TPO 66
听力原文

Section 1

Conversation 1: Listen to a conversation between a student and a literature professor.

Student:
How was that conference last weekend, Professor Miles?

Professor:
Great! I heard some really terrific presentations, refreshing topics too that obviously you don't usually hear too much about.

Student:
Why not?

Professor:
Oh, well, you know, it's a funny thing about academia, you'd think scholars would do research about every topic imaginable, but actually some authors, some genres, are not respected very much, so not very much is written about them, Gothic literature, detective novels.

Student:
But that's what the conference was about?

Professor:
Yeah, pretty much. It was kind of subversive I guess, but there is a whole wealth of knowledge out there just waiting to be explored. I find that really exciting.

Student:
Sure. Yeah.

Professor:
Ah, anyway, you wanted to ask me about the final paper?

Student:
Yeah, which I see now ties into the theme of that conference since we are supposed to write about a book from one of those lesser genres, I was wondering…What about science fiction?

Professor:
Sure. Though it's a genre that's actually getting more and more respect within academia. There was even a talk at the conference about Jack Vance.

Student:

Oh, he wrote Planet of Adventure, right?
Professor:
Yeah, he is a well-researched, respected science-fiction writer. If you are interested in science fiction, you could look him up, that’ d lead you to lots of other authors and lots of possibilities for your paper.
Student:
Great. Well, I’ m relieved you think that’ s a good genre to study. I’ ll find a book that interests me and do the paper on that. It seems like most people assume that science fiction is kind of like, I don’ t know, junk literature.
Professor:
Yes, a lot of people do.
Student:
Yeah but, I’ ve read some things and I think that some of it is really well written and it takes so much imagination to write sci-fi.
Professor:
Well, careful though, there’ s a difference between science fiction and sci-fi.
Student:
What do you mean?
Professor:
Sci-fi, that’ s what you tend to see in films. It has all the spaceships and robots and it focuses on exotic technology, you know, wow factor, like special effects, at the expense of a well-written story. I think a lot of people don’ t realize this and tend not to make a distinction.
Student:
Okay.
Professor:
But true science fiction is much more intellectual than that. The story is very important. And even though it might take place in an imaginary world, and it might have exotic gadgets, the focus is on the plot. Science fiction creates metaphors about our world, and well, what it means to be human. It’ s meant to get people to think about real things like history and human behavior. That’ s worthy of your time, but not sci-fi.
Student:
Great. Well, can I let you know next week which book I want to write about?
Professor: Sure.

Lecture 1: Listen to part of a lecture in a biology class. .
Okay.Today I want to talk about sleep.We all sleep.Humans sleep.Many animals sleep.When we sleep,we aren't actually unconscious,but in a state of reduced awareness of our surroundings.Now,what does that mean for animals in the wild if they are in a state like that unable to monitor their environment? Well,they are helpless,vulnerable to predators maybe.Right,they are vulnerable to predators,yet they sleep,so let's talk about why,the biology of sleep.So the first thing I want you to understand is that sleeps are very risky behavior.And risky behaviors don't evolve unless they bring the animal some kind of benefit that outweighs that risk.Sleep must have a really important function.
And I want to emphasize that there is a difference between sleep and other forms of inactivity,like regular rest.Insects,for instance,rest,but they don't sleep.What's specific to sleep is that the brain alters many ofits usual activities including its connection to sensory and motor organs.It shuts those connections down,so a sleeping animal can usually neither sense nor move.I say usually because,well,we'll get to that in a minute.
So basically all mammals and birds sleep,but there are some unusual ways of sleeping.Take marine mammals,like dolphins.Dolphins need to swim up for air once in a while,so they can't completely shut off all movement and sensation,so their brain can't shut down completely,but dolphins get around this.How? Well,they sleep one brain hemisphere at a time.Sleeping dolphins actually look like they are just resting awake and occasionally swim up for air.So how can we even tell they are sleeping? Well,we measure their brain activity,which showed that one half was active while the other was sleeping.That's some adaptation,huh?
So what is the function of sleep?As I said,it must be important,but why? Okay.I know you are all tempted to say that sleep's when the whole body rests,that sleep is our mechanism to recover from physical activity.And that's true.When you sleep,your muscles lose their tone,they relax.The body saves energy. But this could happen during regular waking rest,I mean,that's probably what happens when insects rest.You don't need sleep for that.You could get the same benefit by resting awake.So this doesn't explain why sleep evolved.To explain the real function,the most important benefit of sleep,you'll need to focus on the brain,not the muscles.Remember how we can tell that a dolphin's sleeping,not just resting?
It's because of a unique pattern of brain activity,which is a clue that sleep's function has to do specifically with the brain.And that's the general consensus ‘cause that's what could explain why it evolved.It also explains why sleep is a characteristic of mammals and birds because they have the most complex brains of all animals.The simpler brain,like a reptile's,gets by with little sleep,or even without sleep.
Okay.So we know that sleep benefits the brain,but in what way?We're not sure yet.Okay.So one hypothesis is that during sleep the brain synthesizes molecules that it needs for proper functioning when awake.The

longer we stay awake the more those molecules get depleted,so the brain needs to replenish them,and this supposedly happens during sleep.

I'm talking about energy sources like glycogen and some types of neurotransmitters that are needed to transmit signals between nerve cells.So these get replenished during sleep and the next morning our brain is working with a full supply of energy and neurotransmitters again. That explains why we feel so alert and mentally refreshed after a night's sleep. Yes.Jim?

Well,you know,I don't.I don't work well in the morning at all.

Yeah,I do my best work at night too. Not everyone is at their best in the morning.I'll grant you that,but that doesn't rule out the replenishment hypothesis. It's just a bit more complicated than I said. We are fairly sure that there is this other rhythm of mental activity going on that's independent of sleep.It's like a pre-programmed 24-hour cycle.Your mental activity peaks at a certain hour every day,like at night,for you too,then it goes down at some other point.

But the point is that after a sleepless night that peak is not as high as it would normally be.And the longer you go without,the lower those peaks get,so the replenishment may be needed to keep the mental peaks high.Does that make sense? The two mechanisms are not mutually exclusive.That's what I'm trying to say.

Lecture 2: Listen to part of a lecture in a marine biology class.

So we'll continue today with the topic of fish movement and we'll focus on the role of fins. You can think of fins pretty much like the arms and legs of humans.It's what allows movement,basically.But as we'll see,they also do a lot more.Before we go on with the function of specific fins,I'll just say a few general remarks so you get an overall picture. Fins are mainly used for moving the fish forward,for propulsion,as it's called.But they are also needed for stability,steering and braking.

That's right.Fish have to have a way to put on the brakes too. Now,some fish are so fast they are not good at stopping even with their fins.Requiem sharks for example. Well,you know how sharks are built for
speed,but these requiem sharks have difficulty stopping.They are unable to brake themselves efficiently so they must take sharp turns in order to slow down or stop.Because of this brake problem,requiem sharks avoid swimming into coral reefs.Coral reefs are usually crowded,don't allow a lot of space for large fish to take sharp turns.So these sharks roam around the outside of the coral reefs. Uh,fish lives in a three-dimensional world,you know,with forces pushing and pulling it in all directions.

The forces I'm referring to are gravity,which pulls the fish downward,buoyancy, which holds it up in the water,and something called drag. Now,drag means to slow down,to impede movement.It's a term that applies to the effect of the force acting on any object moving through a fluid,or through air.So for instance the force of air on an airplane.Drag acts to pull the airplane in the opposite direction to the direction of motion.Well,all of these forces,gravity,buoyancy,and drag could be potentially dangerous for fish if it weren't for the fact that they have...yup,you guess it!Fins! So fins allow fish to keep from rolling or flipping over.They stabilize the fish's head.Fins are crucial for determining the speed at which fish travel,to change direction.In a word,fins allow fish to maneuver efficiently through the water.

Okay.Remember most fish have two general types of fins.The first type is median fins. Median fins are located along the mid line of the fish,such as the dorsals on the back.And the caudal fins,the tail fin.The other type of fin is the paired fins at each side of the fish. For today,the caudal fin is the one we'll focus on.The caudal fin,that is,the tail fin,is the main propulsive agent for most fish.It keeps them moving forward.Some fish have a broad tail,that gives the fish a quick burst of speed from a standing position,and um,this is useful for going after a meal,or swimming away from a predator.

You'll find that fast long-distance swimmers have a very long and narrow caudal fin,which is very efficient. Now,do all fish have caudal fins?No,not at all. Some seahorses and eels get along without them just
fine.Well,a seahorse swims in upright, vertical position.It looks like it's standing upright,so it uses the fin on its back,the dorsal fin. as if it were a caudal fin. And eels,well,don't really need to swim very rapidly.And like I said,most are missing the caudal fin. But most fish do have caudal fins.I'll give you two examples of caudal fins and we'll see how they work.Okay? Let's see.I'll focus on the tuna and the black fish.

The tuna's body is built for speed.But the caudal fin,the caudal fin is key here because its moon-shaped tail creates hardly any drag in the water and it could reach really high speeds of even 60 to 80 kilometers per hour.That's pretty amazing. Then there's the really interesting case of the black fish,which has a rounded

caudal fin,as you can see.And in sudden bursts,it almost acts like a propeller on a plane that can even produce the sound that resembles an explosion.I bet you never thought a fish fin could do that.And you can see how this is useful to a fish when it goes to catch something or tries to avoid a predator. It needs to accelerate in an instant. .

Section 2

Conversation 1: Listen to a conversation between a student and an employee at the financial services office.

Employee:Hi.How can I help you?

Student:Hi.My name is Arne.This is my first semester here and I'm hoping you might be able to help me.See...I don't know how to put this,but I'm having some trouble managing my money.

Employee:You mean you didn't pay your tuition bill?

Student:No.I'm okay with the big stuff.I mean,I had student loans that pay for most of the tuition.But,well,it's the everyday things that add up.

Employee:Oh,you mean,books,food,things like that?

Student:Yeah,my parents give me an allowance for that stuff,but it's just not enough.I've asked them to increase it even a little,but they think I need to learn to manage on my own.

Employee:Well,that's a really common problem with first-year students.You've come to the right place.We have resources that can help.So,first question,do you have the budget worked out for your spending?

Student:No.I don't.

Employee:Okay.I can send you a budget worksheet.It's a computer document and it'll help you think through what your expenses are and where you can cut costs.You'll be surprised at how much the little things add up.You know if you spend two dollars on a cup of coffee each morning,that's almost two hundred dollars a semester.

Student:So if I could make my own coffee,that would be great,but I can't since I live in the dorm.

Employee:True.But that's just an example.I also have this other sheet with suggestions.It is just a list of money-saving ideas,like buy used books instead of new ones,and buy a bike since that's cheaper than taking the bus or owning a car.

Student:I would love to get a bike,then I could even get a job in town.

Employee:Well,if you are thinking about a job,we do have postings for on-campus jobs as well.They are on the bulletin board outside my office.

Student:Yeah.I saw it on my way in.It's empty.

Employee:Yes,well,the positions get filled pretty quickly,but new ones open up too.I can't guarantee anything,but if something becomes available,that's where you are going to find out about it.

Student:Well,if I got a job,I would certainly have a little more spending money and that would show my parents I'm managing on my own.

Employee:But what's your course load this semester?If you have more than four courses,you might want to work on your budget and monitor your spending rather than get a job for now.

Student:Well,I have four courses,but one is biology and there's a three-hour lab each week so it's really like a fifth course.

Employee:You ought to think about it then,maybe try to work on your budget and spending for a month and see how you are doing.If you are still strapped for cash but you are keeping up with all your coursework,then you could try to find a job.

Student:Yeah,and maybe by then that bulletin board won't be empty.

Lecture 1: Listen to part of a lecture in a psychology class.

So we talked last time about theory of mind.Can someone summarize what that refers to? Janice? It has to do with an ability to,well,isn't it like realizing that people can have different beliefs, that we don't all necessarily believe the same things? Right.The term theory of mind refers to a cognitive ability which is the ability to...it's recognizing that other people have knowledge,ideas,beliefs that may be different from our own.

So,we say that people have a theory of mind because we recognize that other people may have different beliefs than we do.It may sound trivial but newborn infants don't seem to have it.It seems to develop in children somewhere between the ages of three and five. A consequence of having a theory of mind is that we recognize other people's motivations and can sometimes predict what they'll do in certain situations. But the question for us,is whether animals have a theory of mind. Researchers who deal with primates like monkeys tend to accept the likelihood that monkeys have a theory of mind,particularly because they are social animals that live in groups,so they'd certainly benefit from the ability to understand motivations,to predict the behavior of other monkeys. So,for example... That's... Excuse me?

Sorry,but that's assuming it makes sense to say that animals have beliefs. Right,of course. Yeah,we are assuming that...We're inferring beliefs from behavior.They act one way for a reason,not just from instinct,but because they have certain knowledge and have reasoned that a particular course of action would be beneficial, One type of evidence that humans have a theory of mind is behavior like deception because intending to deceive someone requires knowing that they could have different beliefs than you do. Well,researchers who were observing a group of vervet monkeys in west Africa discovered just this type of behavior in vervets. Now,vervets live in social groups.And occasionally a new member will try to join an established group.Well,the researchers noticed that every time a new male would try to join the group,one particular low-ranking male member of the group habitually made a false alarm call that a leopard was approaching the group.When the low-ranking monkey did this,all the group members and the new comer would immediately retreat into the trees to safety.

Obviously,being a low-ranked male,our friend has little interest in seeing a new male member. who will,would almost certainly outrank him join the group.And this tactic did stop that from happening. So the idea is that the monkey knew there was no leopard but believed that the other monkeys would think there was a leopard,realized that the others would have a different belief than he had? Right.We inferred the monkey had a belief from its behavior.The researchers interpreted the vervet's behavior to mean that it had an understanding of other vervets'mind and how they react. However,this monkey's behavior after issuing the false alarm call makes this interpretation somewhat less likely.

After the alarm call,when all of the other monkeys have climbed up into the trees,our friend then came down from his own tree,crossed over to the tree of the intruder,the one who wanted to join the group,and issued the false alarm call again,perhaps to make sure the intruder really got the message. The problem is,if he really did have a theory of mind,he would have realized that climbing down from his tree would show the others that he was aware there was no leopard around.So maybe the alarm call doesn't show that

particular monkey had a theory of mind.Maybe he simply learned to associate his false alarm call with the action of monkeys retreating into the trees.Maybe he had learned to provoke a reaction without really understanding what motivated the other monkeys' behavior. So how do we know which interpretation is right?

Good question.That's often an issue with observational studies.They produce evidence that's, well,like in this case,people who start out believing that animals have a theory of mind can always pick observations that best support their case.But those who doubt it can always find an alternative interpretation for what was observed.So is there some other methodology,lab experimentation for example,that's more objective? That would produce more objective evidence about this?

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