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Anglès

SÈRIE 4

Listening comprehension

Counting The Bugs And Bacteria, You're 'Never Home Alone'

In this radio programme you are going to hear some new words. Read and listen to them. Make sure you know what they mean.

microbe*: microbi/microbio*
showerhead*: carxofa de dutxa / alcachofa de ducha*
moist: *humid / húmedo*
to breed*: criar/criar*

Ready? Now read the questions on the following page. Read them carefully before listening to the radio programme.

Presenter

You may be shocked to learn what's living in your home. The bacteria, the fungi, viruses, parasites and insects - probably many more than you imagined. My guest Rob Dunn says the real goal is to create a healthy balance of all the microorganisms and insects that co-habit with us. Dunn and the team of scientists he works with analyze the populations of microorganisms living on floors, in basements, on water faucets, the surfaces of TVs, etcetera. He's a professor in the Department of Applied Ecology at North Carolina State University and author of the new book "Never Home Alone" about the microbes, insects, some of them quite exotic, that live in our homes.

[Now listen to the interview]

REPORTER: So, let's start with just an overview of what's going on in our homes.

DUNN: Every surface, every bit of air, every bit of water in your home is alive. And every house, every building we've ever studied, is alive. When we study homes, different homes have different kinds of life in those different places. And so your house has habitats. Each of those habitats is a little bit different. And there are, across houses, hundreds of thousands of species.

REPORTER: How did you get interested in this?

DUNN: So I started off studying rainforests. I was fascinated by the fact that you could turn over a leaf, and every leaf seemed to have something new. And then I eventually found myself in homes with the realization that a lot of what I'd done in jungles we could do under the bed and in showers. And we were making the same kinds of discoveries I'd make in Bolivia or Ghana or Australia or anywhere else.

REPORTER: One of the things you've learned in studying the microecosystem of homes is that there are microbes that live in the extreme environments outdoors - in very cold temperatures or very hot temperatures - that could live indoors because our homes reproduce the extremes of the outdoors through things like the freezer and the hot water heater. So can you elaborate on that a little bit?

DUNN: Certainly. So if you look at a traditional home from a couple of hundred years ago, it would have been relatively open to the outdoor environment, and the conditions in it would have been very much like the conditions outdoors. But in our modern, complex homes, we've built a whole bunch of little structures in the home that replicate really extreme environments from elsewhere

on Earth. You know, our freezers are kind of like the Arctic. Our ovens are like really, really hot deserts. And so when we do that, we're creating habitat for species that like those conditions.

REPORTER: Last year, you were in Iceland filming a documentary near a geyser. People studying the microbes of hot water taps and heaters in homes found similar microbes to the ones in this geyser. So what are they, and what are they doing in our homes?

DUNN: These are really amazing microbes and their environment has to be really hot, close to boiling temperature of water, to grow. And then, if you go to houses, hot water heaters are full of them, too. And they live in that superhot water and they love it. They pour on to you when you take a shower. And they're fascinating little bugs.

REPORTER: Are they harmful to us?

DUNN: No, they're not harmful in any way.

REPORTER: Another study that's been done is on the bacteria in **showerheads**. Can you assure us that it's OK to take a shower, please?

DUNN: It's OK to take a shower. It's far less risky than shaking hands with your neighbour.

REPORTER: Should we stop doing that?

DUNN: No, you should do that, too. We live in a world that's full of life, and we're always making decisions about how to avoid the very most dangerous things while still keeping contact with the rest of life. And, you know, I think we just have to acknowledge that we're surrounded by life.

REPORTER: A lot of people now use antibacterial soaps and hand sanitizers. Having studied all these microbes, what are they doing to the microecology of our homes?

DUNN: Well - so first of all, we know that soap and water - good old-fashioned soap and water - works great to kill pathogens that show up on your hands because you shook somebody's hand who was sick or, you know, after you go to the bathroom. And soap and water saves millions and millions of lives a year. Antibacterial soaps don't work any better than good old-fashioned soaps. We get scared by the idea that there's life around us. We try to kill all of it, and in doing so, we're more likely to make ourselves sick.

REPORTER: Heat and air conditioning systems, which are **moist**, can **breed** a lot of stuff. What are some of the surprises that you and other scientists have found growing in heat and air conditioning systems?

DUNN: Well, we often work with dust. If you have a heat and air conditioning system, there's a set of microbes that those systems seem to favour. And they're not species we know much about, but we know that we can predictably find them in houses that use their heat and air conditioning system a lot.

REPORTER: You know how a lot of people take probiotics so that you create in yourself a good bacterial environment instead of an imbalance? Do you think someday there's going to be something similar to that for homes, something that will allow us to create a good microbial ecology in our homes?

DUNN: Yeah, I hope so. It's not there now. But I look forward to a time when we can essentially garden our homes, fill them with species that benefit us and push out the species that don't.

REPORTER: Well, Rob Dunn, thank you so much for talking with us.

DUNN: Oh, it's been an absolute pleasure. Thank you so much.

Adapted from
https://www.npr.org/sections/health-shots/2018/11/12/666933600/counting-the-bugs-and-bacteria-youre-never-home-alone-and-thats-ok
[November 12, 2018]

1. Different species
❒ move across houses hundreds of thousands of times.
❒ **live in different habitats in our homes.**
❒ study every building alive.
❒ include little different habitats.

2. Professor Dunn
❒ **began his career studying rainforests.**
❒ started off his career studying homes in rainforests.
❒ began his career discovering jungles in Bolivia, Ghana and Australia.
❒ started off his career finding homes in jungles.

3. Which of these sentences is NOT true?
❒ Traditional home conditions were similar to the conditions outdoors.
❒ Freezers and ovens in modern homes replicate extreme environment conditions.
❒ **Some little structures in traditional homes create really extreme habitats for species.**
❒ In modern homes, some structures duplicate extreme environments.

4. Some microbes
❒ **live in hot water heaters.**
❒ are similar to hot water taps and boilers.
❒ grow on people when taking a hot shower.
❒ harm people when taking a hot shower.

5. According to Professor Dunn,
❒ taking a shower is more risky than shaking hands.
❒ people should stop shaking hands.
❒ the world is full of dangerous things.
❒ **life surrounds us.**

6. Which of these sentences is TRUE?
❒ Antibacterial soaps and hand sanitizers are not used by a lot of people.
❒ Antibacterial soaps work much better than soap and water.
❒ Soap and water does not save millions of lives.
❒ **Soap and water destroy pathogens on our hands.**

7. Heat and air conditioning systems
❒ seem to work with microbes that favour dust.
❒ grow species we know much about.
❒ **can breed lots of microbes.**
❒ can predictably find a set of microbes.

8. Professor Dunn looks forward …
❒ **to creating homes with species that benefit us.**
❒ to having houses with gardens to our benefit.
❒ to pushing out species that benefit us from our gardens.
❒ to filling homes with gardens that benefit us.

Reading Comprehension

1. In order to avoid environmental damage
- ❒ **people should eat less meat.**
- ❒ people need to eat more fish.
- ❒ people should eat more meat and dairy.
- ❒ vegan diets need to be adopted.

2. In a few decades, the world population
- ❒ will increase to 2.3 billion people.
- ❒ will increase by 70%.
- ❒ **will increase to 10 billion people.**
- ❒ will not change.

3. If global warming is kept under 1.5ºC
- ❒ traditional farming areas will experience major floods.
- ❒ the risk of drought, floods and extreme heat will increase.
- ❒ we will have a dozen years of continuous drought, floods and extreme heat.
- ❒ **we will reduce the risk of drought, floods and extreme heat.**

4. The report states that dietary habits and changes in farming should be accompanied by
- ❒ more emissions from livestock.
- ❒ less impact on beef production.
- ❒ **a decrease in food loss and waste.**
- ❒ a global increase in meat consumption.

5. A flexitarian diet implies
- ❒ eating mainly raw vegetables.
- ❒ eating no meat from farms.
- ❒ eating more meat and less legumes.
- ❒ **eating more beans and peas and less meat.**

6. In order to be effective against climate breakdown, dietary changes
- ❒ should be applied equally across the world's population.
- ❒ **should be applied more strictly in developed countries.**
- ❒ are unnecessary in developing countries.
- ❒ should not be applied in the US or UK.

7. What does the report recommend to reduce people's consumption of meat?
- ❒ Adopting traditional European farming practices everywhere.
- ❒ Using more fertilisers in developing countries.
- ❒ **Changing menus served to children in schools.**
- ❒ Clearing forests to increase the land available for agriculture.

8. Which of the following statements is NOT TRUE?
- ❒ The Earth's resources are limited.
- ❒ The current food system does not enable future generations to have a sustainable planet.
- ❒ **Technology will help us to continue with food production as we know it now.**
- ❒ The current food system has a damaging impact on our climate.