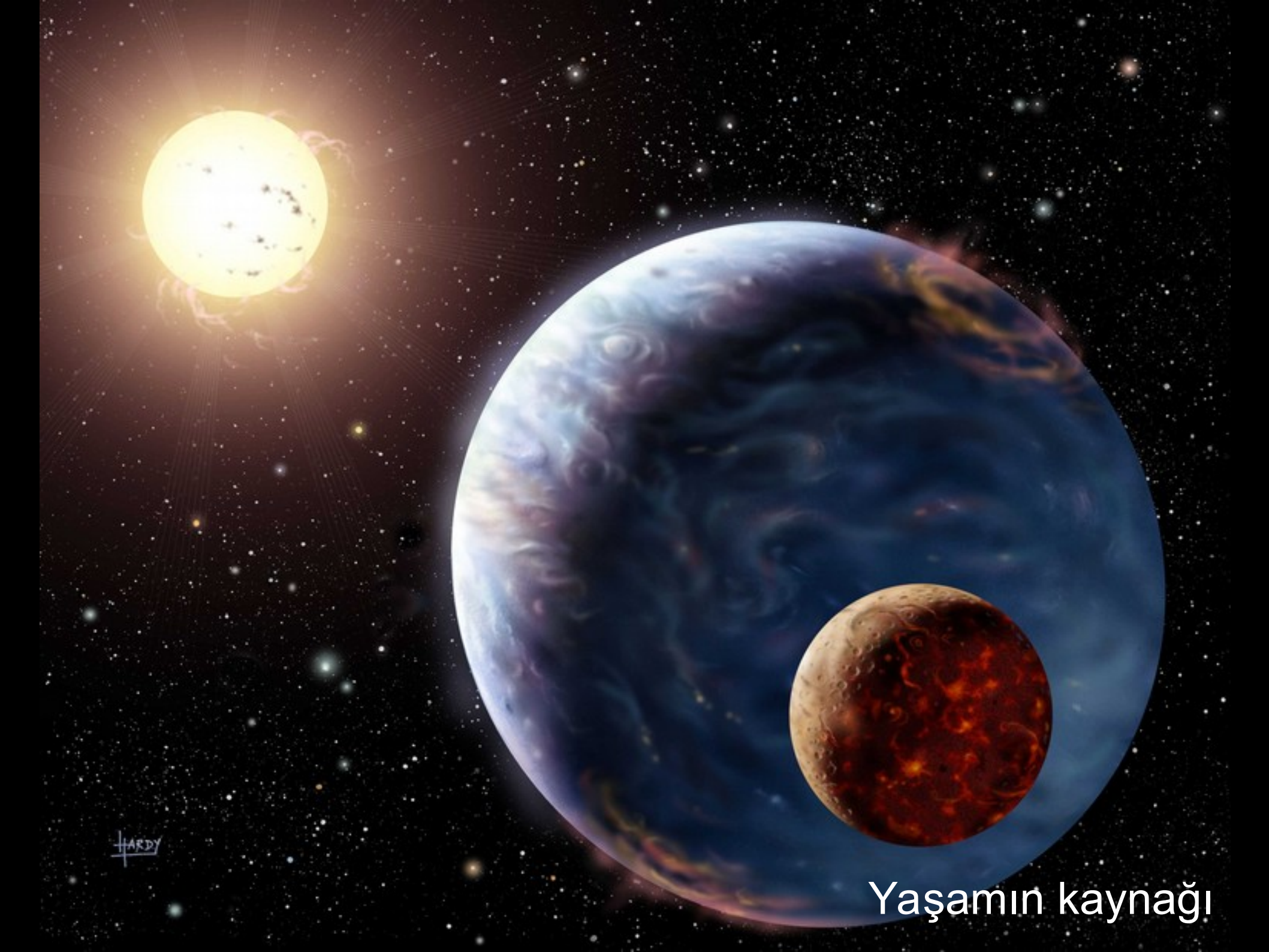


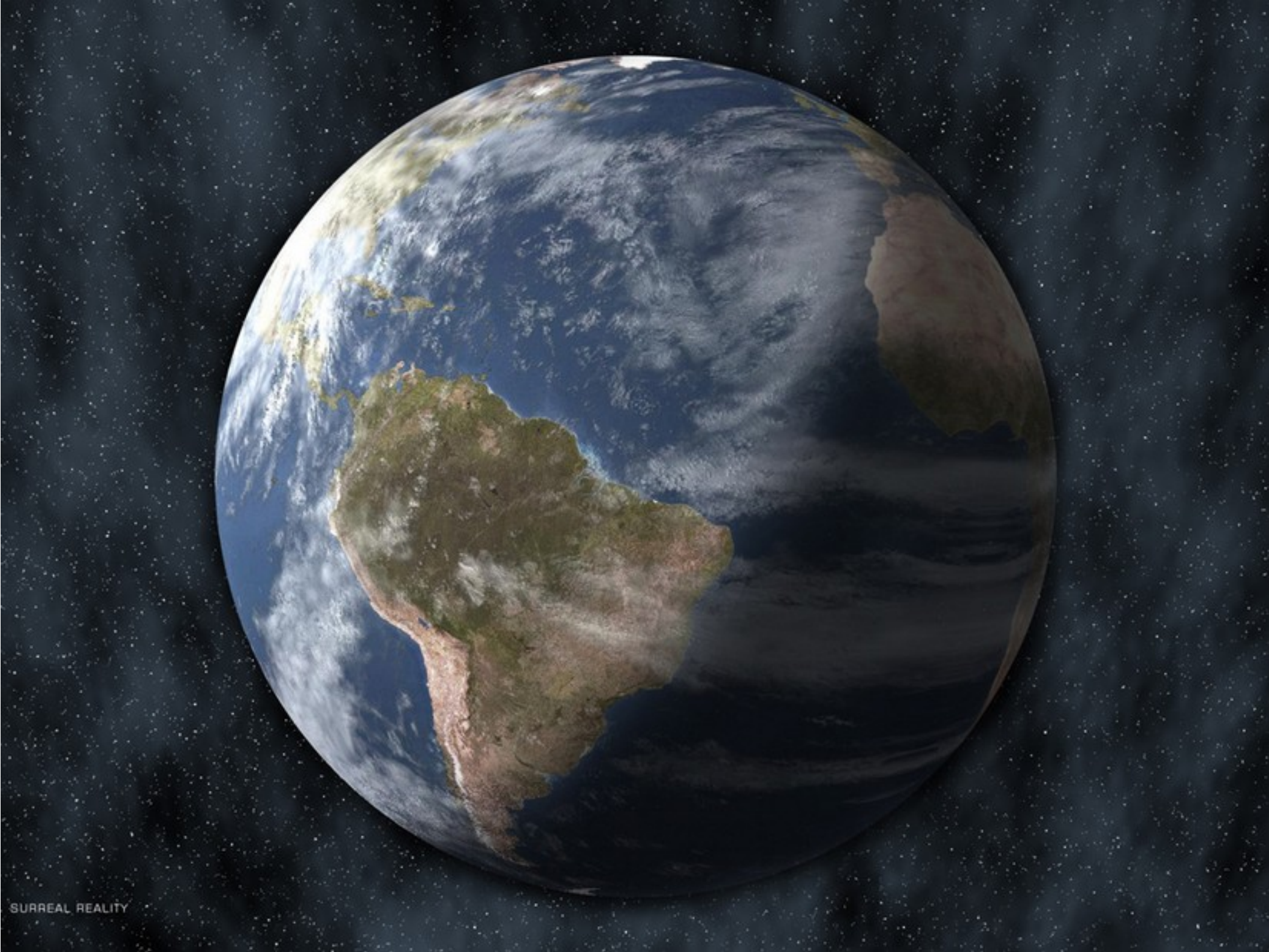
# **Patojen mikroorganizmalar**



HARDY

Yaşamın kaynağı



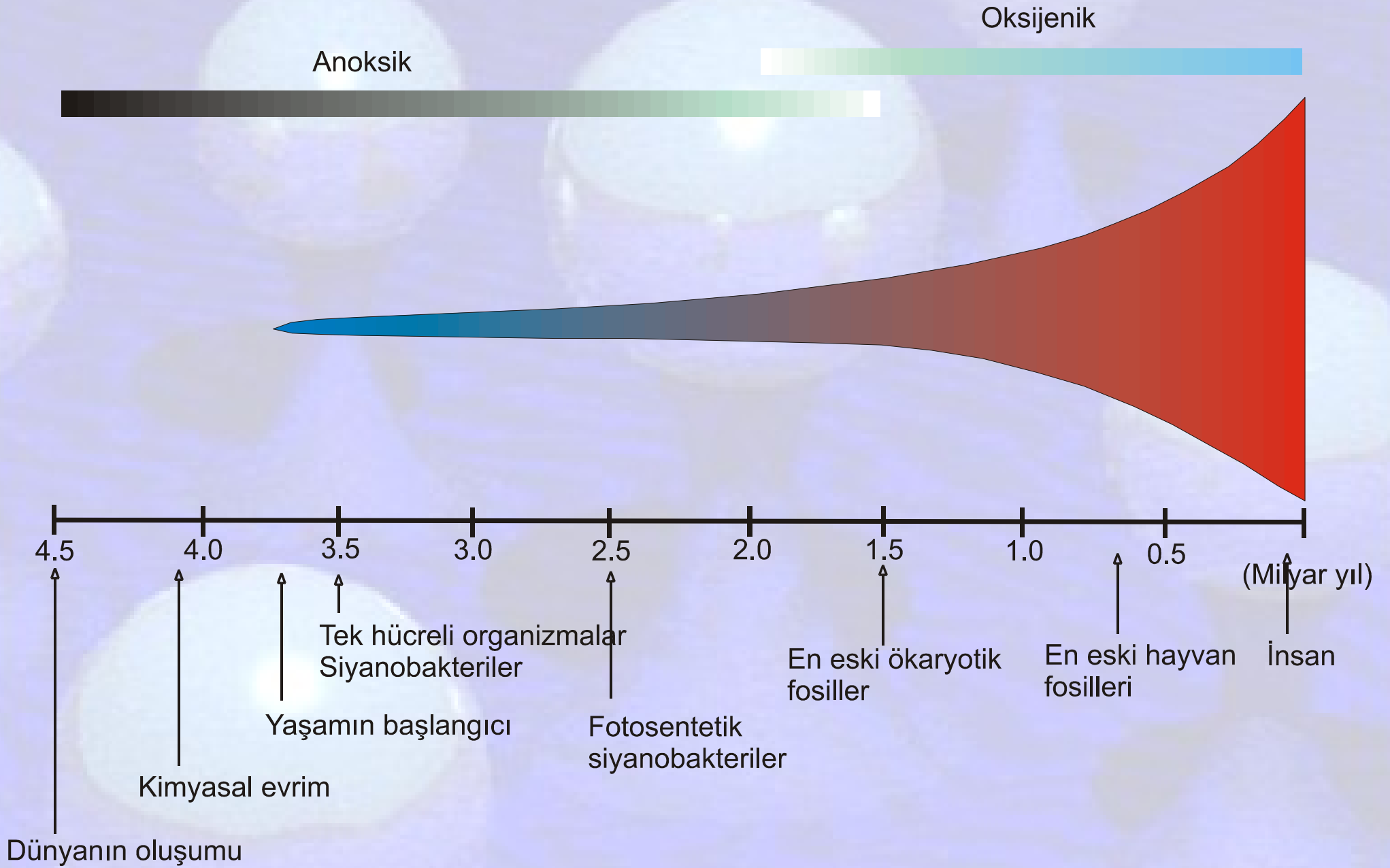




Species	individual count	average living weight of individual in kg	percent biomass (dried)	total number of carbon atoms	overall biomass in million tonnes
crops					2,000
Antarctic krill (wet)					500
humans	6.6 billion	50 kg	30%	$6.6 \times 10^9 \times 5 \times 10^{26}$ [5]	100
copepod (plankton)		$10^{-6} - 10^{-9}$ kg			
cattle	1.3 billion	400 kg	30%		156
sheep and goats	1.75 billion [6]	60 kg	30%		31.5
chickens	24 billion	2 kg	30%		14.4
ants	$10^7 - 10^8$ billion [7]	$3 \times 10^{-4}$ kg (0.3 grams)	30%		900 - 9,000



Oksijenin icadı...

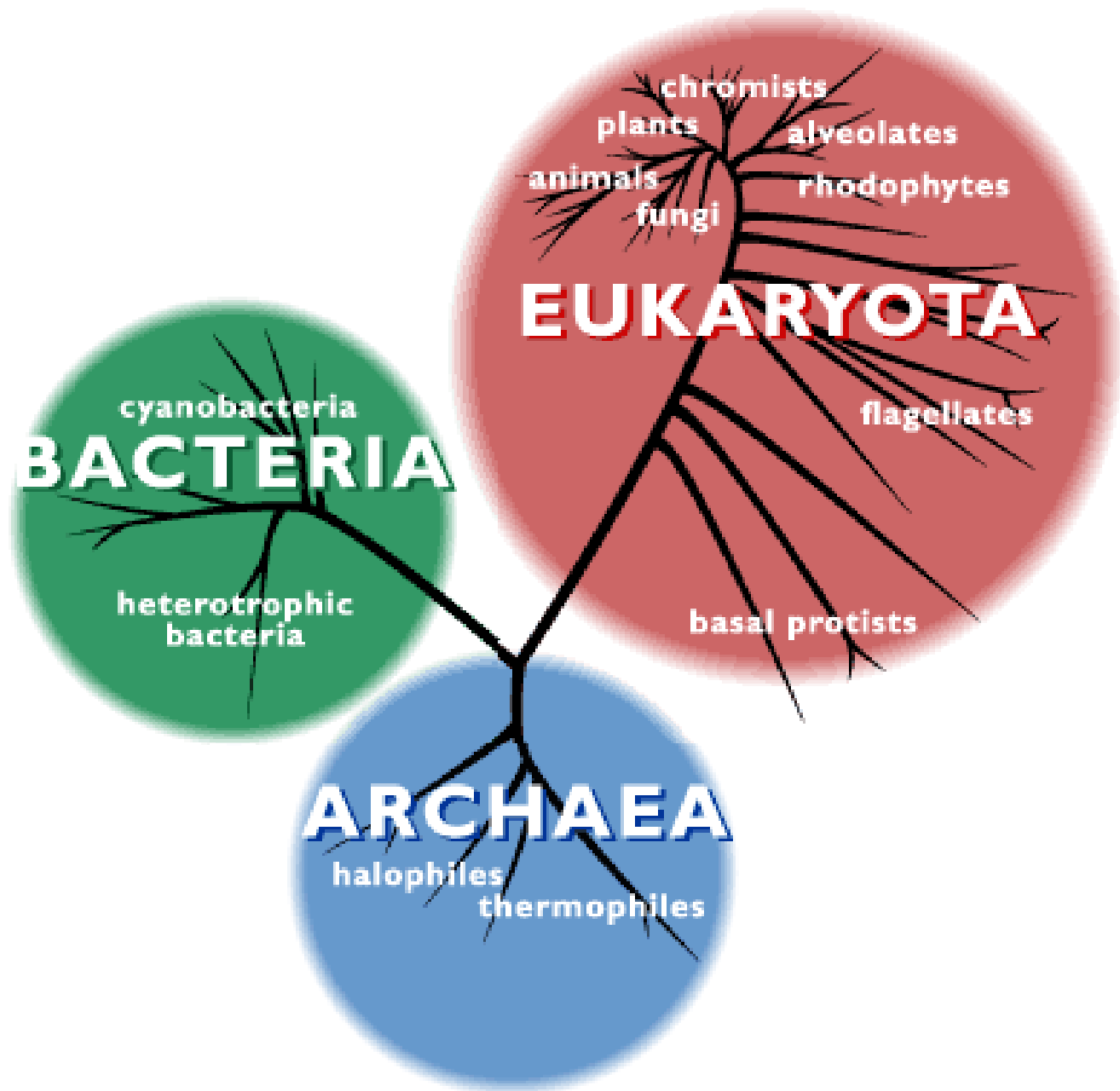


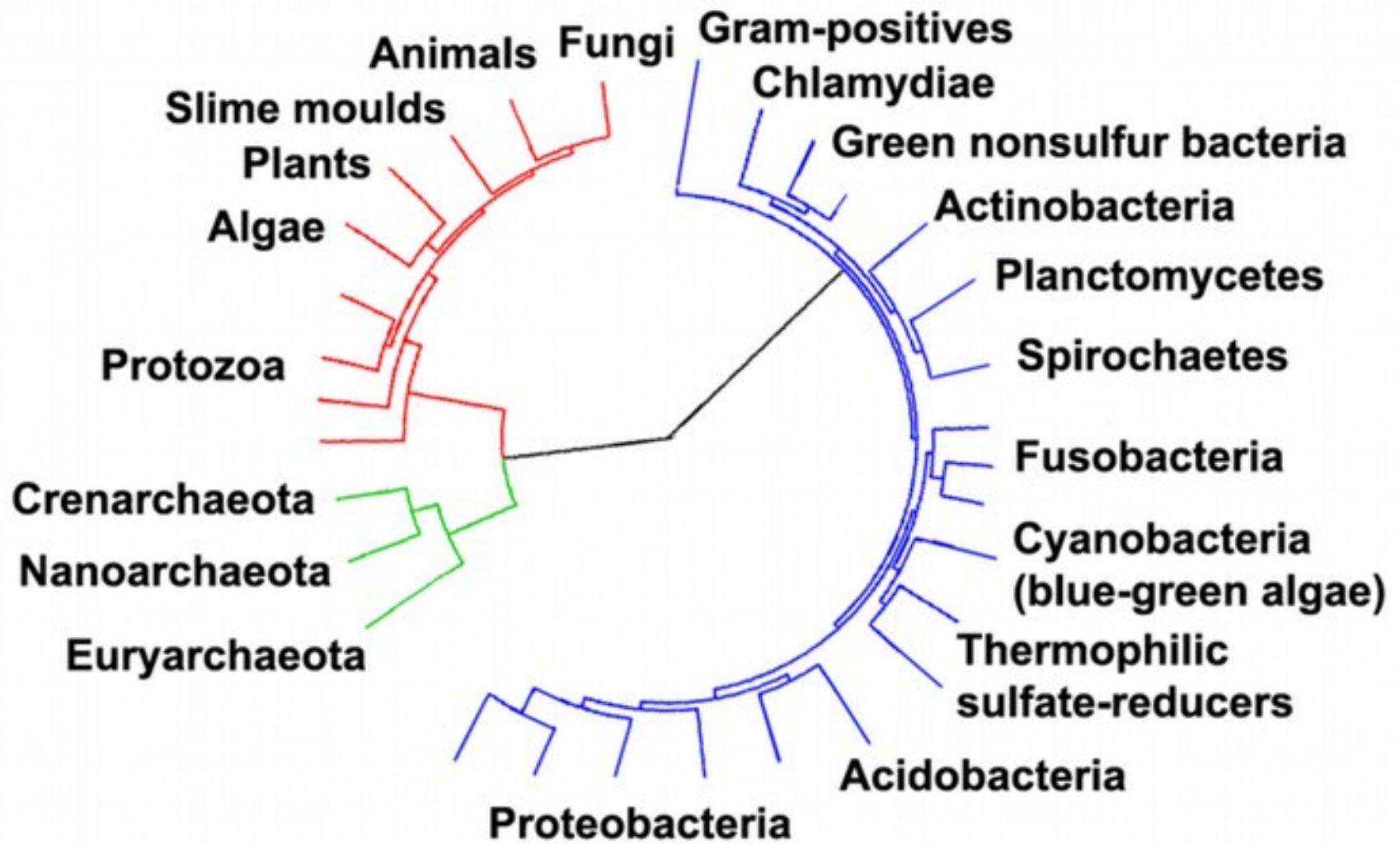








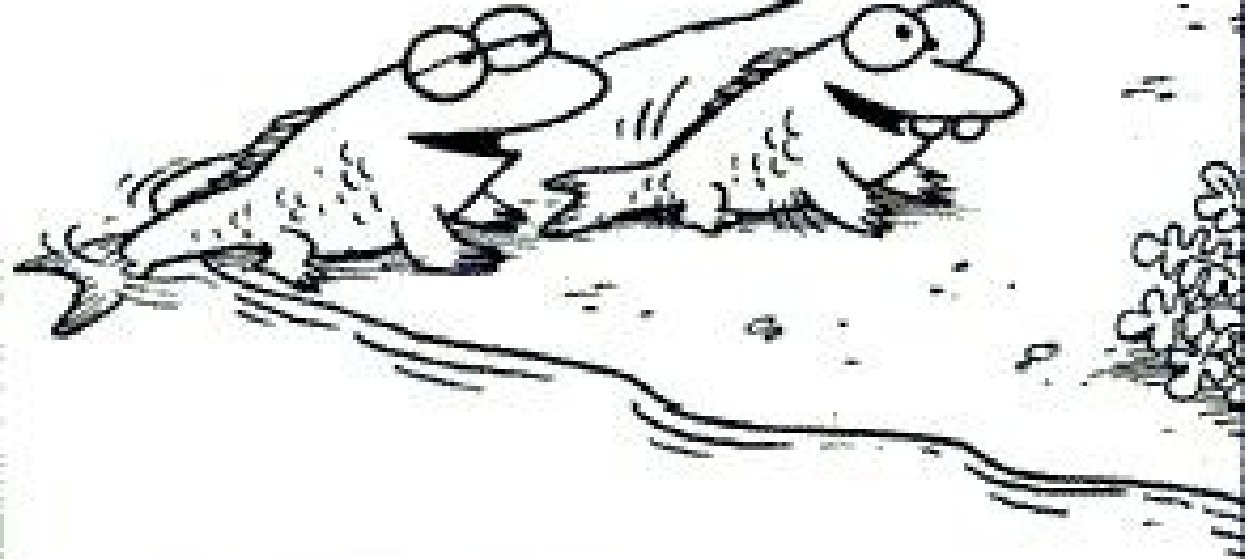






BEN VAZGEÇTİM  
KARAYA ÇIKMaktan,  
GERİ DÖNÜP BÜTÜN GÜN  
DENİZDE YÜZÜCEM...

BEN EVİRİM GEÇİRİP  
UYGARLAŞICAM VE BÜTÜN  
GÜN APTAL İŞLERDE  
ÇALIŞICAM...



0  
3

30 miles

STRATOSPHERE

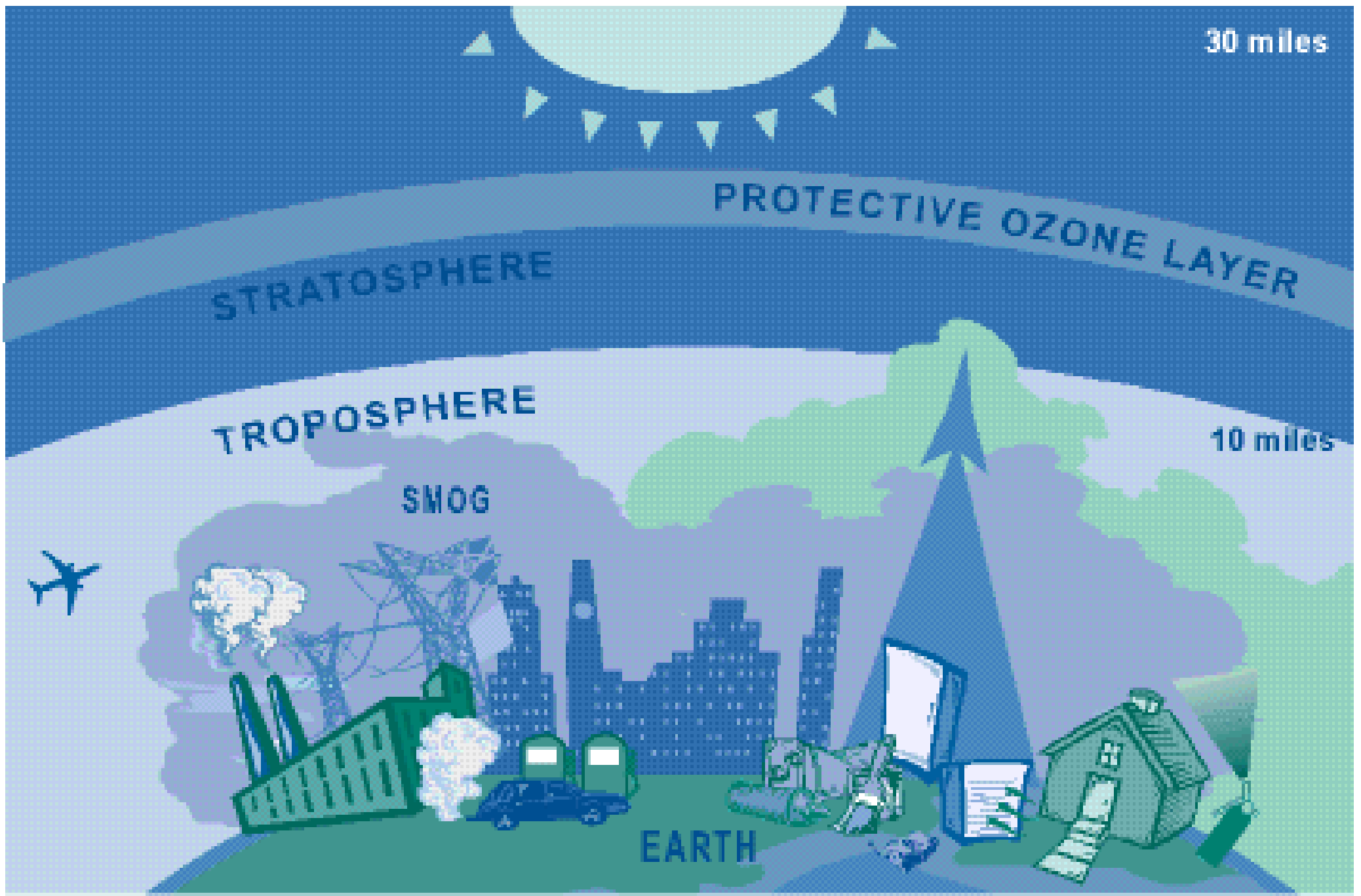
PROTECTIVE OZONE LAYER

TROPOSPHERE

10 miles

SMOG

EARTH



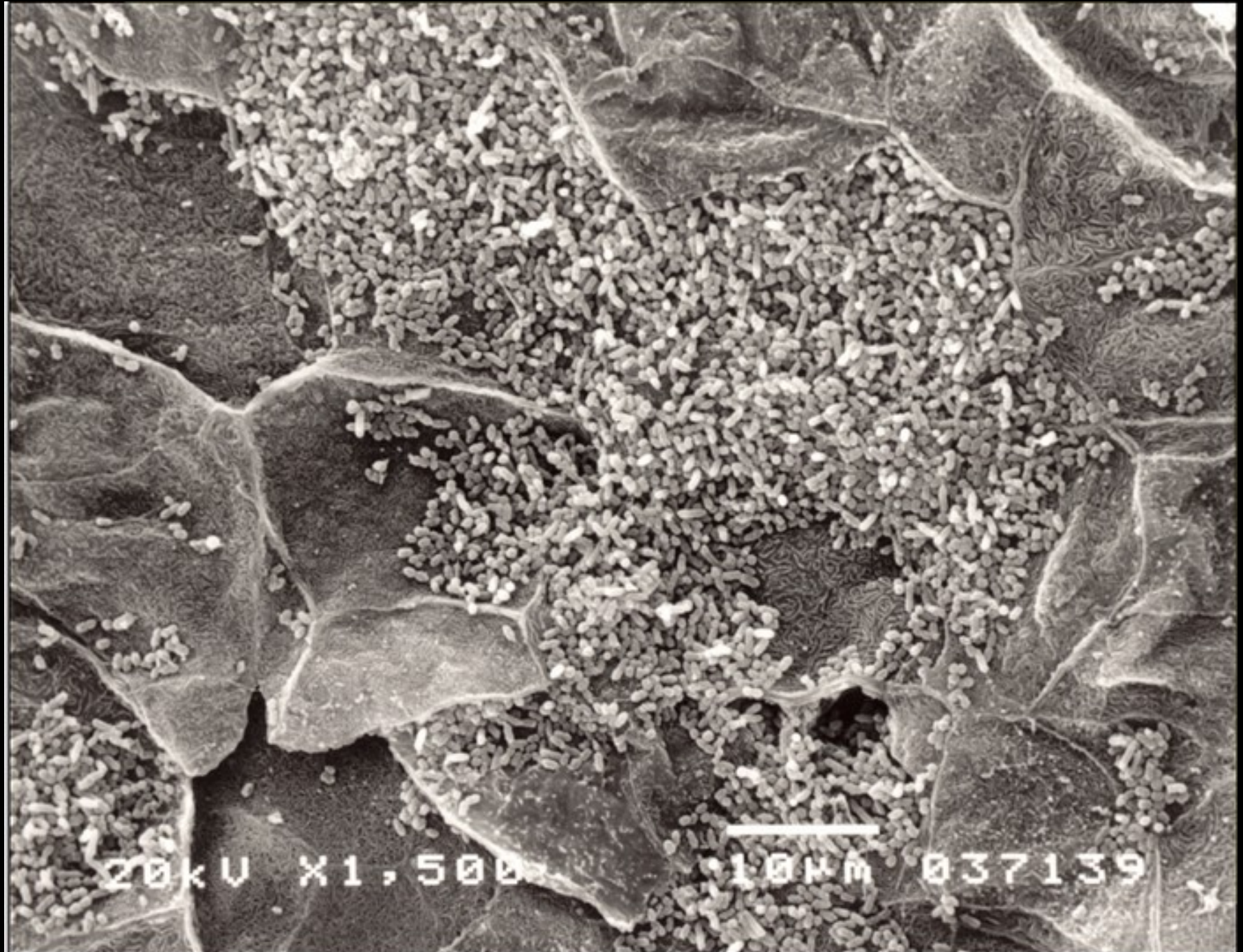








# Flora

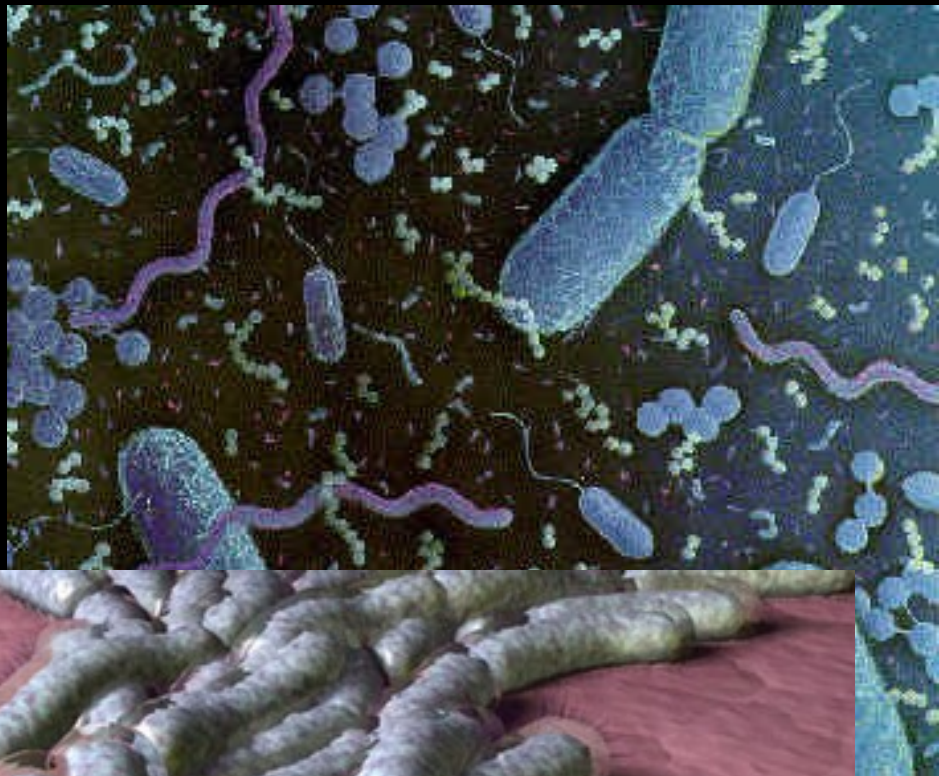
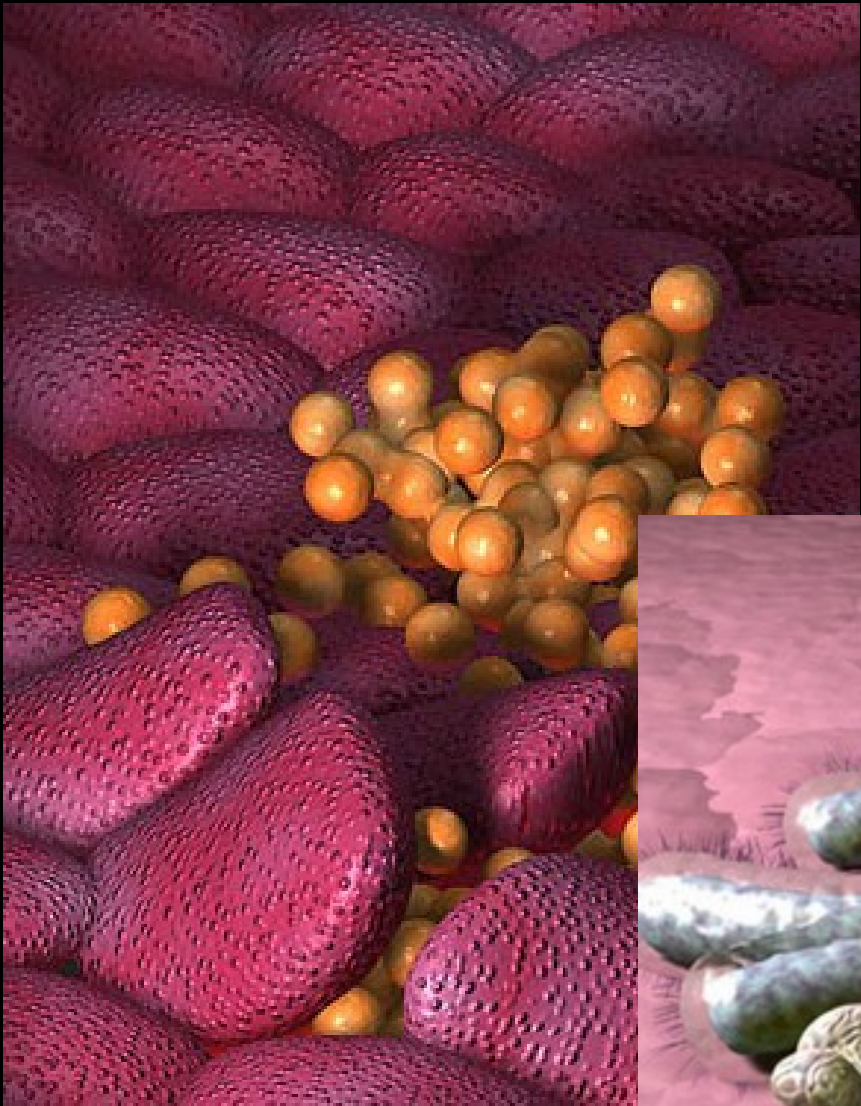


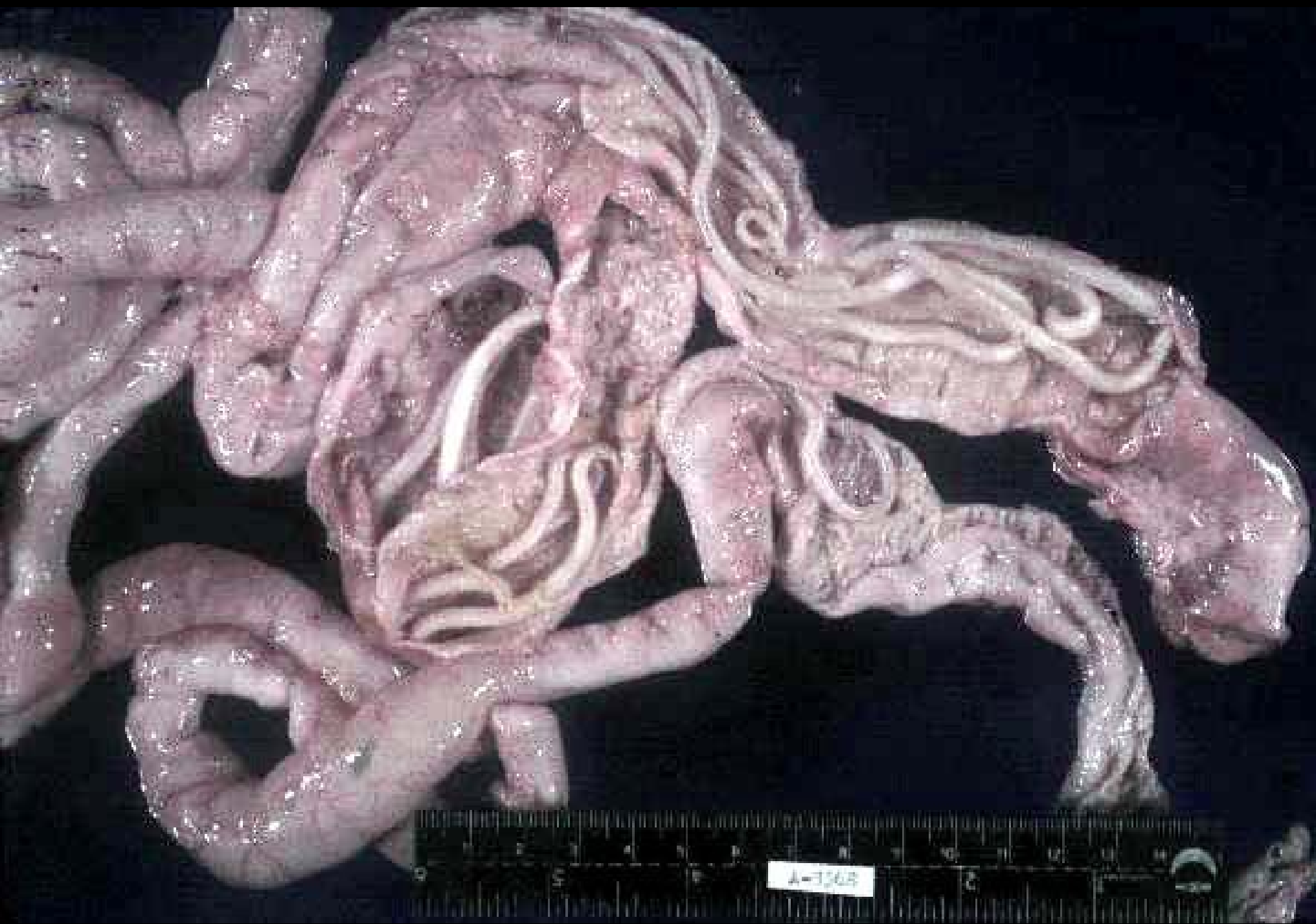




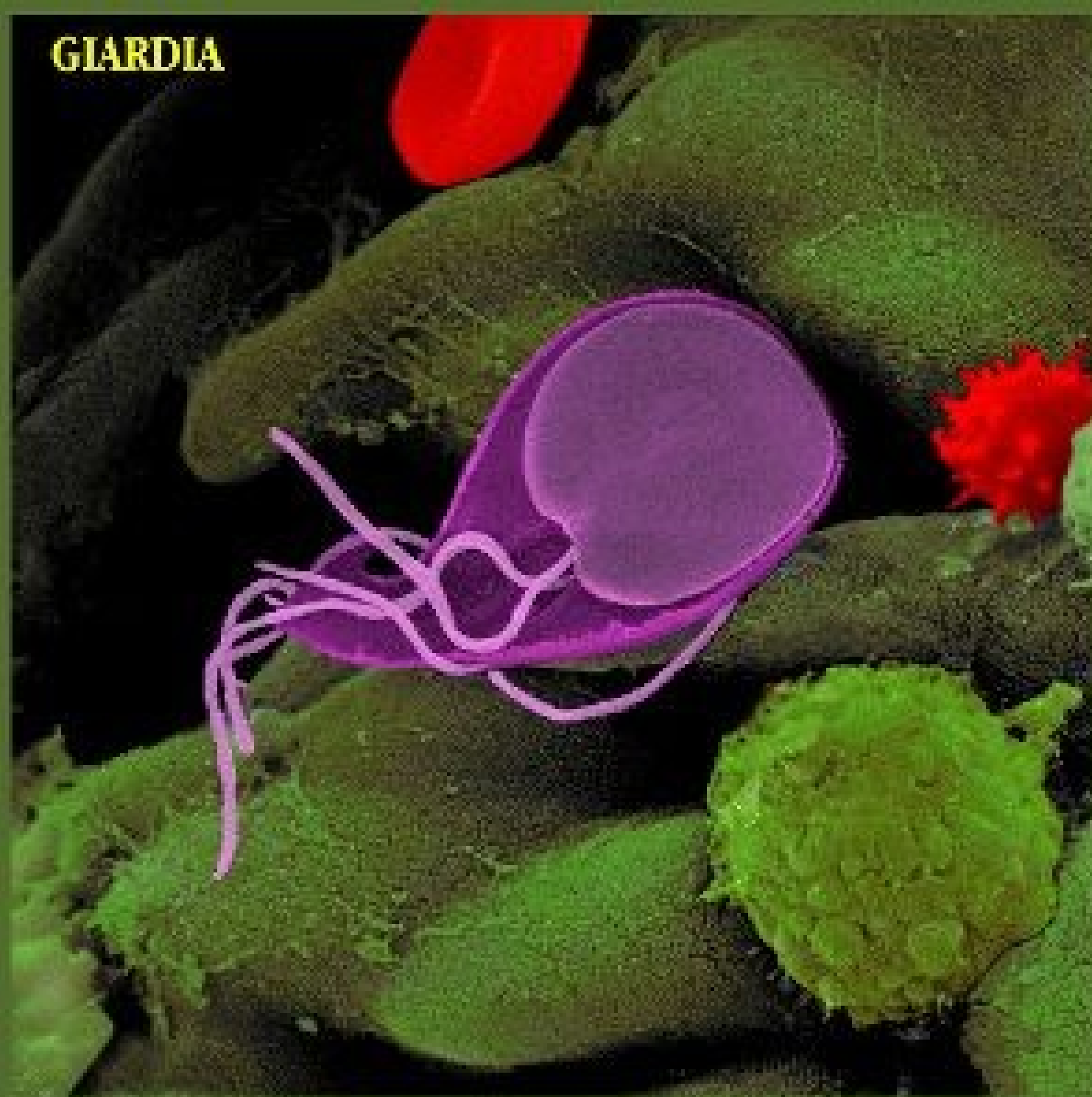




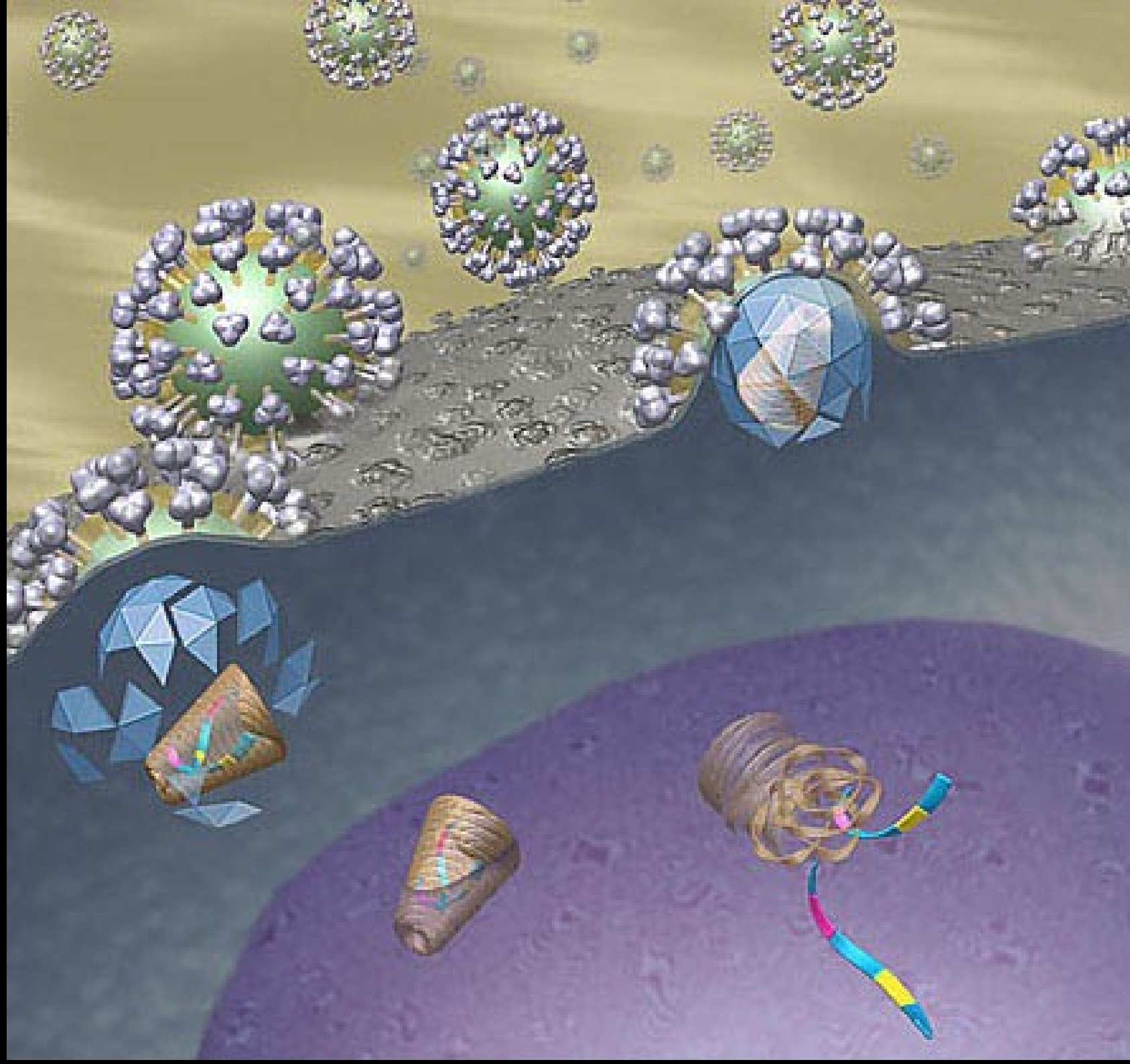




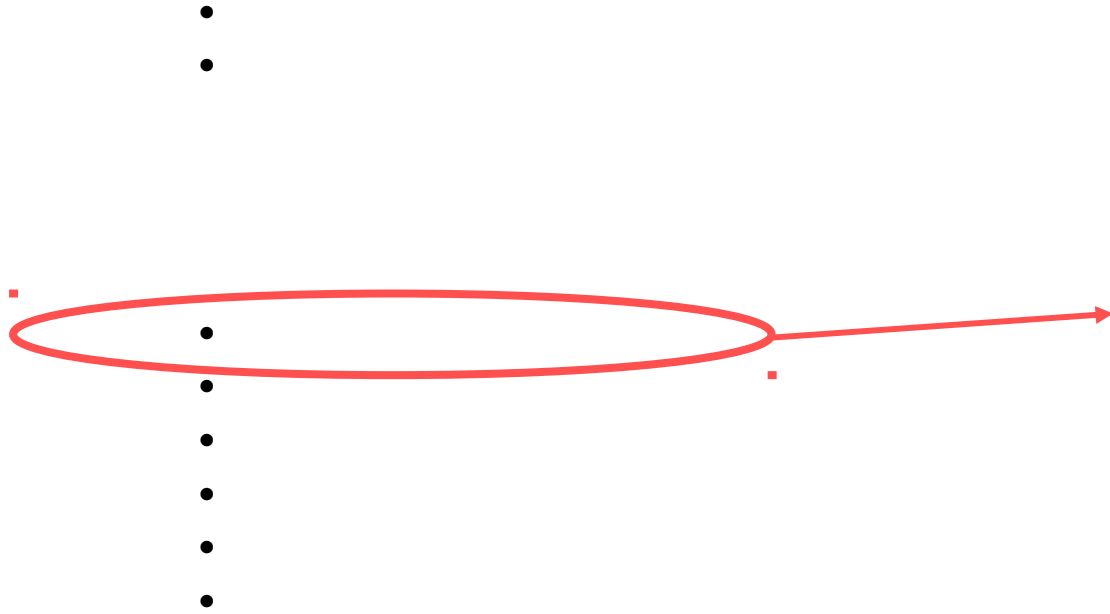
# GIARDIA

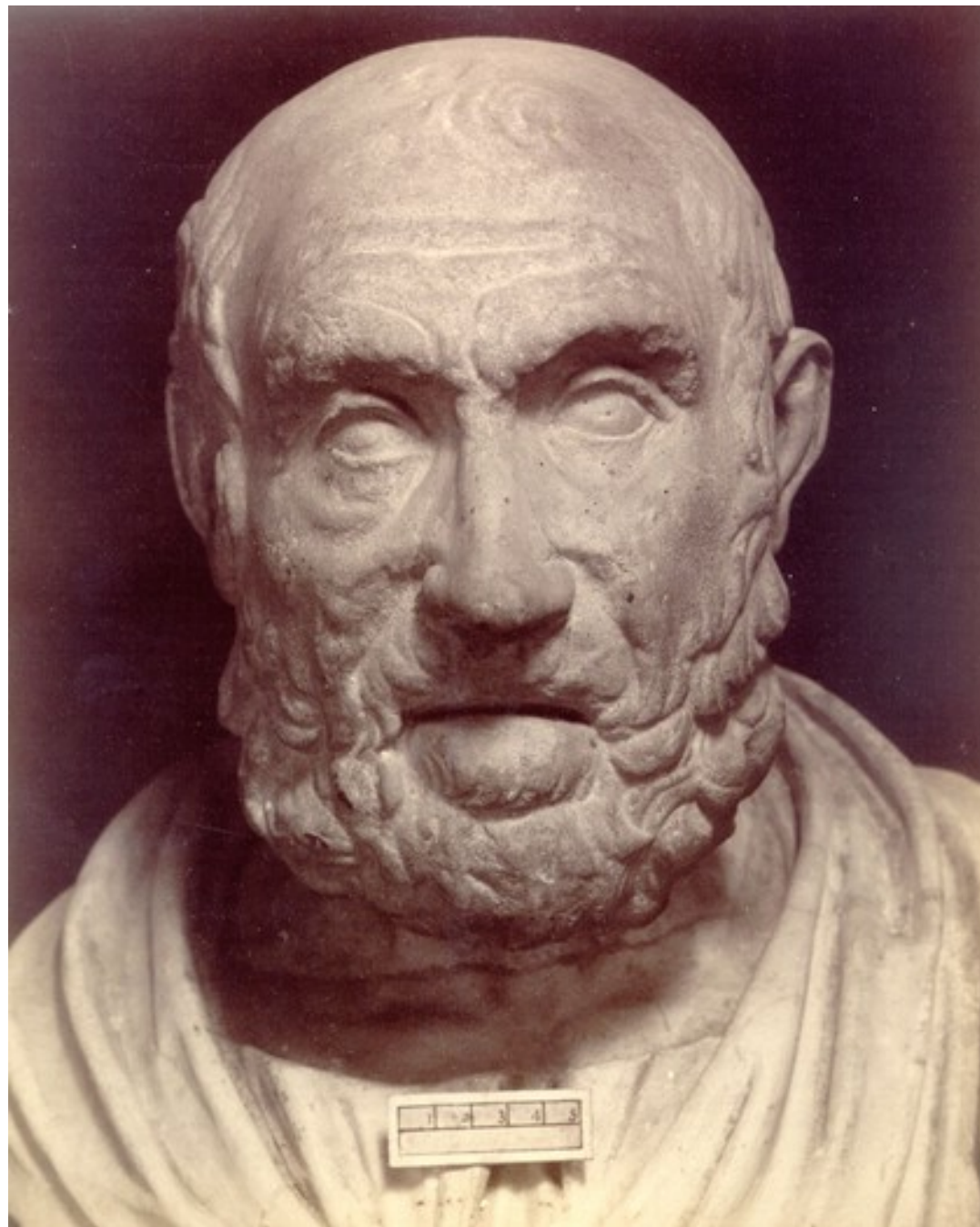


GIARDIA PARASITE FOUND IN RAT INTESTINE







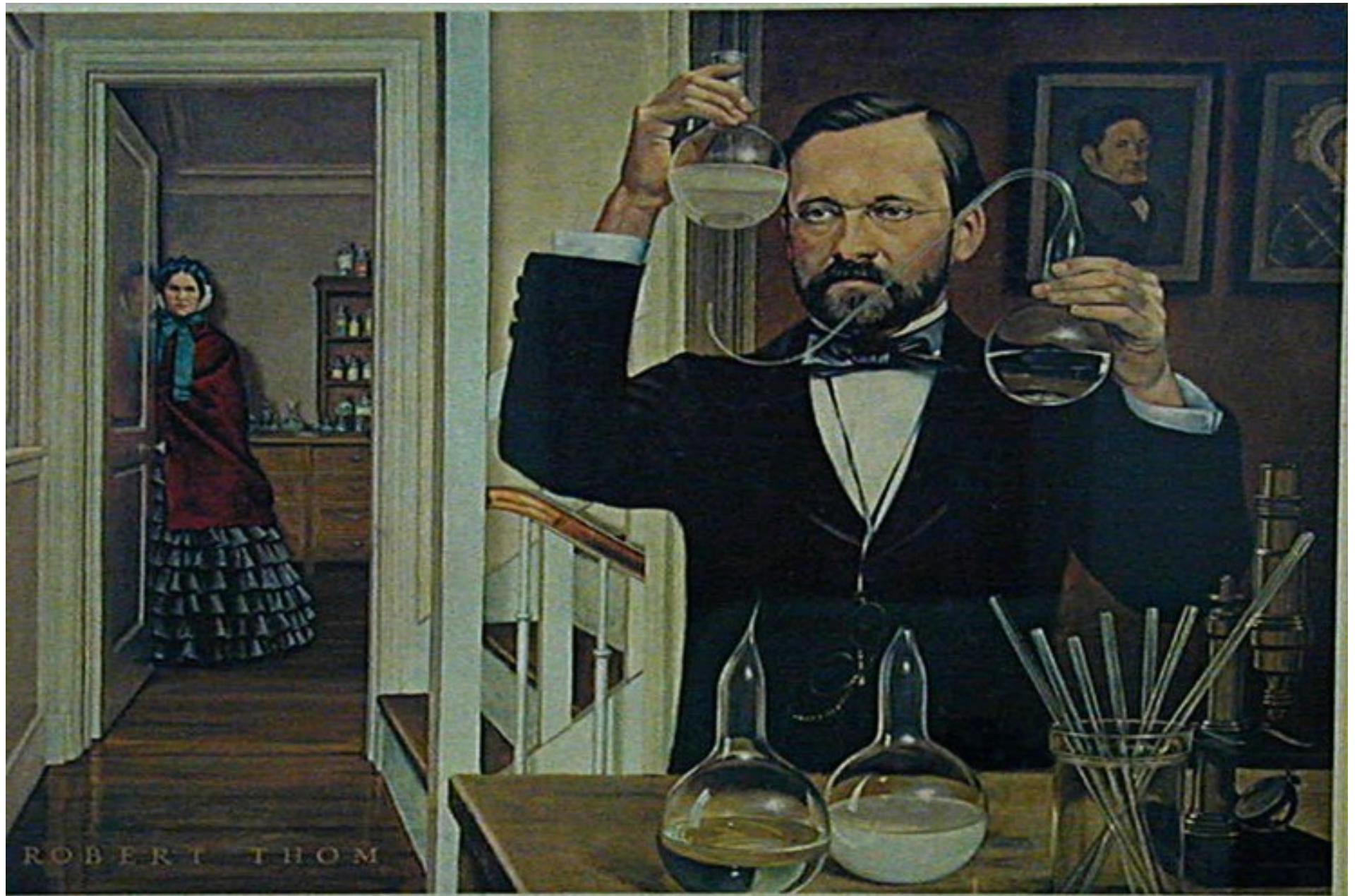




















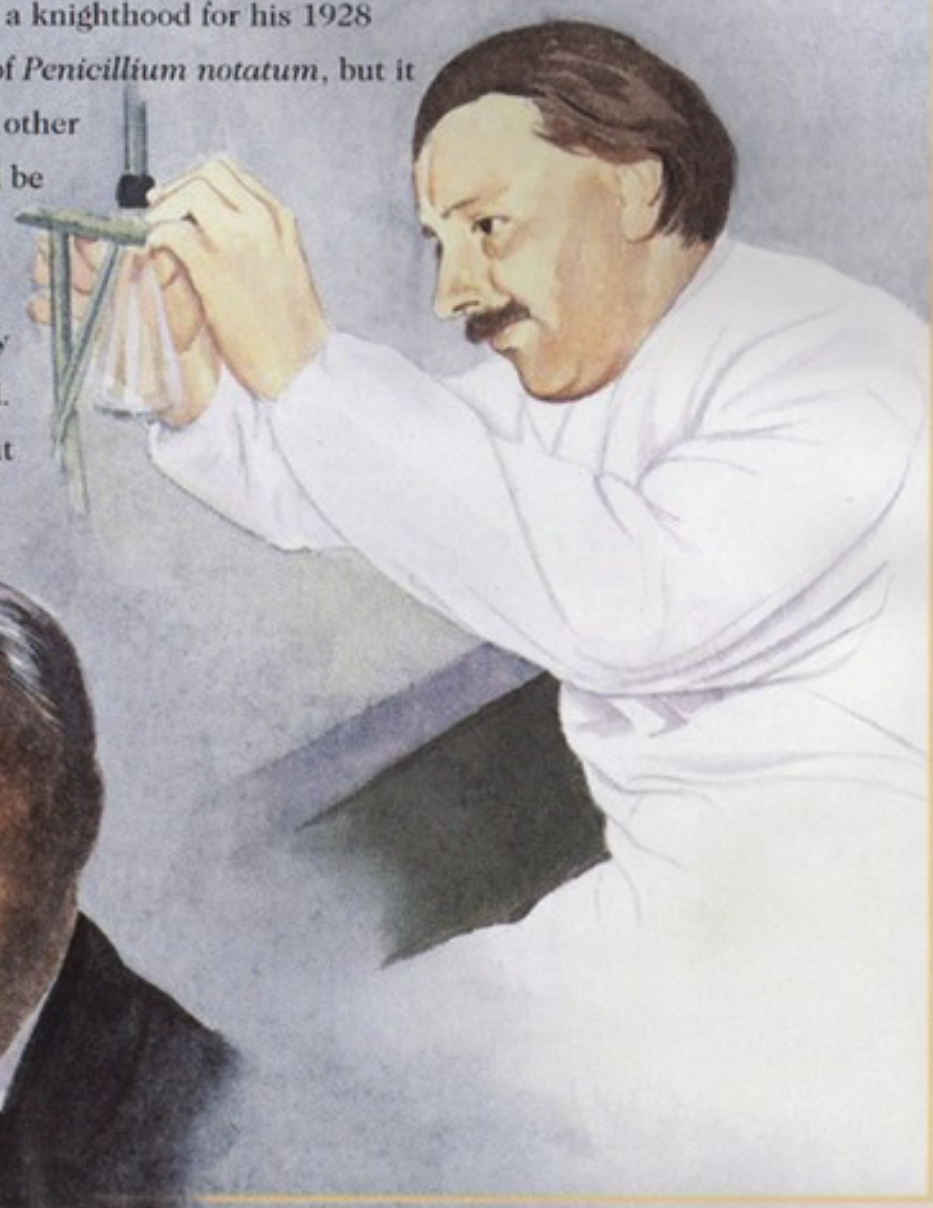
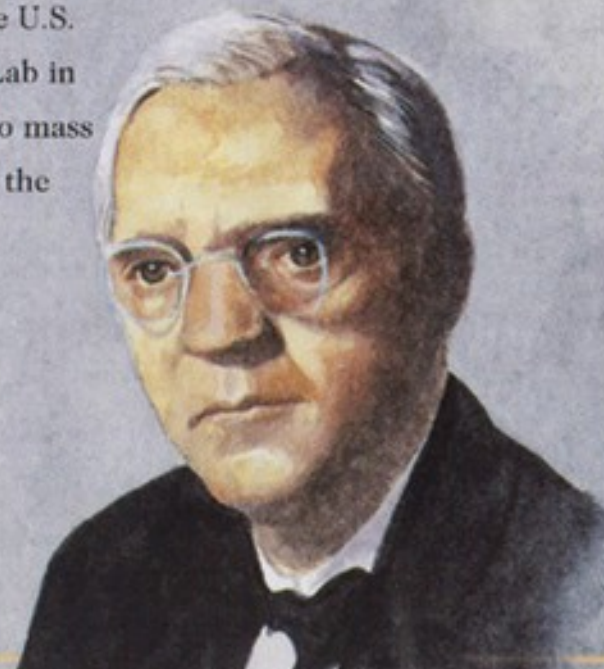
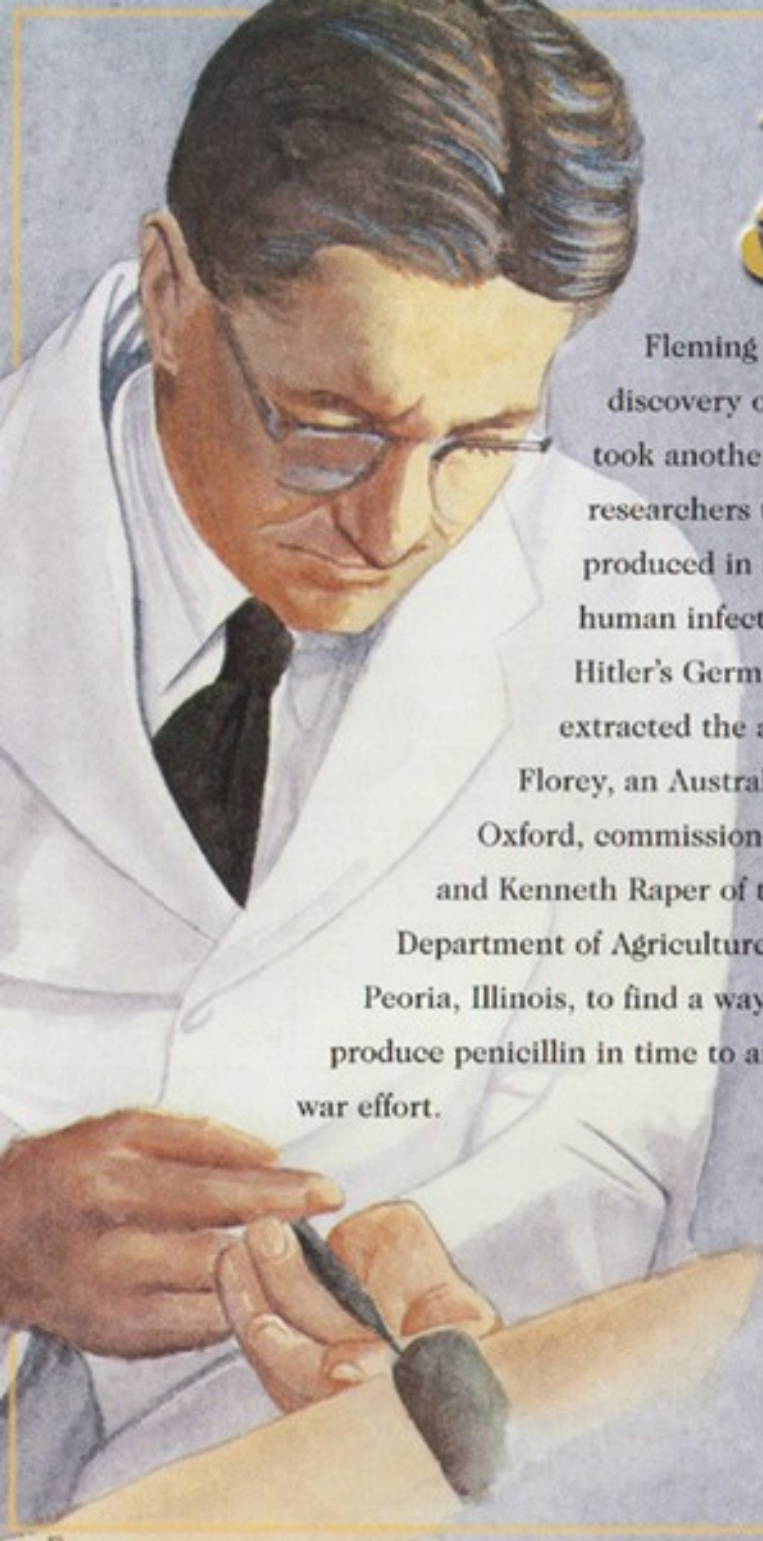
# 1945

## Medicine

Alexander Fleming, Ernst Chain,  
and Howard Florey

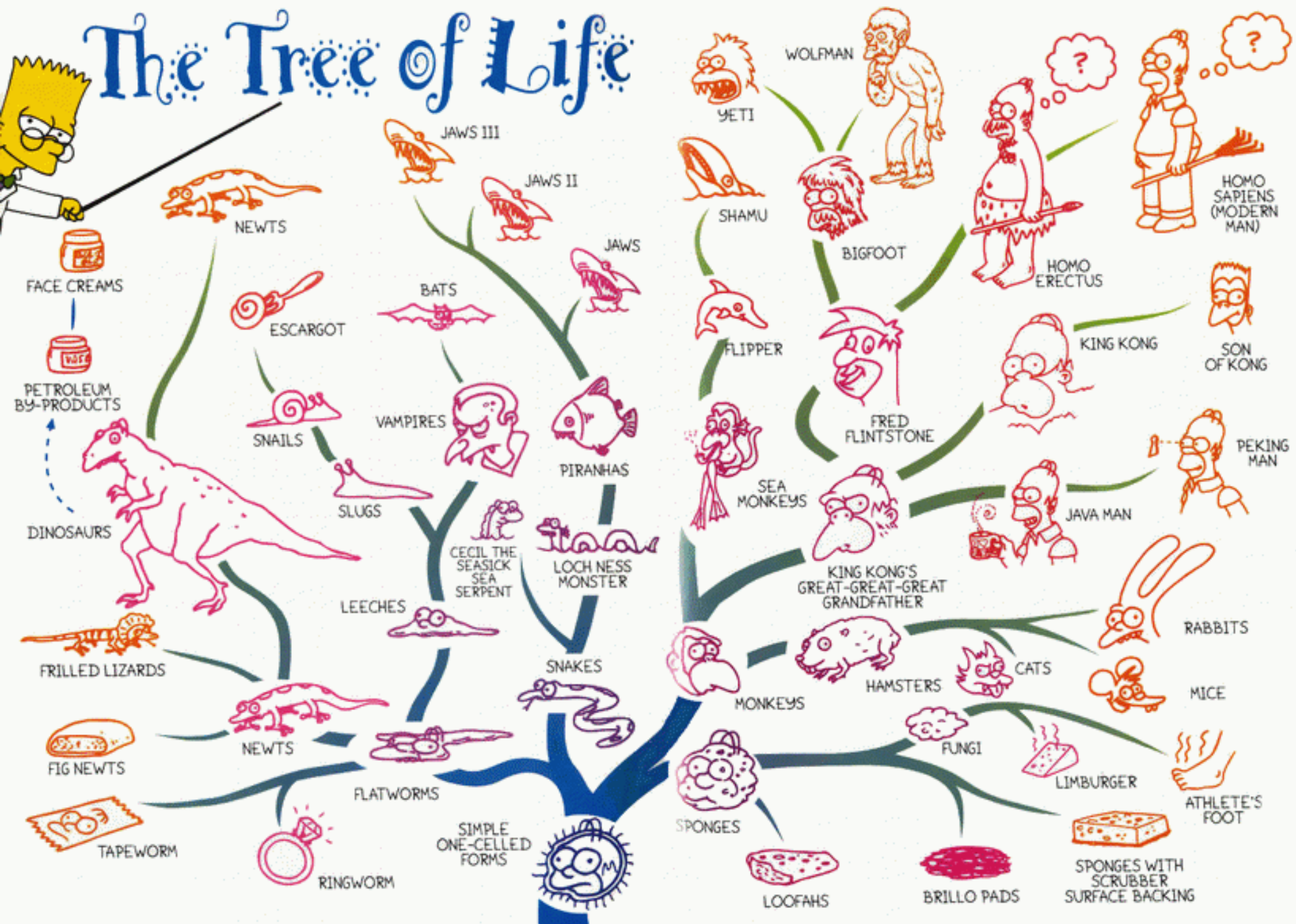
Fleming won worldwide acclaim and a knighthood for his 1928 discovery of the bacteria-killing effect of *Penicillium notatum*, but it took another 15 years of effort by many other researchers to produce a drug that could be produced in sufficient quantities to cure human infection. Chain, who had fled Hitler's Germany for England, successfully extracted the active properties of the mold.

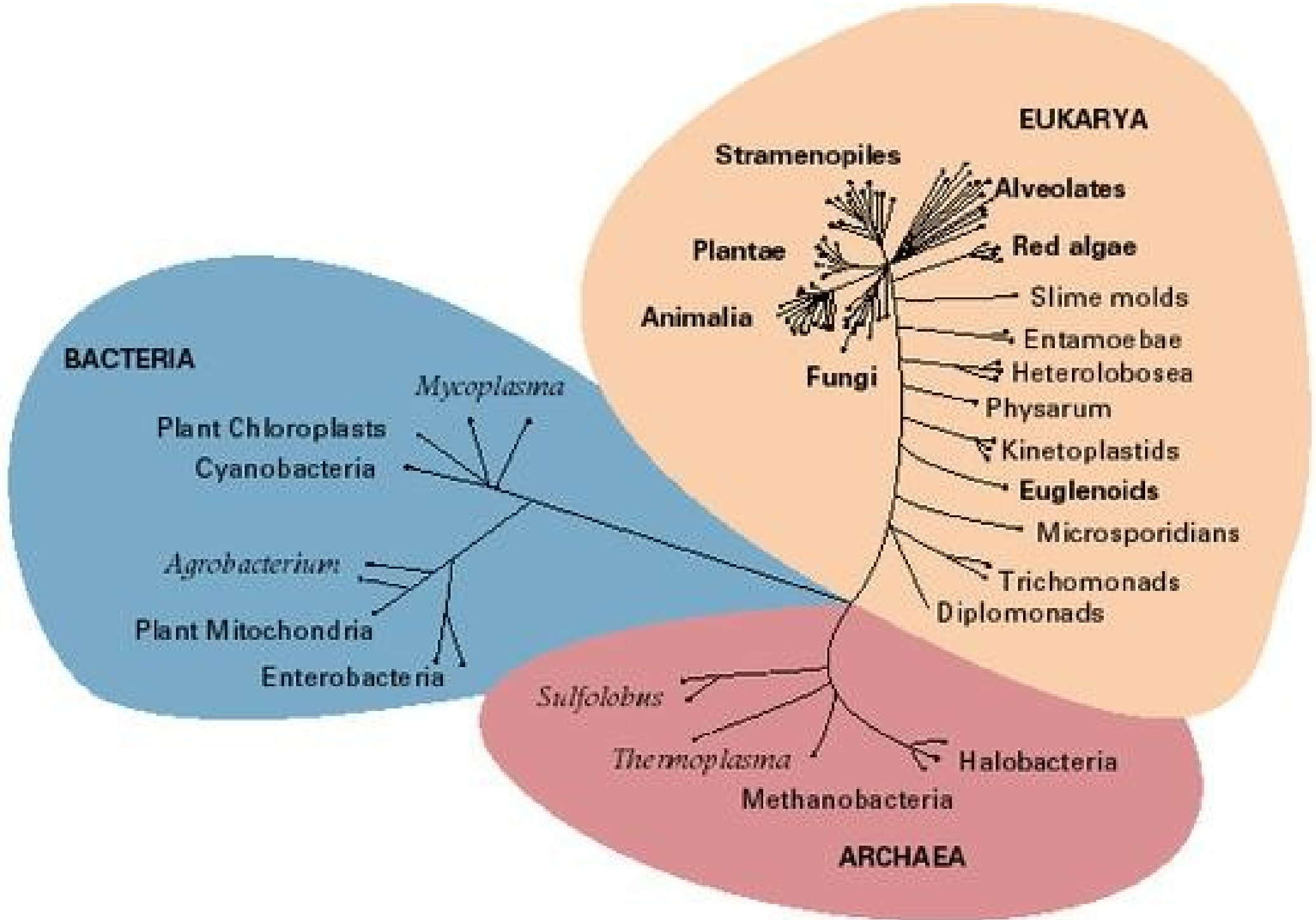
Florey, an Australian and chair of pathology at Oxford, commissioned Andrew Moyer and Kenneth Raper of the U.S. Department of Agriculture Lab in Peoria, Illinois, to find a way to mass produce penicillin in time to aid the war effort.

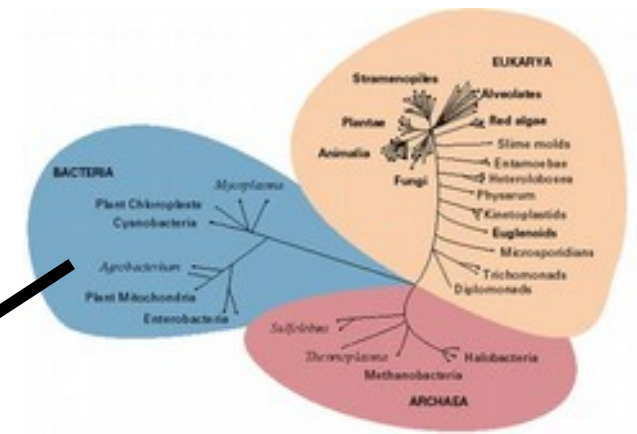




# The Tree of Life







Tek bir kromozom, kendi üzerine kıvrılmış bir şekilde, organizmanın ortasında.

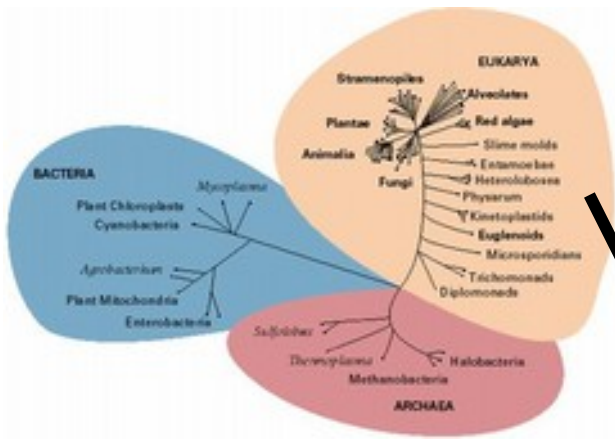
İç zar sistemi yok, nükleolus yok. (Golgi aygıtı, mitokondri, lizozom, endoplazmik retikulum bulunmaz!!!)

Çoğunda peptidoglikan duvar bulunur

Ortadan ikiye bölünerek çoğalır

Kirpikleri varsa hareketlidir.





Çok sayıda kromozom içeren çekirdek bulunur.

Çekirdek zarla çevrili, içinde nükleolus bulunur.

Sitoplazmada golgi aygıtı, mitokondri, lizozom ve endoplazma ağı bulunur

Duvar varsa peptidoglikan bulunmaz

Çoğalma mayoz ve mitoz bölünme ile olur

Kamçı, kirpik ve yalancı ayakla hareket

