

**RadioLab Podcast: Cellmates
Endosymbiotic Theory Explained
Dvorsky 2017**



1. What did the first cells look like? (+/- 2:20 - 3:10)
2. How long did cells look like this? (+/- 3:05)
3. What happened about 2 billion years ago? (+/- 3:45)
4. Why didn't cells just get complicated and bigger on their own? i.e the energetic canyon (5:40 - 7:00)
5. What is the theory of how cells got over the energetic canyon? (7:20 - 9:30)
6. Who are the two participants in this event? (+/- 8:00)
7. Is this something that happens often? (+/- 9:30)
8. What does the cell get in return for this merger? (+/- 11:30)

9. How does this allow for evolution? What is meant by the term “second genesis”? (13:00-14:30)

10. What do spruce trees, fungus, and whales have in common? (+/- 15:30)

11. How many mitochondria do we have per cell? What % of our biomass is mitochondria? (+/-16:00)

12. If this event did not happen, what might life on Earth look like today? What does this mean about the prospect of finding advanced civilizations on other planets? (+/- 17:00)