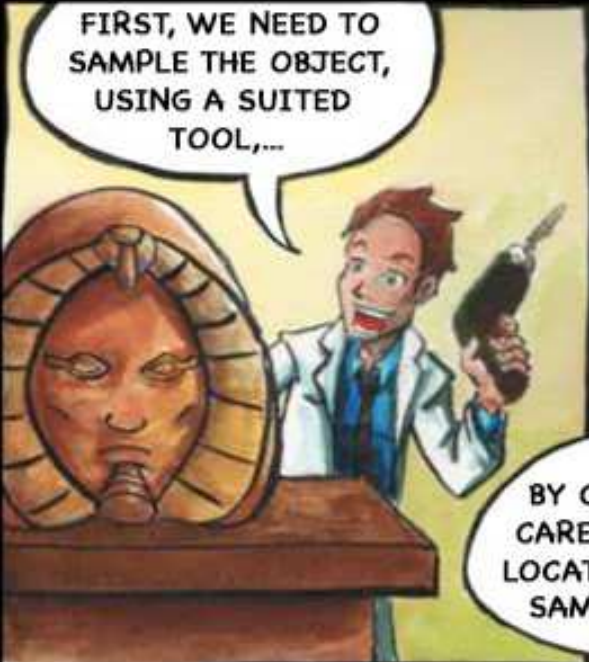




WHAT CAN YOU DO TO ANALYZE MY OBJECT MADE OF WOOD ?

I CAN PROPOSE YOU TO DATE THE WOOD USING CARBON 14

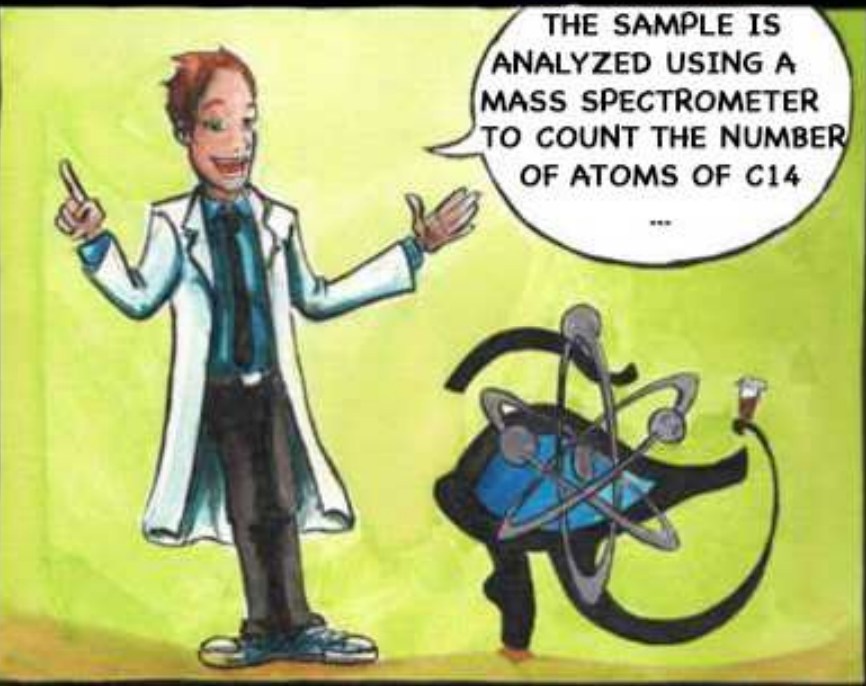


FIRST, WE NEED TO SAMPLE THE OBJECT, USING A SUITED TOOL,...



GENERALLY 25 TO 30 mg ARE ENOUGH ...

AND BY CHOOSING CAREFULLY THE LOCATION OF THE SAMPLING...



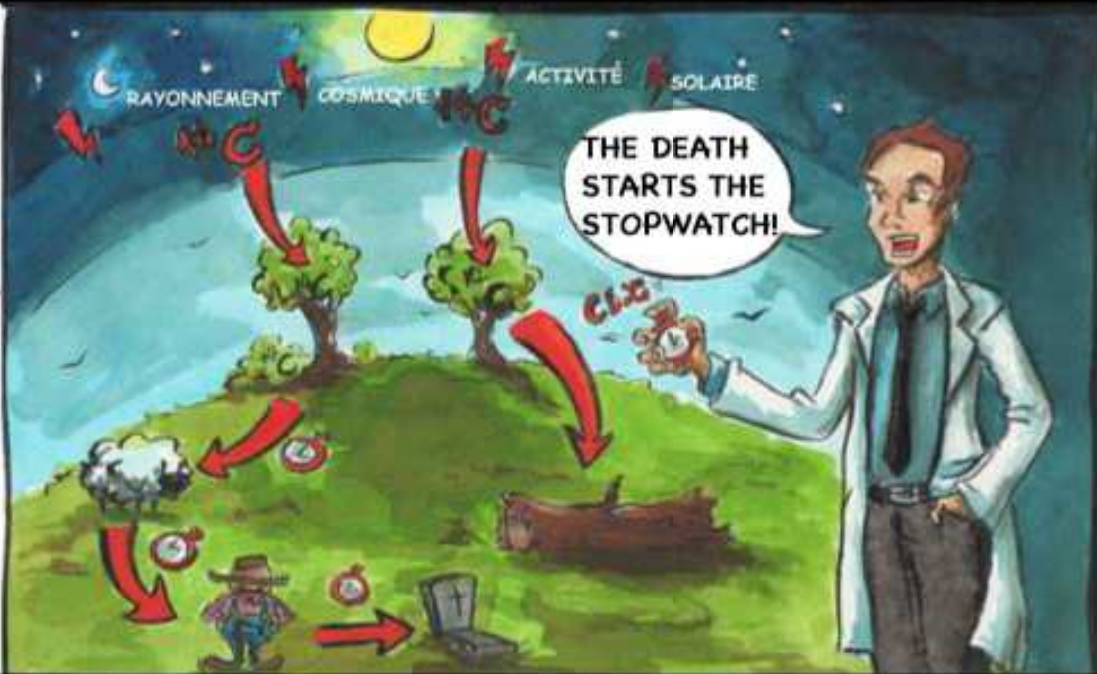
THE SAMPLE IS ANALYZED USING A MASS SPECTROMETER TO COUNT THE NUMBER OF ATOMS OF C14 ...



BUT WHY C14 ATOMS? THAT IS WHAT WE ARE GOING TO EXPLAIN NEXT

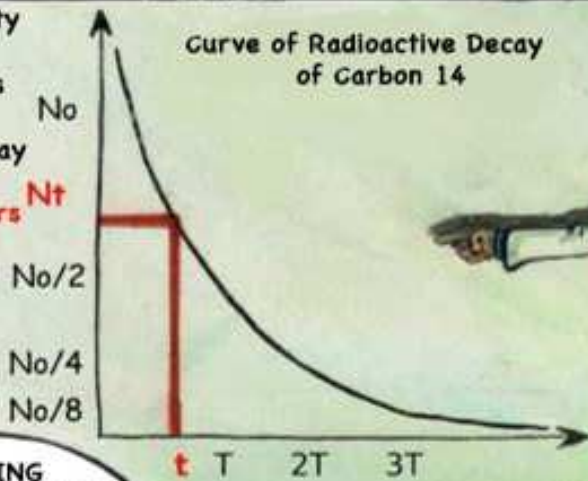


CARBON 14 IS PRODUCT IN THE ATMOSPHER UNDER THE ACTION OF SOLAR ACTIVITY AND COSMIC RAYS. IT IS NEXT ABSORBED BY EVERY LIVING ORGANISM THROUGH THE FOOD CHAIN. WHEN THEY DIE, THESE ORGANISMS STOP ABSORBING C14. FURTHERMORE, C14 BEING RADIOACTIVE, ITS QUANTITY IN THESE ORGANISMS NATURALLY DECAY THROUGH TIME!



$N_0$  = Initial quantity of C14 presents in the organism at its death  
 $T$  = Radioactiv decay = 5734 years  
 $t$  = number of years since the death of its organism  
 $N_t$  = Quantity of C14 remaining in the organism

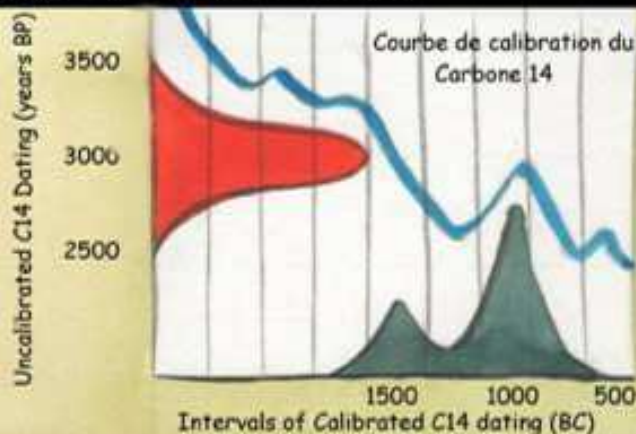
Curve of Radioactive Decay of Carbon 14



EVERY 5734 YEARS, THE QUANTITY OF CARBONE 14 IS DIVIDED BY 2!!

KNOWING THE PERIODICITY OF THE RADIOACTIVE DEGRAY OF C14, WE CAN FIND OUT THE TIME OF DEATH OF THE ORGANISM

THEN WE CALIBRATE THIS INFORMATION TO TAKE INTO ACCOUNT THE ATMOSPHERIQUE FLUCTUATIONS OF C14'S PRODUCTION...



WHICH GIVE US THE DATE OF THE ORGANISM'S DEATH AS AN INTERVALLE OF PROBABILITY

OBVIOUSLY, THERE ARE LIMITS ...

A STRONG UNCERTAINTY OVER THE XVII AND XIX CENTURIES, A DATATION ON THE WOOD INSTEAD OF THE CARVING,...

BUT THIS METHOD REMAINS THE MOST SUITED TO BRING CHRONOLOGICAL INFORMATIONS ON WOOD OBJECTS...

