

## 1. **Pick up** Name Folder

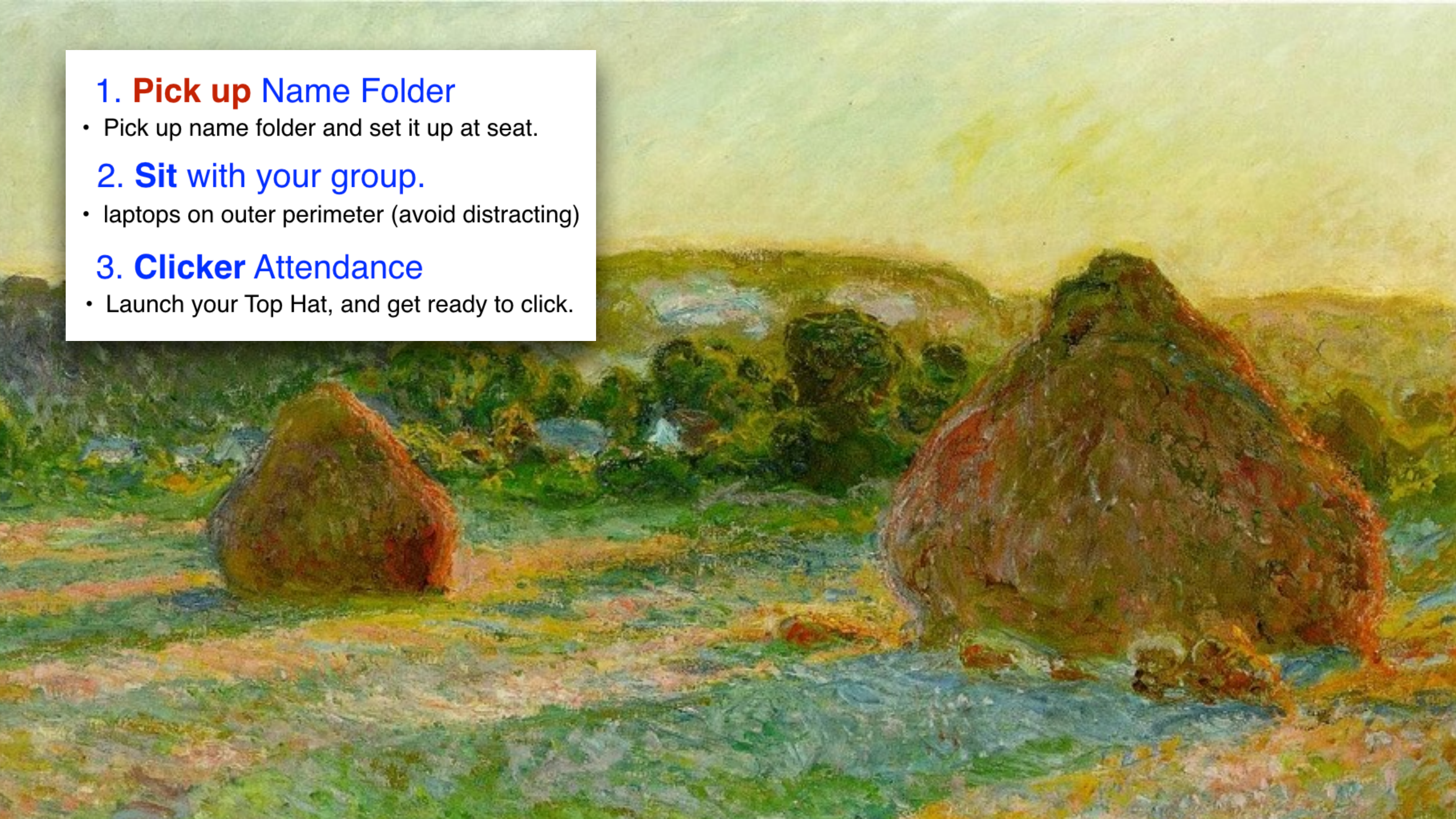
- Pick up name folder and set it up at seat.

## 2. **Sit** with your group.

- laptops on outer perimeter (avoid distracting)

## 3. **Clicker** Attendance

- Launch your Top Hat, and get ready to click.



## Week 9

(Preparing for) **Monday's lecture:****Budgeting homework time (70 min):** Section 5.2 of **Structure and Function of Plasma Membranes**

(OSB) is 3856 words in length with a number of art figures (yet no data figures for trifactas). Reading at 200 words per minute would mean the section might take 20 minutes to read. But the two videos are 6 & 8 minutes each, and when done properly, when you pause to review figures and take careful notes, this assignment should take you more like 70 minutes.

1. \_\_\_\_\_ For Monday's lecture, skim section 5.1 "Components and Structure" in the chapter **Structure and Function of Plasma Membranes (OSB)** then carefully and slowly read section 5.2 "Passive Transport" (3856 words) and for that one please take handwritten notes in your lecture notebook.
2. \_\_\_\_\_ (flipped classroom) Watch the **6-min lecture by Mr. Andersen** on membrane structure. You do not need to take notes on this.
3. \_\_\_\_\_ Then review section 5.2 again, now focus and take notes regarding **Figures 1, 2, 3 and 5**. We will discuss these in class.
4. \_\_\_\_\_ (flipped classroom) Watch the **8-min lecture by Mr. Andersen** provided where he gives you an explanation of the topics: diffusion and osmosis. Add to your notes any interesting points he makes that helped you better understand what they are all about.
5. \_\_\_\_\_ **Advanced:** Take a sneak peek at the next section 5.3, in particular Figure 1.

Ch 5.1 (OSB)

- reviews but no notes - nice lecture by Mr. Andersen
- good illustrations
- Quiz me 5.1
- fluid mosaic idea / examples

Ch 5.2 (OSB) Passive Transport (movement of molecules ions)L.O.S

- Explain WHY + HOW passive transport occurs
- Understand osmosis + diffusion (explain + examples)
- Define tonicity + describe relevance to passive transport

PM <sup>barrier</sup> controls import/export = Selectively Permeable  
 - use both passive + active transport (eg. Na/K pump) (RBC?)  
 - high to low conc = Concentration Gradient

Membrane (bilayer) has two sides ("leaflets") can vary very different  
 Figure 1 - nice illustration proteins, sugars, lipids, skeleton  
 (amphipathic vs hydrophilic vs hydrophobic)  
 Small uncharged slide through mem barrier more than Large + Charged  
 (fat-soluble)

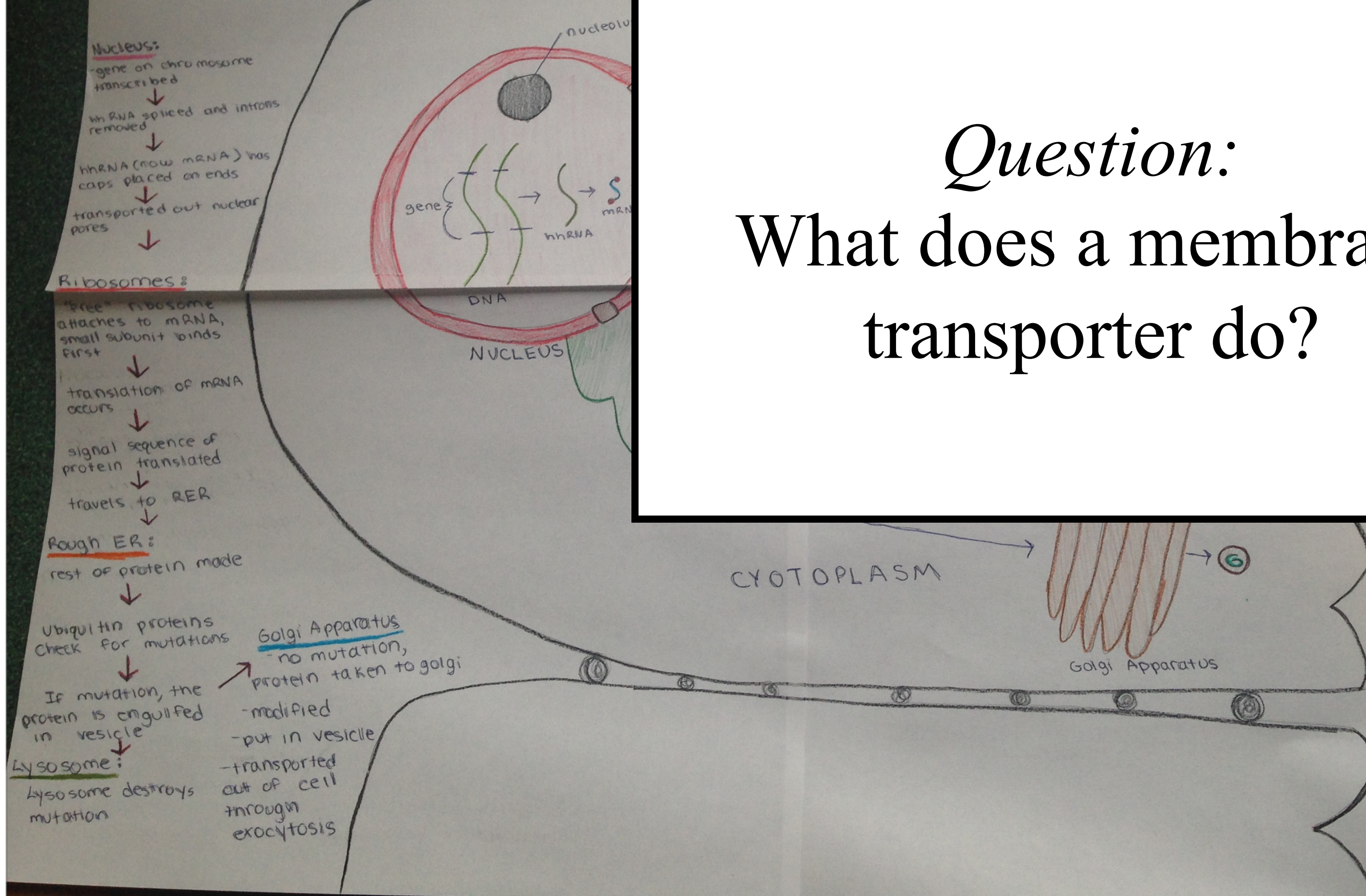
Diffusion - passive movement down gradient (Figure 2)  
 (concentration + electrical gradients) - bounce around randomly  
 → rate impacted by: how big gradient, size molecule, temp, solvent viscosity,  
 distance, surface area / thickness of barrier

Facilitated Diffusion / Transport - help via <sup>path</sup> tunnel to use  
 (eg. channel / carrier)  
 gated

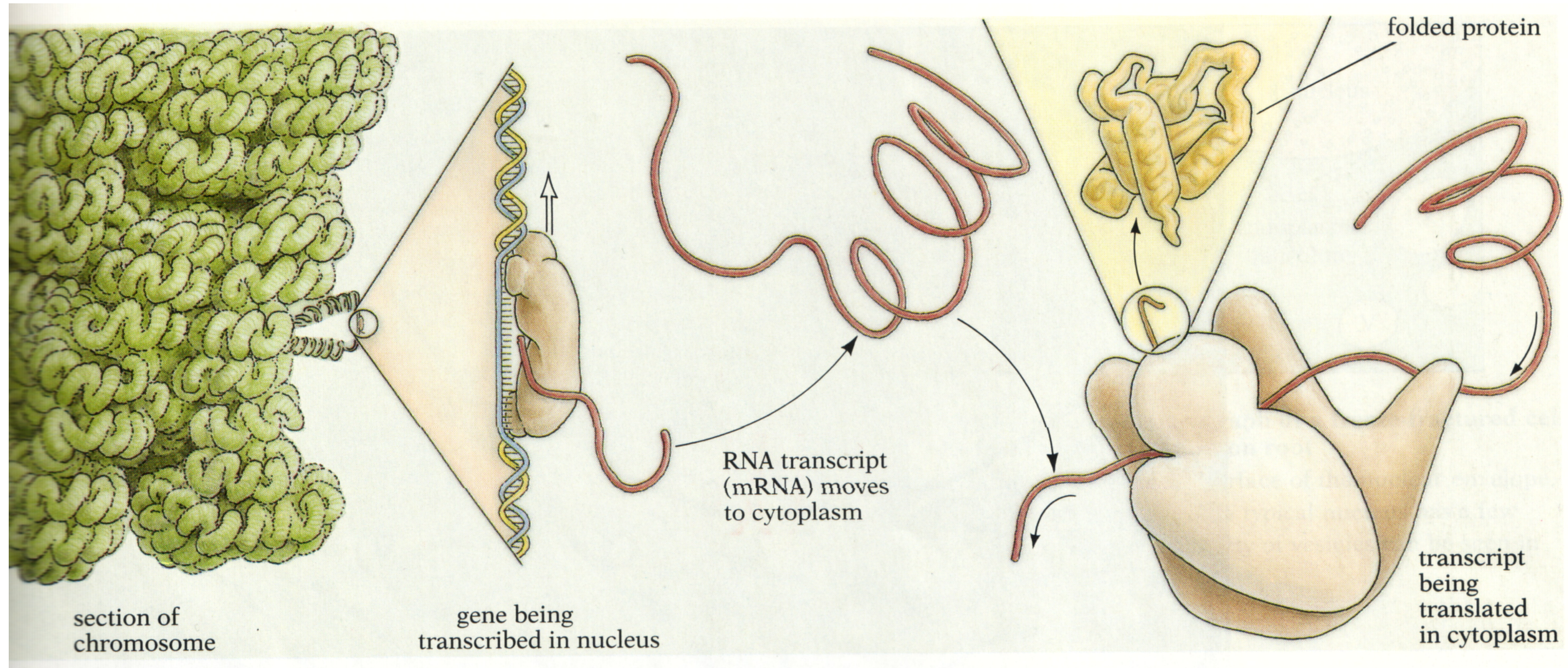
Quiz 5.2Osmosis (H<sub>2</sub>O Diffusion)

- mini lecture by Mr. Andersen  
iso-tonic  
tonicity (saltiness / osmolarity) hypo-tonic hyper-tonic - shrink or swell cells

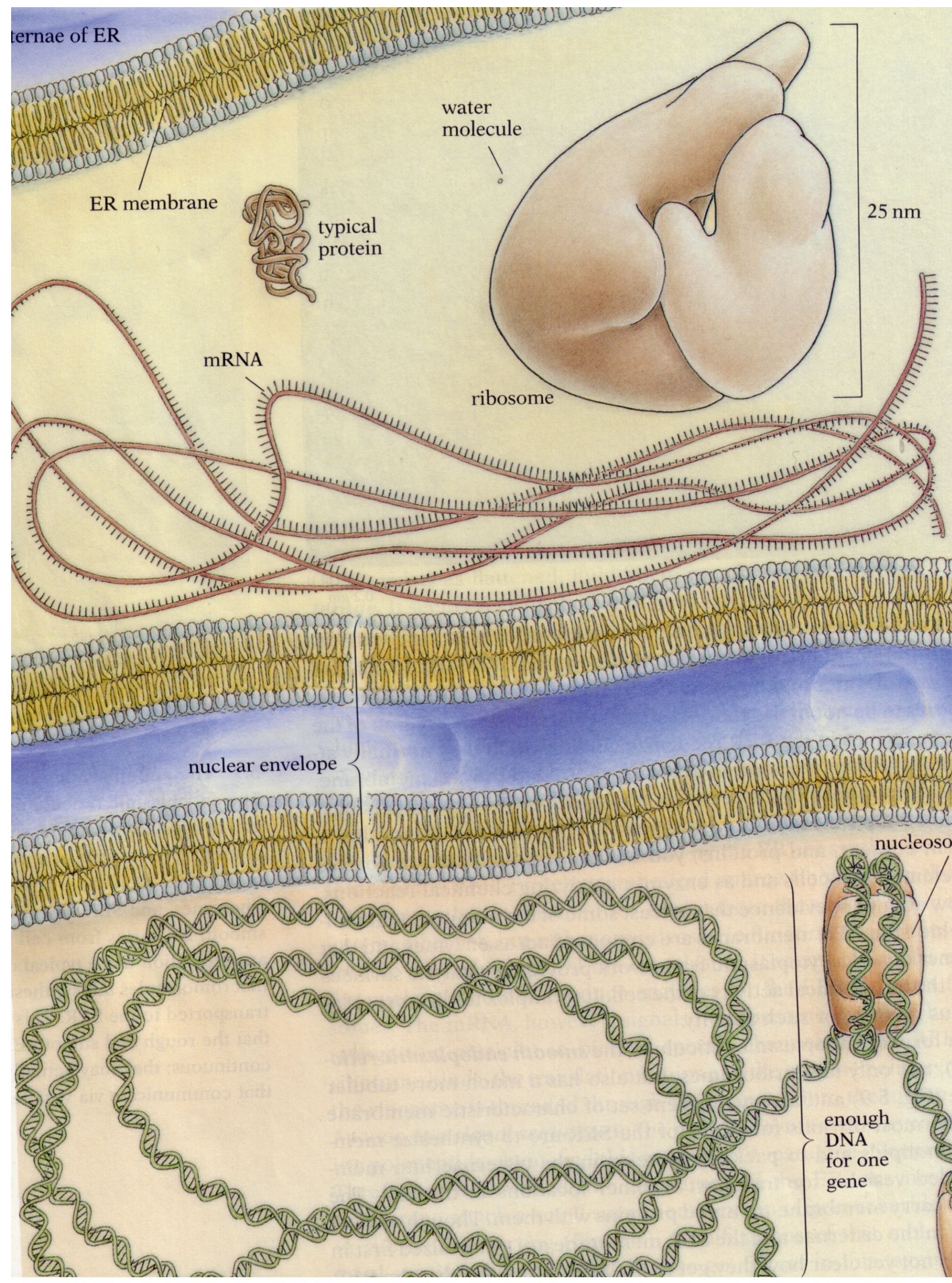
# Epithelial Cells

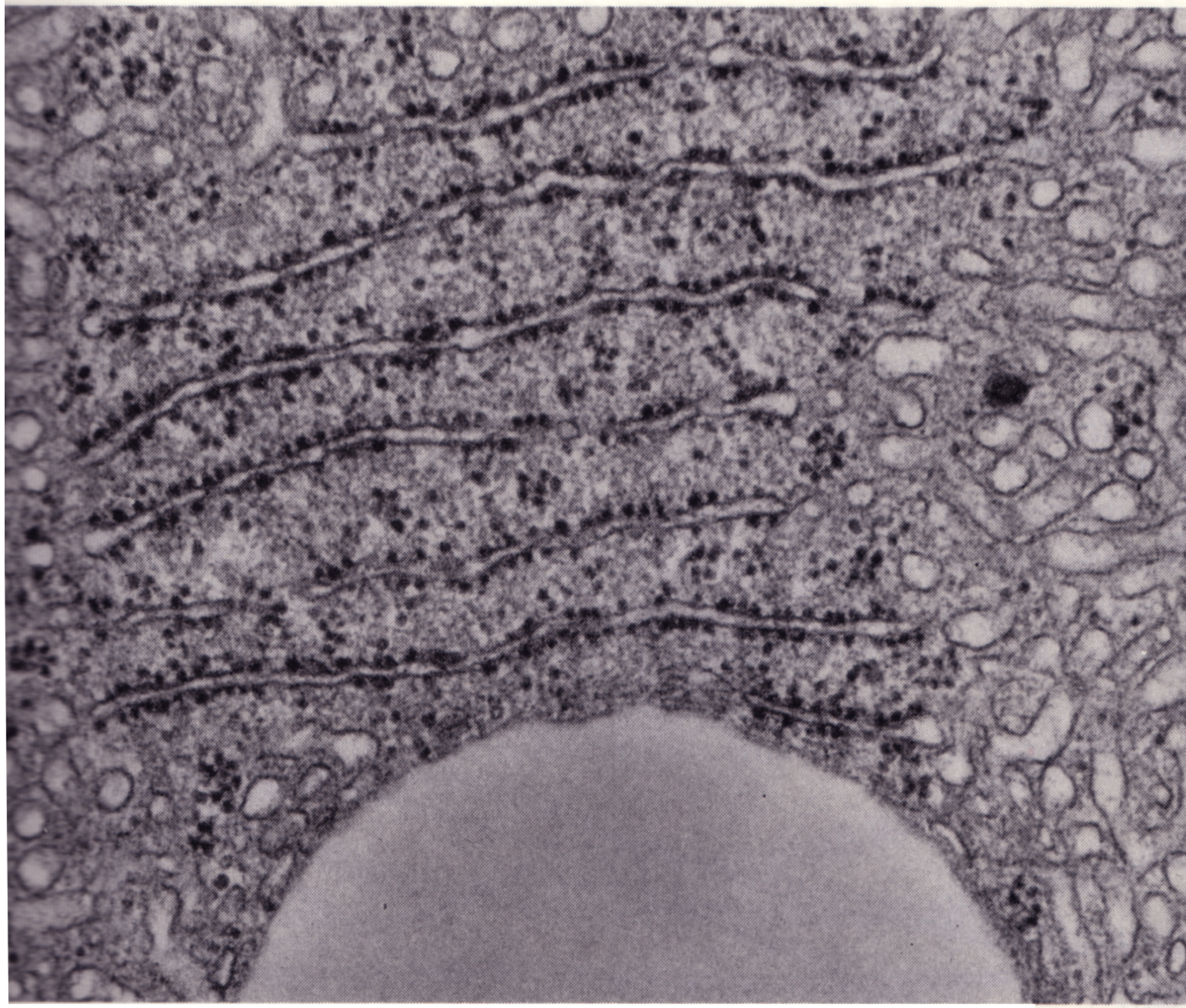


*Question:*  
What does a membrane transporter do?

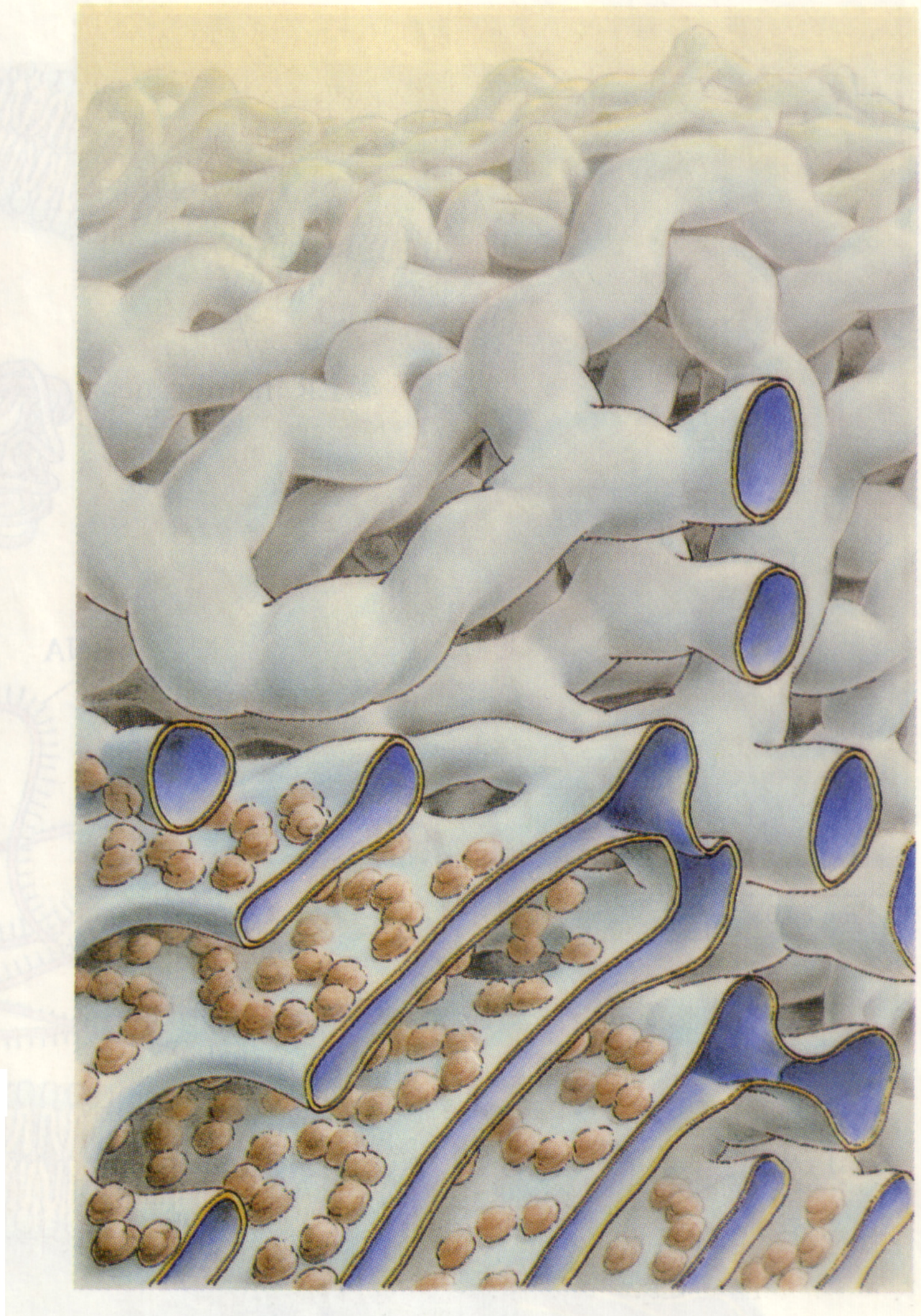


*Expressionistic period*

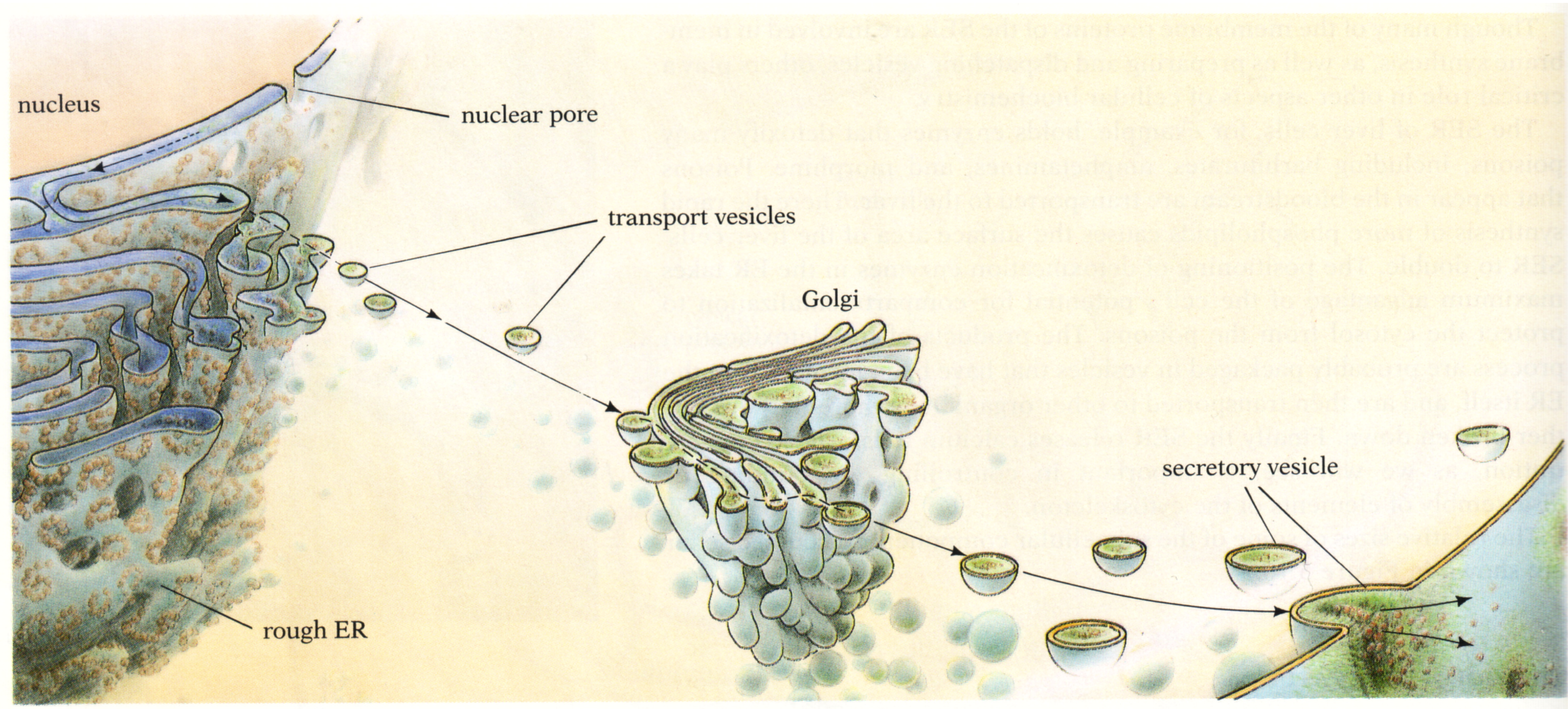




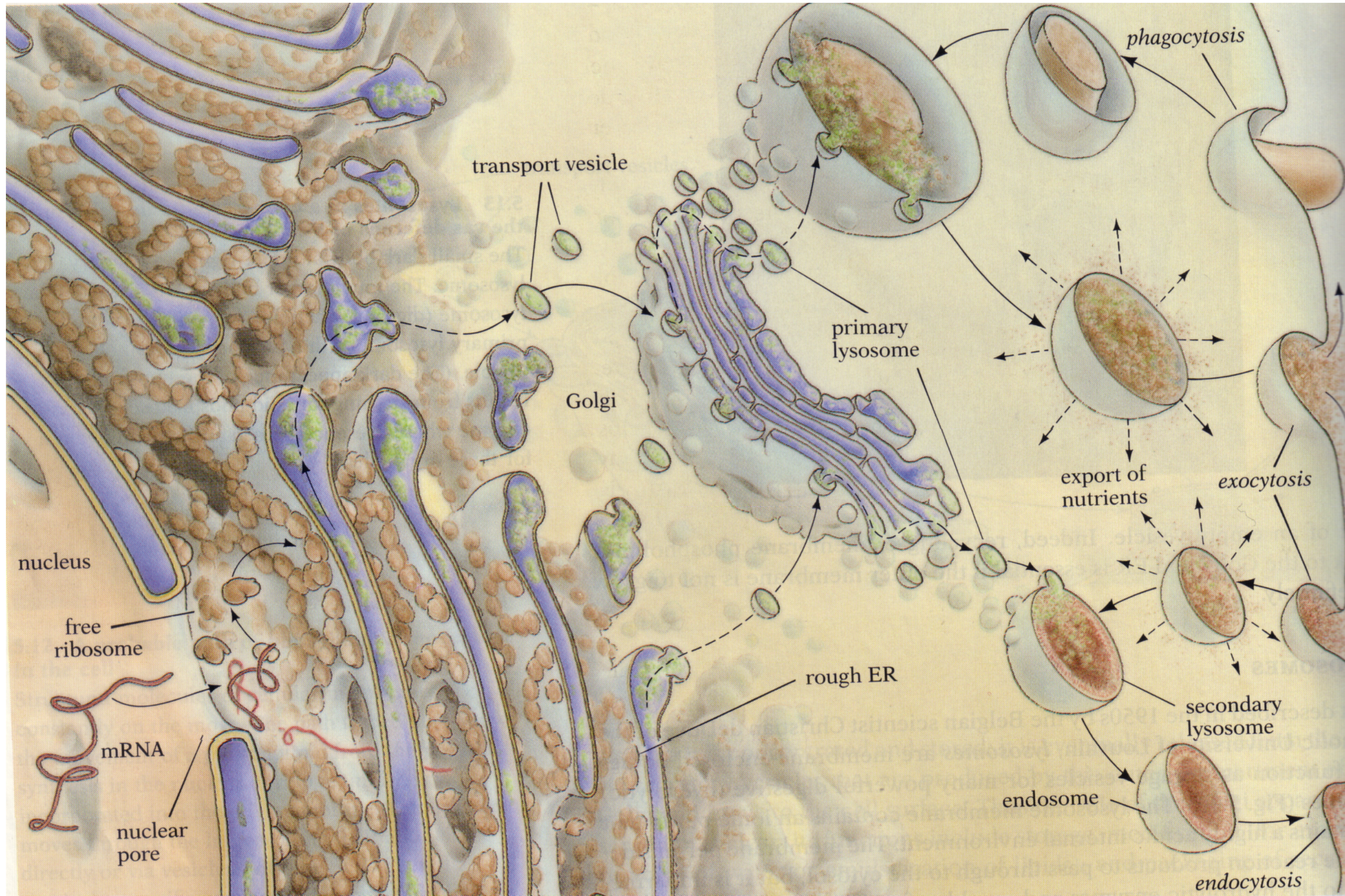
0.2  $\mu\text{m}$

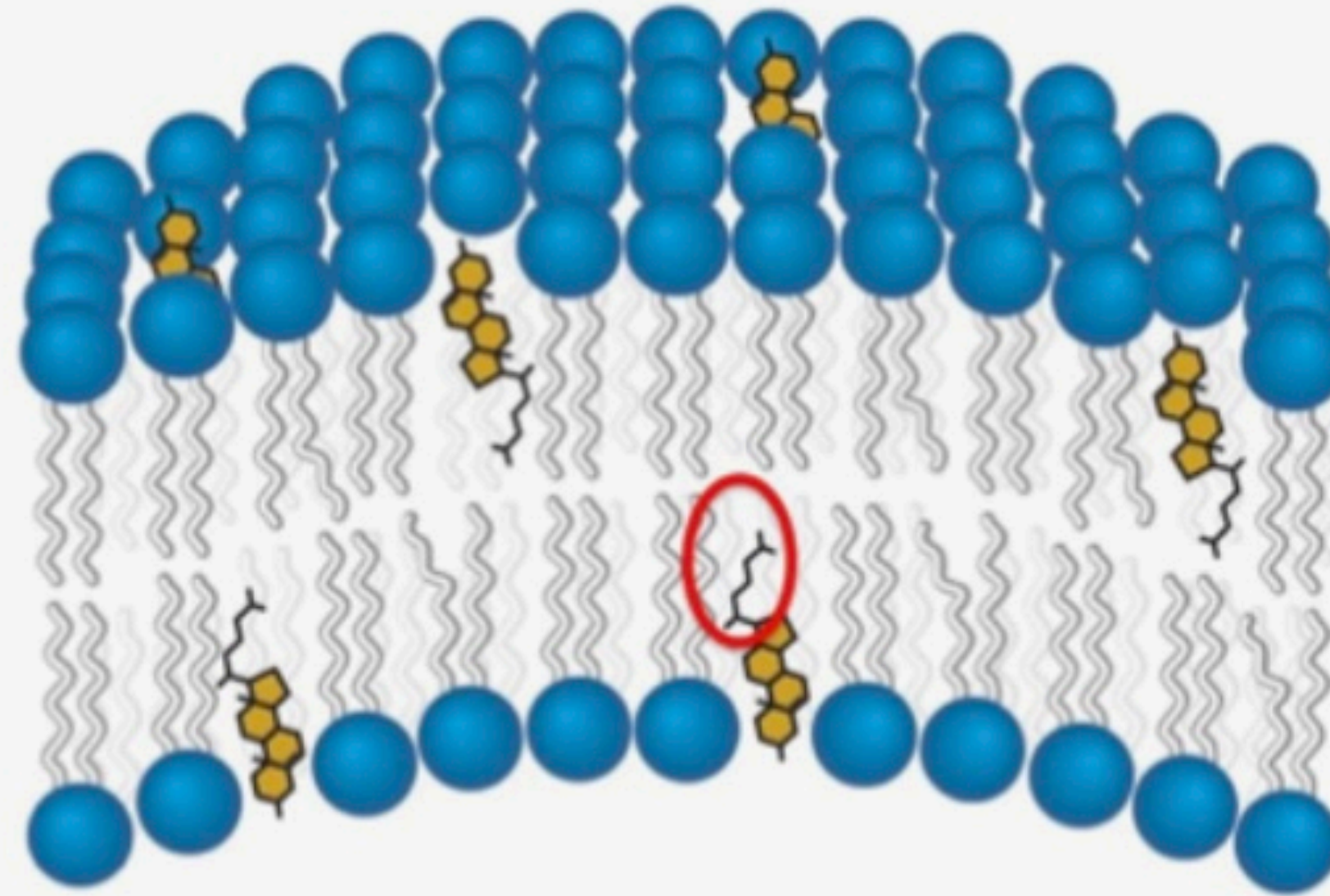


*Endoplasmicisime*



Build 3D visual models in your head





## Cell and Molecular Biology - Lipids and Membranes

[youtube.com](https://www.youtube.com)



## 1. Sit with Lab Group

Find members of your group

## 2. Attendance with your phone

Launch your Top Hat app on your smart phone or load the TopHat.com website, or text to the course's phone number.

## 3. Get out your notebook

Prepare to add additional notes to those you took on last night's reading assignment.

Monet's 1891 canvas  
"Meule" or  
"Grainstack" fetched  
\$81.4 million with  
fees.

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