

Not for students. For teachers only.

**ONE COPY! (ОДНА КОПИЯ)**

**11 GRADE**

**I TOUR**

**LISTENING**

**Tape script**

**(A teacher reads the text TWICE in case of technical gap)**

**Task 1.**

**You will hear a radio programme about Biomimicry, the science of copying nature in order to create new technologies. For questions 1-9, complete the spaces with a word or a short phrase. You can listen to the audio twice. Eg.: 0 - nature**

Architecture, chemical processes, material sciences – all these faculties are beginning to be touched by ideas which are inspired by nature. Where in, the past, man's inventions have been considered all-powerful, engineers are now turning to nature, over the last 3.8 billion years, has developed a wealth of successful innovations. So, over the last decade there has been a new wave of scientific interest in Biomimicry, measures which emulate nature's genius. And we are not restricted to copying the structures found in nature. We can also imitate its processes and its systems.

One of the most famous products inspired by nature is the sticky fastening, Velcro, invented in 1941 by the Swiss engineer George de Mestral, who noticed how the seed heads of burdock got tangled in his clothes and his dog's coat. Meanwhile, engineers at the Centre of Biomimetics at Reading University, have developed a material based on the properties of wood. One of the reasons why wood is so useful to us is that its ability hold nails when they are driven into it. This property is down to the structure of hollow cells, and fibres which hold the nail in place. The new material uses equivalent fibres made of glass fibres, and resin to hold everything in place. The result is a material with the same geometric arrangement as wood, but which has none of the disadvantages of wood – that it changes shape according to moisture levels and temperature. The substitute wood has been developed for the post office. They wanted a container which could contain threatening packages, directing the blast safely and holding any explosive fragments.

But the second realm of Biomimetic is imitating not the just physical form of natural substances, but also the processes that take place in nature. A perfect example of this is the Sahara Forest Project, which has utilised a process used by the Namibian Fog Basking Beetle. This beetle is able to live in very harsh, desert conditions using its ability to harvest moisture from the air. The beetle comes out into the desert only at night and, due to its black shell, is able to maintain a temperature cooler than that of its surroundings. The moist breeze blows in from the sea, and droplets of water condense on the beetle's shell. At sunrise, the beetle lifts its shell, drinks and returns to its hole. What is even more interesting is that the beetle has hydrophilic bumps on its shell which attract water, separated by a waxy finish which repels water. Consequently, the water gathers in tight, spherical droplets, so that hardly any water is wasted. The Sahara Forest Project uses a process which is, in effect, identical to that of the beetle. Seawater evaporates from the front wall of the greenhouse to create ideal cool growing conditions, and condenses to form fresh water on the downwind side of the greenhouse.

However, just mimicking the structure and processes in nature is not enough, if, in doing so, we create tonnes of waste. Human designs are linear. We take resources from the earth, use what we need, and the rest goes to waste. But in the natural world, systems are cyclical. Waste from one organism goes on to become nutrients for another. One scheme which has taken advantage of nature's cyclical design is 'the Able Project' based in Wakefield, Yorkshire. Here, everything is recycled and reintegrated into the system. Consequently the project is able to turn cardboard into caviar. The cardboard is used as animal bedding, and is then composted using vermiculture. The worms are then used to feed fish. Excrement from the fish is collected and recycled into the system.

The age of Biometry is still in its infancy. The novel and yet proven ideas which are inspired by nature are attractive to industries. But we need to be careful. As we lose more animal habitats to development, extinction rates are increasing. And with this we lose the wisdom and ideas embodied in these species. Already, we've seen the loss of the Gastric Brooding Frog, an animal able to turn off its production of stomach acid. Had we been able to study this animal before its demise, we could have found a way to alleviate the problems experienced by many sufferers of excess stomach acid.

## **Task 2.**

**You will hear a radio interview with the comedian Brian Conley, who does a considerable amount of work in panto, a type of family-friendly show which is popular at Christmas. For questions 1-5, choose the answer which fits best according to what you hear. You can listen to the audio twice. Eg.: 0 – a**

**Radio interviewer:** I'm backstage at the Birmingham Hippodrome with the comedian Brian Conley. Hello Brian. Nice to see you again.

**Brian:** Nice to see you too.

**Radio interviewer:** Birmingham's done well for you over the years, hasn't it?

**Brian:** It certainly has. It's paid my mortgage, definitely. I mean, it's not far from where I live, it's just up the motorway, and I love this theatre. I've got some great memories of here. Back in the 90s, especially, when I was doing panto with Britt Eckland, that was a really good time.

**Radio interviewer:** You mention panto, which has, of course an element of audience participation and rowdiness. How do you cope with that? Is it something that's difficult for you?

**Brian:** It is difficult, especially with the kids, you never know what they're going to come up with. But I'm up for that. Some theatres don't like the kids to come up on stage any more, they just finish with a musical number and that's it, but I think that's a shame, especially now I've got kids of my own. What a lot of theatres do now is get the parents to come down and stand in the aisles, and if there's a rowdy kid, we bring the parent up, and that puts the onus on the parent to keep the kid in check. But I like all that participation. It's what gives it energy and makes it live.

**Radio interviewer:** You do a range of different shows though, don't you?

**Brian:** Yes, I do musical theatre and corporate work as well as panto, but panto's the best. It plays to my strengths, you know. I like the fact that it's got everything, singing, dancing, comedy, and if there's something in the papers that day, I can pick up on it and put it in the show. And that's something that only I can do, as the comedy character. The other characters in the show can't diverge from the script so much. But I can ad lib. It's great. When I work in musical theatre, I can't do that. I have to stick to the script.

**Radio Interviewer:** So where did it all begin, this comedy career? When was your first time on stage?

**Brian:** The first time I was on stage was when I was two. I was at this holiday camp and my mum and dad lost me in the dance hall. Then they heard loads of people laughing and they saw me up on stage making a fool of myself. That was it after that. I was hooked. But what has also driven me is the fact that I was dyslexic. I found it difficult to keep up at school, because my writing was bad, so I naturally became the class clown, the school joker. But I was always a good singer, and singing was always my first love. Comedy came later. When I started doing clubs when I was 17, I found that you get paid more for doing comedy than you do for singing.

**Radio Interviewer:** And you still do comedy now.

**Brian:** Yeah, I do. Most of the comedy I do now is actually corporate work. You know, these big work events, where there's free food and drink. It's very lucrative, but it's a tough crowd. They've got a load of free alcohol and they get boozed up. There's a big demand for it these days, but a lot of famous comedians can't do it. I've learnt how to handle it over the years, and I've got an answer for every situation now. I had to fall into it really, it pays the mortgage.

**Radio Interviewer:** And you still get nerves?

**Brian:** A guy once said to me that it doesn't get any easier. I dismissed that. I used to reckon that as I got older and more experienced I'd be more relaxed and I wouldn't get so nervous. But I realise that he was right. I want to do well, and that affects how you feel before the performance.

**Radio Interviewer:** Brian Conley, thank you very much.

