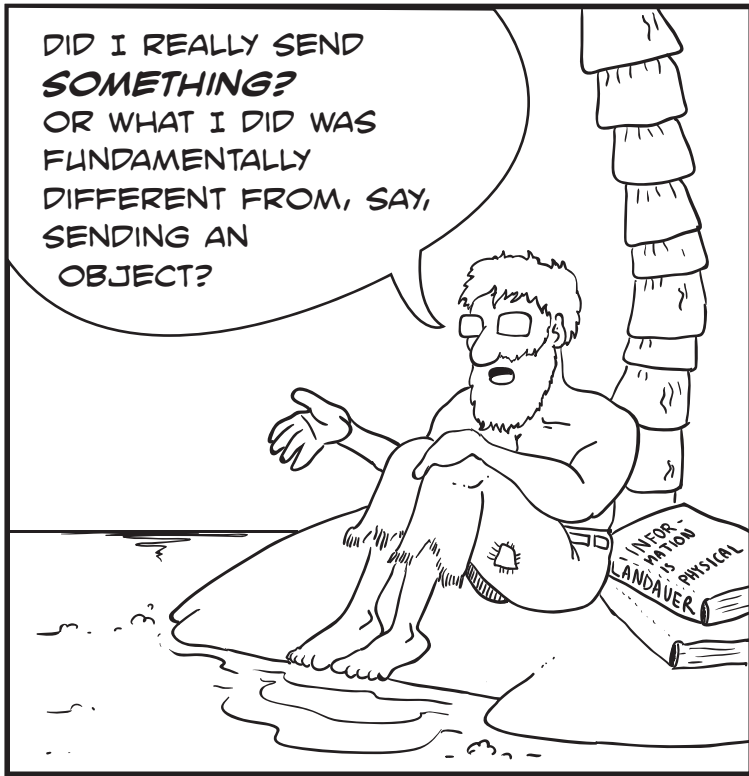
LET'S START
WITH SOMETHING
EASY AND
HOPEFULLY
USEFUL!
I'LL PUT SOME
INFORMATION
INSIDE A BOTTLE
AND THEN I'LL
SEND THE BOTTLE
HOPING THAT
SOMEONE
FINDS IT!

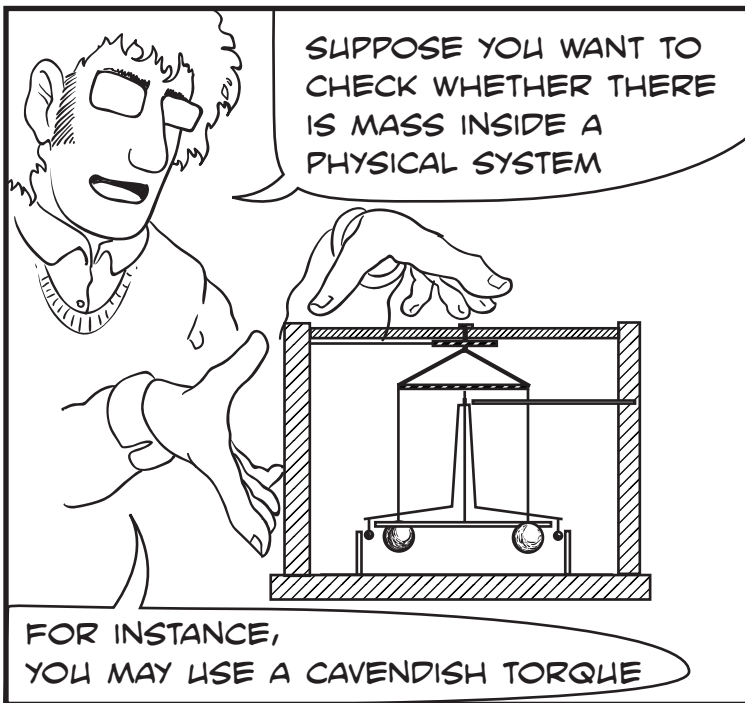
INFORMATION



AND YET ...
IS THIS A GOOD
DESCRIPTION OF WHAT
HAS JUST HAPPENED?
IS INFORMATION
TRULY 'INSIDE' THE BOTTLE?
WHERE AND WHEN
IS INFORMATION?

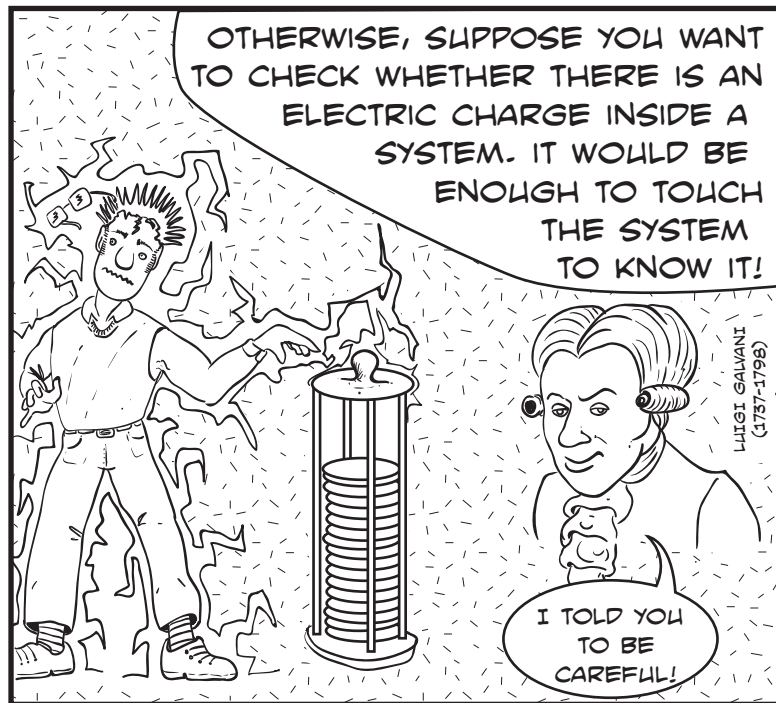






SUPPOSE YOU WANT TO CHECK WHETHER THERE IS MASS INSIDE A PHYSICAL SYSTEM

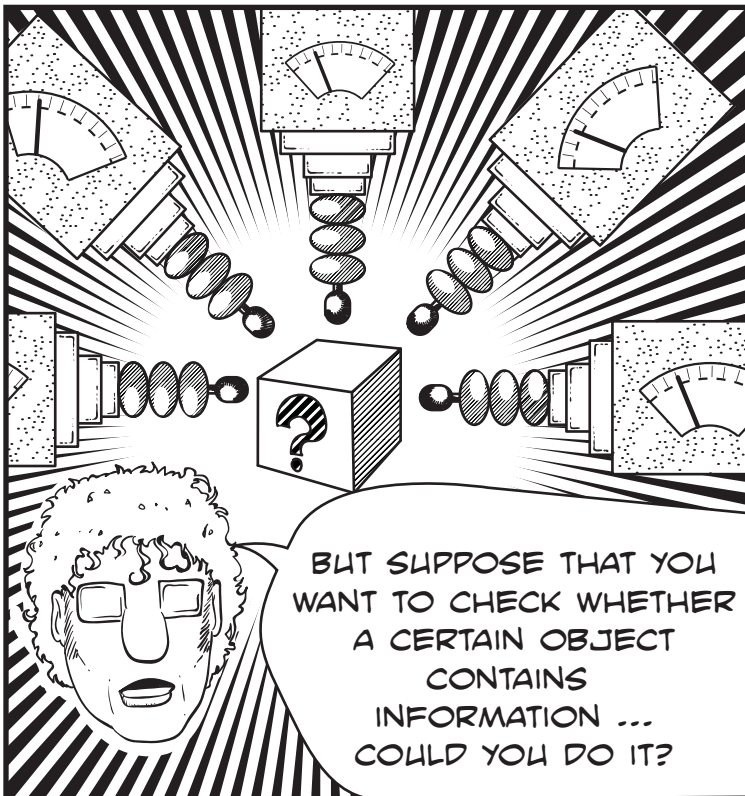
FOR INSTANCE, YOU MAY USE A CAVENDISH TORQUE



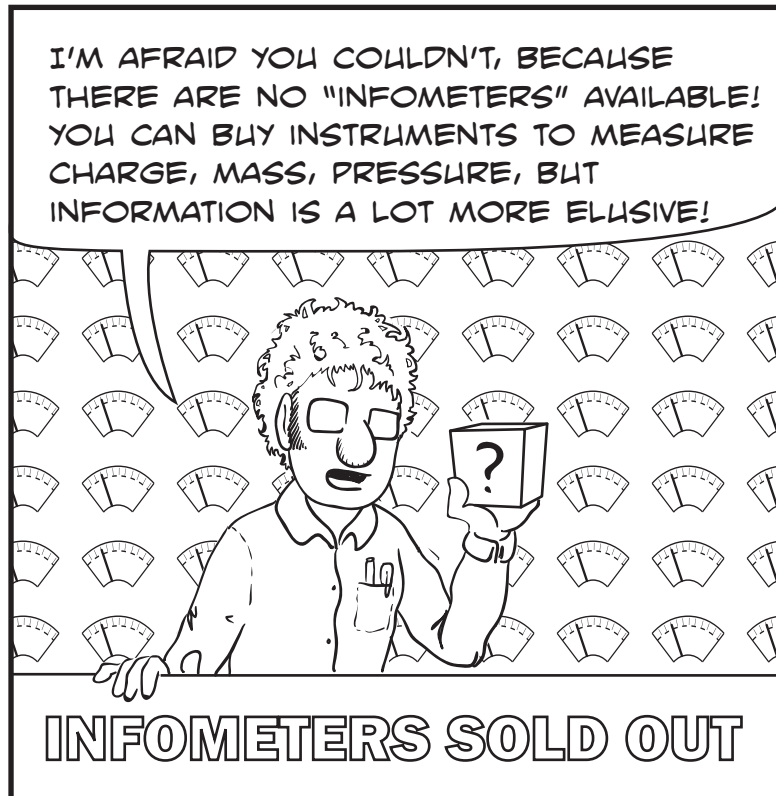
OTHERWISE, SUPPOSE YOU WANT TO CHECK WHETHER THERE IS AN ELECTRIC CHARGE INSIDE A SYSTEM. IT WOULD BE ENOUGH TO TOUCH THE SYSTEM TO KNOW IT!

I TOLD YOU TO BE CAREFUL!

LUIGI GALVANI (1737-1798)

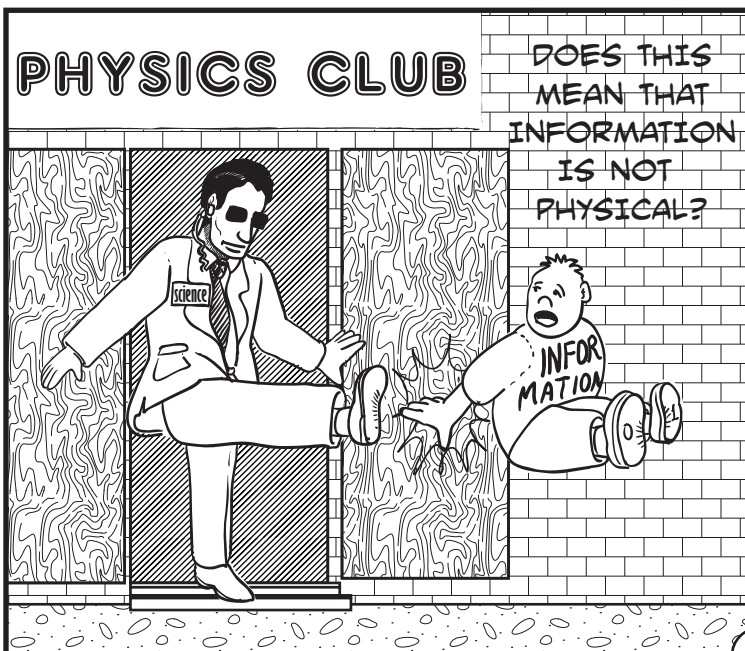


BUT SUPPOSE THAT YOU WANT TO CHECK WHETHER A CERTAIN OBJECT CONTAINS INFORMATION ... COULD YOU DO IT?



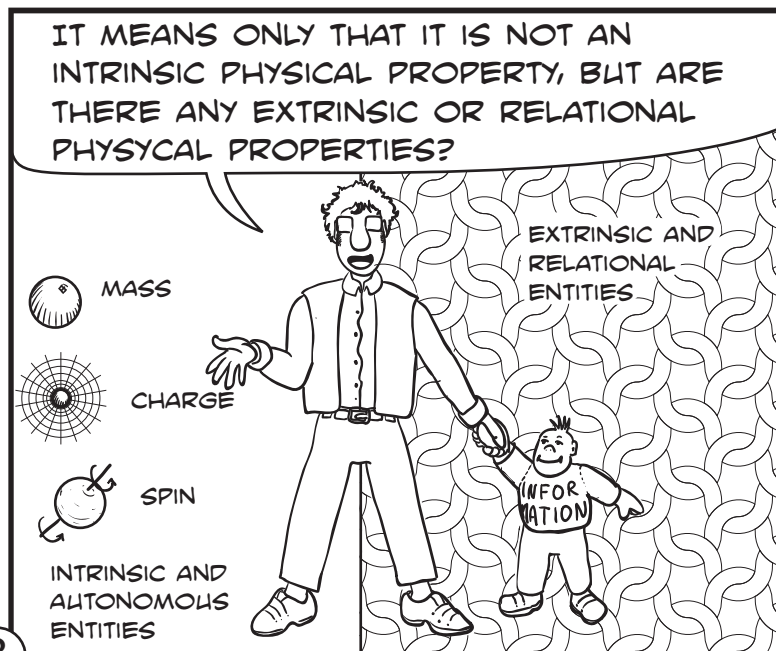
I'M AFRAID YOU COULDN'T, BECAUSE THERE ARE NO "INFOMETERS" AVAILABLE! YOU CAN BUY INSTRUMENTS TO MEASURE CHARGE, MASS, PRESSURE, BUT INFORMATION IS A LOT MORE ELUSIVE!

INFOMETERS SOLD OUT



PHYSICS CLUB

DOES THIS MEAN THAT INFORMATION IS NOT PHYSICAL?



IT MEANS ONLY THAT IT IS NOT AN INTRINSIC PHYSICAL PROPERTY, BUT ARE THERE ANY EXTRINSIC OR RELATIONAL PHYSICAL PROPERTIES?

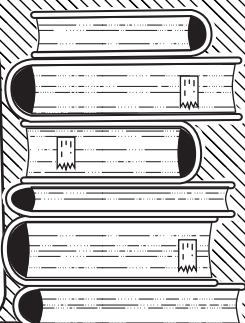


INTRINSIC AND AUTONOMOUS ENTITIES

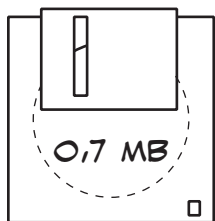
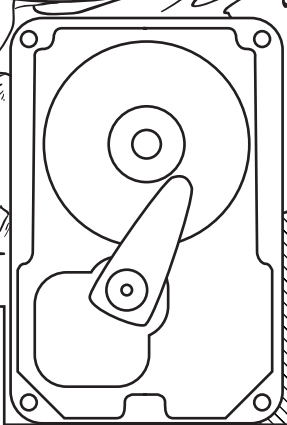
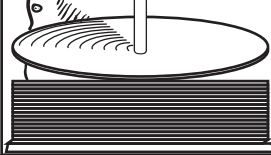
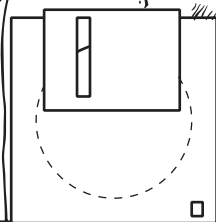
EXTRINSIC AND RELATIONAL ENTITIES

AREN'T ALL THESE OBJECTS MADE TO STORE INFORMATION? DON'T THEY CONTAIN INFORMATION?

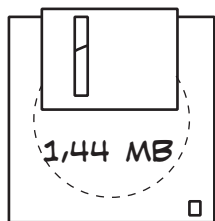
OR ARE THEY INVOLVED IN COMPLEX CAUSAL CHAINS ENABLING THE OCCURRENCE OF INFORMATION?



S. P. Q. R.
IMPPT. CA.
INVICTISSIA
PRINCIPIBVS.
ARCADIO. ET.
HONORIO.
VICTORIBVS
AC TRIVM-
PHATORIBVS.
SEMPER.
INSTAVRATOS
VRBI.



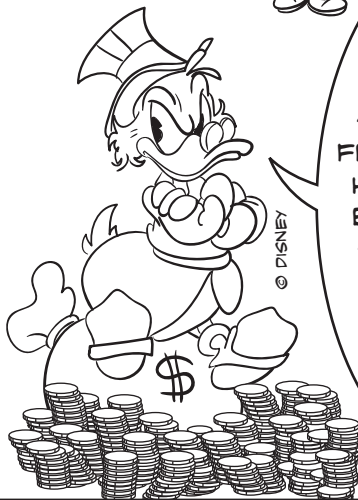
1986



1987

THEIR CAPACITY TO STORE INFORMATION IS NOT AUTONOMOUS, BUT IT DEPENDS ON A COMPLEX CHAIN OF EXTERNAL CAUSES. FOR INSTANCE, BETWEEN 1986 AND 1987, FLOPPY DISKS CHANGED OVERNIGHT THEIR STORAGE CAPACITY BECAUSE OF A CHANGE IN THE TOOLS USED TO READ/WRITE THE DISKS

INFLATION RATE



INFORMATION IS SOMEWHAT LIKE MONEY. I CAN SAVE MY DOLLARS FROM THE STOOGES HIDING THEM IN MY BIN, BUT I CANNOT SAVE THEIR VALUE FROM INFLATION! MONEY TOO IS A RELATIONAL PHENOMENON!

THE RELATIONAL NATURE OF INFORMATION LEADS TO THE NOTION OF MEANING. SUPPOSE TO HAVE A SET OF 8 CARDS (VERY ORIGINAL!) AND SUPPOSE THAT EACH CARD MAY HAVE EITHER A '1' OR A '0'

1 0 1 0 0 0 1 0

AS EVERY SCHOOLBOY KNOWS, SUCH INFORMATION MAY REFER TO ANY MEANING IT LIKES: SOUNDS, NUMBERS, COLORS, CHARACTERS



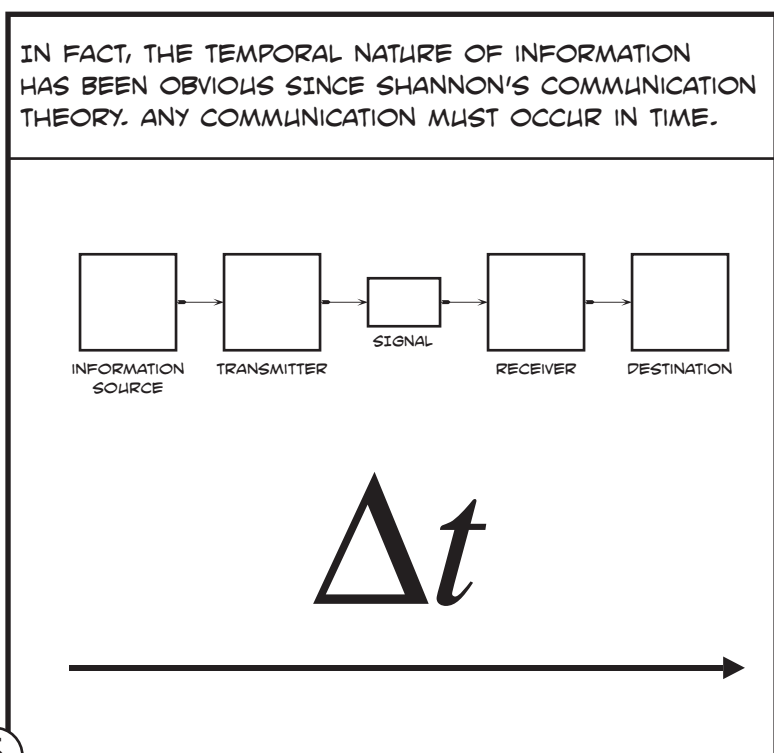
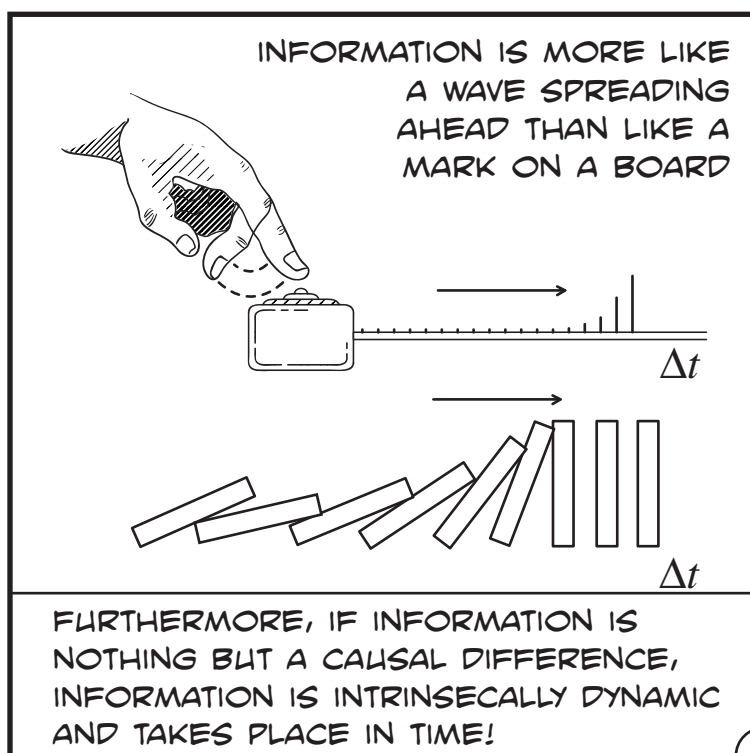
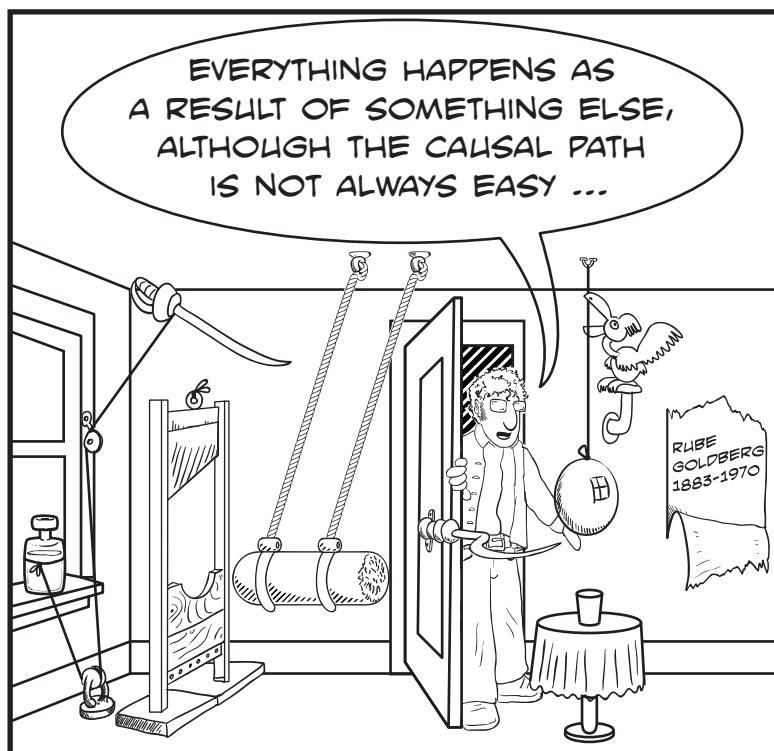
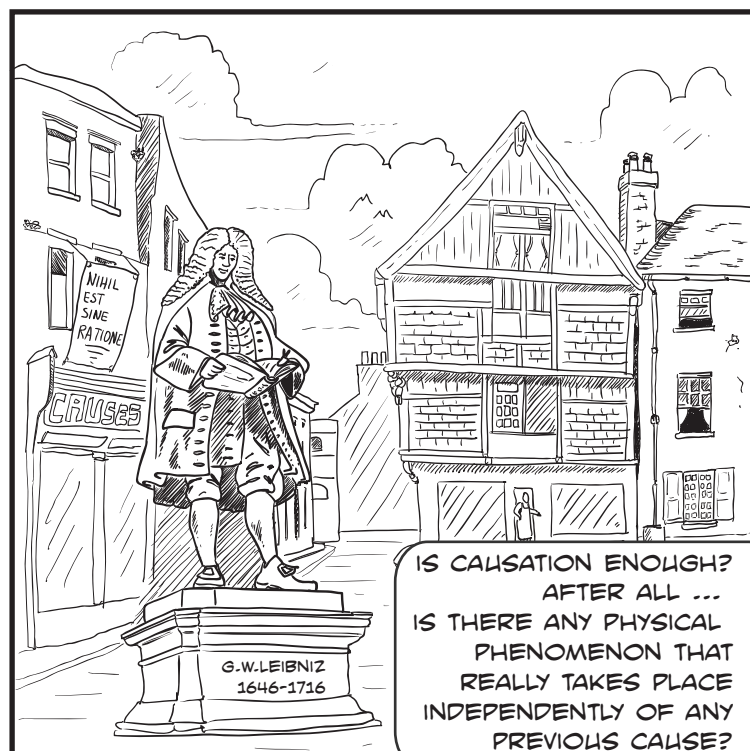
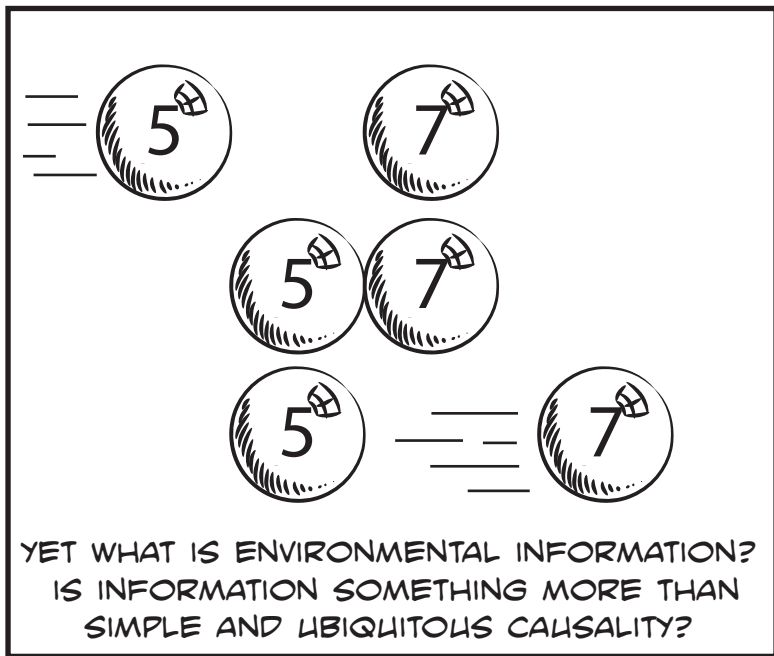
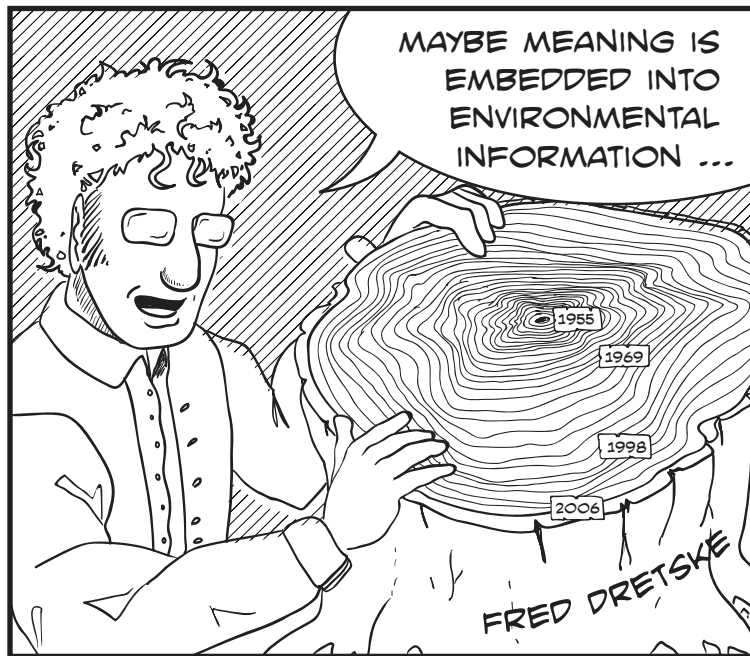
1 0 1 0 0 0 1 0

TUNE C#

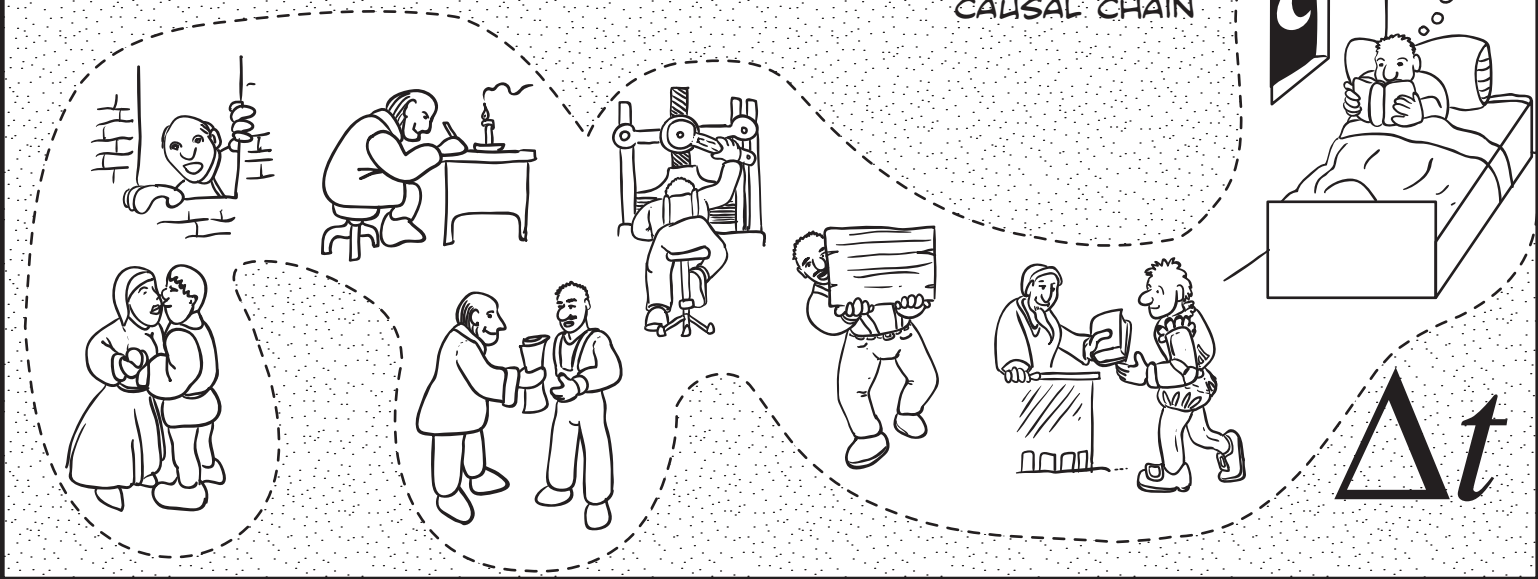
'A'

LIGHT BLUE

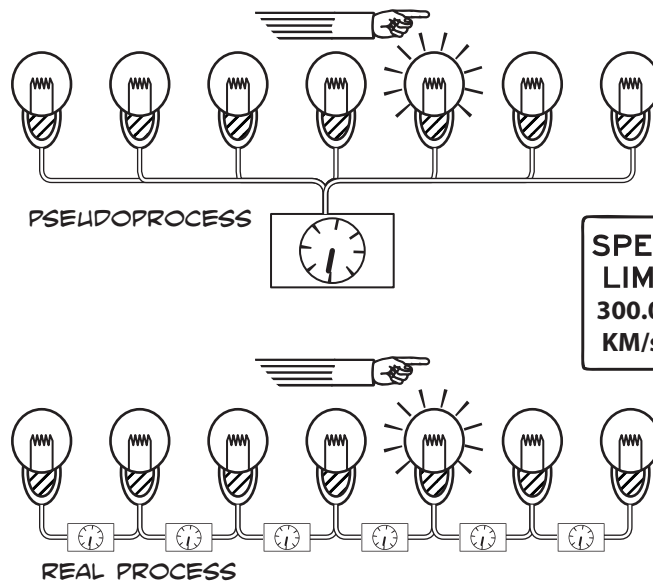
162



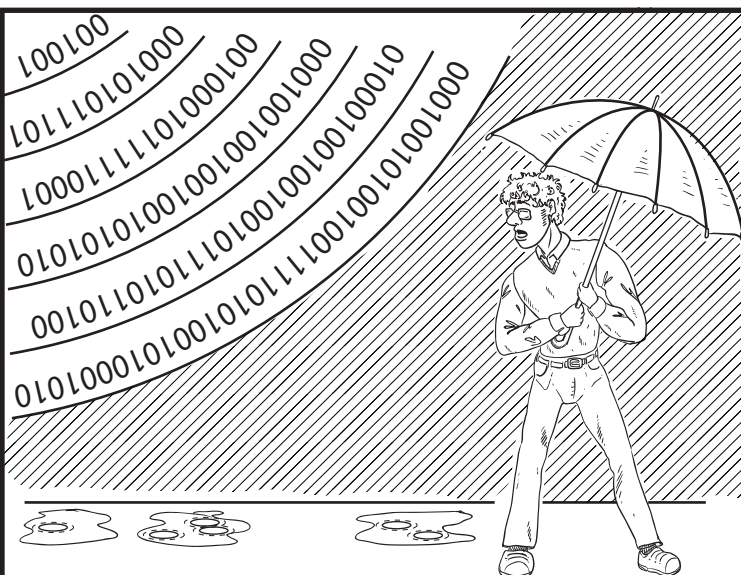
A PRINTED PAGE IS PART OF A DYNAMIC FLOW TAKING PLACE IN TIME. IT CONTAINS INFORMATION INsofar AS IT IS PART OF A COMMUNICATION PROCESS LINKING TOGETHER SEPARATE MOMENTS IN TIME AND SPACE. THE INFORMATION IT "CARRIES" IS NOT LOCATED ON THE PAGE RATHER IT IS PHYSICALLY SPREAD OVER THE WHOLE CAUSAL CHAIN



YET, INFORMATION IS CLOSELY RELATED WITH THE **PRODUCTIVITY** ASPECT OF CAUSALITY, CONSIDER TWO SEQUENCES OF FLASHES ONE TRIGGERED BY AN EXTERNAL TIMER AND ANOTHER RESULTING FROM A TRUE CAUSAL CHAIN. THEY ARE APPARENTLY THE SAME, YET THE FORMER IS A PSEUDO PROCESS WITH NO INFORMATION, THE LATTER IS A REAL PROCESS CARRYING INFORMATION



FURTHERMORE, THIS SHOWS WHY A REAL CAUSAL PROCESS CANNOT GO **FASTER** THAN THE SPEED OF LIGHT



SO, WHY THE STATE OF THE PITS ON THE SURFACE OF MY COMPACT DISK IS CONSIDERED INFORMATION WHILE THE PUDDLES ON MY WAY AREN'T?

BECAUSE THE CD PLAYS A ROLE IN A PROCESS THAT IS CONSTITUTIVE OF MY COGNITIVE SELF

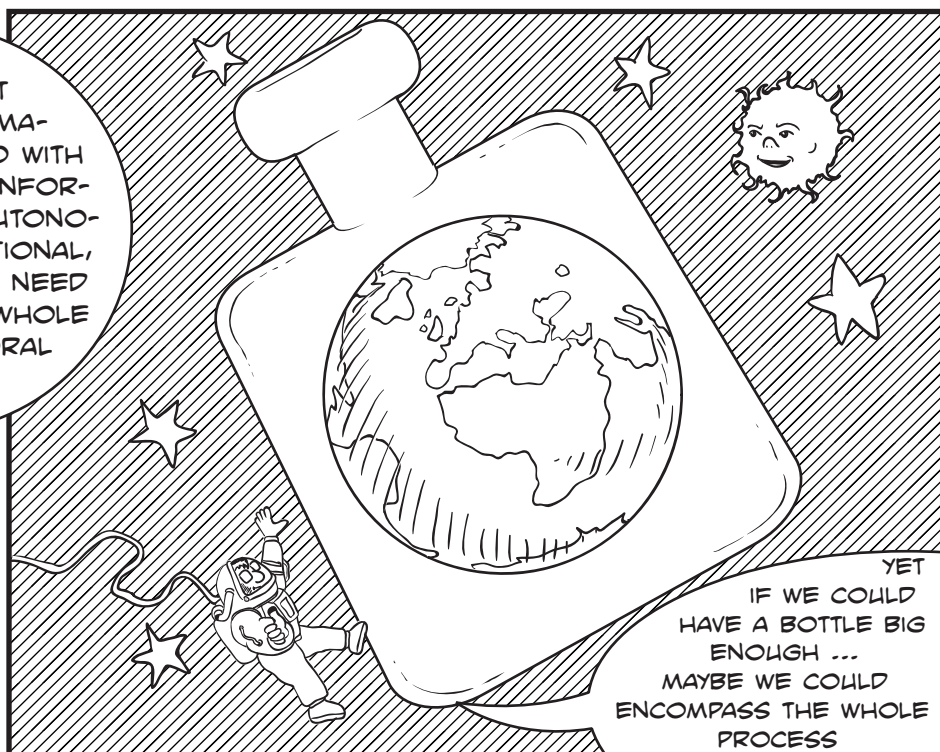


WHILE THE PUDDLE IS JUST A NUISANCE, BUT THE DIFFERENCE IS NOT IN THE PUDDLE, IT IS IN THE RELATION WITH ME!

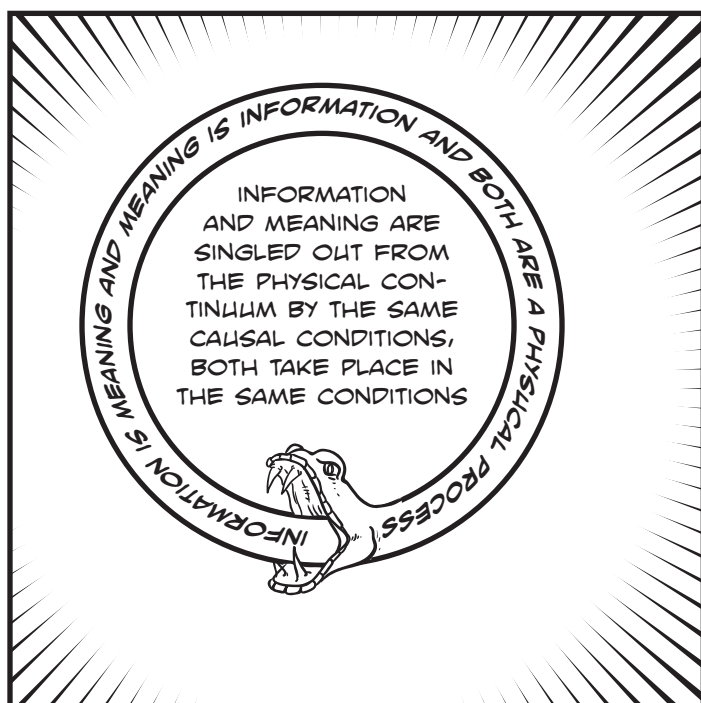




SO
WE CANNOT
STORE INFORMATION
LIKE WE DO WITH
WINE, BECAUSE INFORMATION
IS NOT AUTONOMOUS
BUT RELATIONAL,
THUS WE WOULD NEED
TO BOTTLE THE WHOLE
SPATIO-TEMPORAL
PROCESS

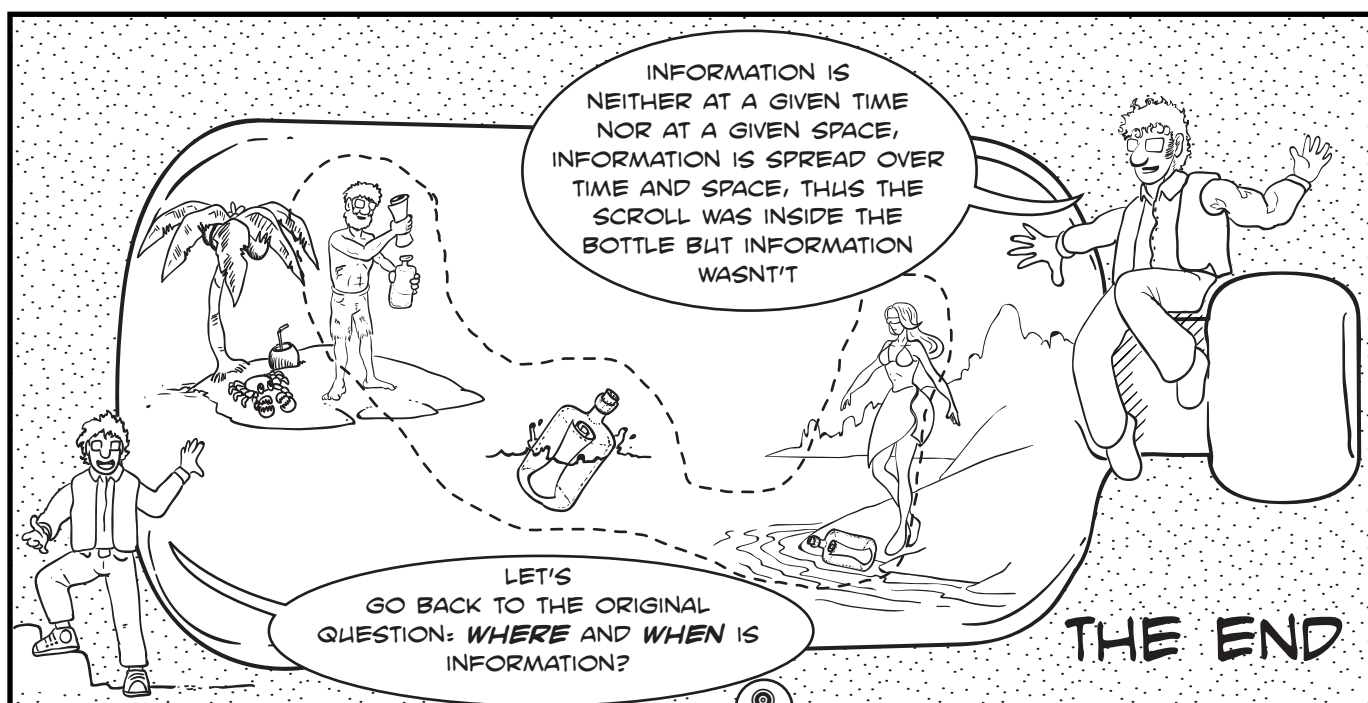


YET
IF WE COULD
HAVE A BOTTLE BIG
ENOUGH ...
MAYBE WE COULD
ENCOMPASS THE WHOLE
PROCESS



THE CONCLUSION IS APPROACHING ...
INFORMATION IS INDEED **PHYSICAL**, YET
IT IS **NEITHER**
SOMETHING WHICH **DOES EXIST**
NOR
SOMETHING WHICH CAN BE **STORED**
RATHER

INFORMATION IS NOT A THING,
INFORMATION IS A **PROCESS**,
A PHYSICAL PROCESS THAT TAKES PLACE
IN **TIME** AND **SPACE**
SPANNING BOTH OF THEM.
INFORMATION IS NOT AT A X,Y,Z,IT
INFORMATION IS **SPREAD OVER**
A TEMPORALLY AND SPATIALLY
EXTENDED CAUSAL PROCESS



THE END

