Audiodeel

(Eerste gedeelte)

1 The claim that listening to Mozart makes you more intelligent led to
- **A** conclusions that turned out to be scientifically invalid.
- **B** a new appreciation of the benefits of classical music.
- **C** over-excited reactions among people concerned with children.

2 In his research Dr Alfred Tomatis looked upon music as
- **A** a means of diagnosing mental disorders.
- **B** a non-verbal way of communication.
- **C** a sequence of sounds affecting the brain.

3 What is the idea behind filtering out sounds of a certain frequency from Mozart's music?
- **A** Some frequencies are more easily processed by the brain than others.
- **B** Reducing the music's complexity makes it easier to appreciate.
- **C** Offering a limited sound spectrum makes it easier to concentrate.

4 The positive effect of Mozart's music on special needs children
- **A** only became apparent after some time.
- **B** was discovered quite accidentally.
- **C** confirmed earlier research findings.

5 Research carried out by the University of Reading led to the conclusion that
- **A** exposure to music causes significant physiological changes.
- **B** appreciation of music is related to physiological characteristics.
- **C** listening to music increases the capacity to absorb new information.

6 In Oliver Sack's experience music can help Parkinson patients to
- **A** recover their ability to speak.
- **B** overcome their difficulty in moving.
- **C** restore their sense of balance.

7 What does Oliver Sacks say here about music?
- **A** It may stimulate the recovery from brain damage.
- **B** It may provide a framework of time and space.
- **C** It may support deficient parts of the brain.

8 What is said here about Mozart as a child?
- **A** His exceptional talents went hand in hand with a problematic childhood.
- **B** He compensated for his physical weakness by developing his mind.
- **C** He had to overcome serious problems before his talents were recognized.

9 Which problem may gifted children be confronted with?

A A difficult relationship with children their own age.
B An imbalance in the process of growing up.
C A tendency to overrate their own capacities.

10 What does Peter Davies say here about Mozart and his music?

A Writing music had a therapeutic effect on Mozart's mind.
B Mozart's mental condition is clearly reflected in his music.
C In stressful conditions Mozart's creativity was at its best.

11 The debate Don Campbell mentions concerns

A the emotional rather than the physical effects of classical music.
B the way Mozart's music can improve our intellectual capacities.
C the scientific research into the effects of classical music.

(Tweede gedeelte)

12 Why is Peter Cochran not very fond of books anymore?

A The production of books is far too costly and complicated a process.
B Books have lost their capacity of presenting information effectively.
C Books cannot keep up with developments in his field of interest.

13 According to Stewart Brand technological perfection of the e-book will lead to

A an enormous increase in the bulk of publishing.
B widespread acceptance of the e-book as a valuable medium.
C a new appreciation of the book in its traditional form.

14 What often happens to old media when new media appear?

A They become outdated after a while.
B They find a new role of their own.
C They are temporarily revitalized.

15 How does Martin Eberhard look upon his version of the e-book?

A As a technological breakthrough in transferring information.
B As a practical alternative for paper books.
C As the final answer to the book as we know it.

16 How did publishers react when the e-book first appeared?

A They ignored it for as long as they could.
B They welcomed it as a means of increasing their public.
C They devised a new exclusive publishing medium.

17 What is said here about new media?

A They may become useless sooner than old, more primitive media.
B They are only accessible to a sophisticated, well-trained audience.
C They are subject to technical failure, more so than media of the past.

Einde van het audiodeel

3 Correctiesleutels van de kijk- en luistertoets Engels vwo 2007

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2 C	2 C	2 A	2 C	2 B	2 C
3 C	3 B	3 A	3 A	3 B	3 A
4 B	4 B	4 C	4 C	4 C	4 A
5 A	5 C	5 A	5 A	5 B	5 C
6 B	6 B	6 A	6 C	6 B	6 C
7 C	7 B	7 A	7 A	7 B	7 B
8 A	8 B	8 A	8 A	8 A	8 C
9 B	9 C	9 C	9 B	9 A	9 A
10 B	10 A	10 B	10 C	10 C	10 A
11 C	11 C	11 B	11 A	11 C	11 B
12 C	12 A	12 C	12 B	12 B	12 C
13 C	13 B	13 B	13 B	13 C	13 B
14 B	14 A	14 B	14 B	14 B	14 B
15 B	15 C	15 A	15 A	15 A	15 B
16 C	16 A	16 A	16 A	16 B	16 B
17 A		17 B		17 B	

5 Volledige tekst van de kijk- en luistertoets Engels vwo 2007

Audiodeel

(Eerste gedeelte: The Mozart Effect)

Intro
Presenter: In 1993 researchers in the United States discovered that students who listened to ten minutes of Mozart's *Sonata for Two Pianos in D* significantly increased their IQ scores. Now on BBC radio 4 Paul Robertson, the leader of the Medici String Quartet explores the Mozart effect.

1 Paul Robertson: So this is it. This is the music which makes you brainy. Stick with us for just ten minutes and it will change your life. Well, that's what the media would have us believe when they invented the term 'Mozart effect'. It sent the world into a spin. Shops sold out of this recording. The State of Georgia called for a hundred and five thousand dollars to be set aside so that every mother could receive a free classical music tape, and parents all over the UK jumped at the chance to get their children ahead of the school pack. Mozart had apparently emerged from more than two hundred years of benign obscurity to become the greatest influence on health and education the world has ever known.

2 Paul Robertson: One of the world's foremost advocates of the music and healing connection is Don Campbell.

Don Campbell: I became aware of Mozart and his effect on learning and communication around 1982, when I met Dr Alfred Tomatis, and he had spent many years starting research with Mozart, with Beethoven, with Gregorian chant and with many different kinds of music to see if playing music to children with autism and dyslexia and different kinds of speech and communication disorders made any difference. He began to look at the anatomy of music and sound on what interests the brain.

Paul Robertson: But am I right in thinking that Alfred Tomatis's work doesn't largely or exclusively rely upon merely listening to music but it's listening to music in a very special and filtered way?

Don Campbell: Exactly. And if anything, he says, the Mozart violin concertos are the healthiest music in the world.

3 Paul Robertson: The late Alfred Tomatis's principles are practised worldwide to treat a range of problems such as attention deficit disorder, dyslexia and autism. But the question remains why did *he* choose Mozart? Alex Smith runs the Listening Centre in Lewes, Sussex.

Alex Smith: We actually filter out frequencies right up to 9000, so we filter out everything below 9000 Hertz. Hearing is a passive concept, listening is active and if we can't focus our listening as we focus our eyesight, we're prey to all the sounds. So if you can't focus your listening you can't focus specifically on a point and you can't focus out extraneous sounds. So kids with attention deficit disorder, all the sounds just flood into them and they can't cut it out. What this does is retrain the ear to so it can listen properly and if you can focus out what you don't want to hear.

4 Paul Robertson: The Tomatis method is a highly specific form of therapy. At the opposite extreme is a study in Aberdare boys' school in South Wales. Anne Savan teaches science to special needs children with problems ranging from visual and audio impairments to autism, Asperger syndrome and epilepsy. What all these children have in common is a lack of coordination. So when she was faced with a particularly large intake of thirteen children she tried playing background music to calm them. This she did for an initial period of five months, and it was pure luck that the tape, which came to hand, was Mozart.

Anne Savan: I found immediately that the children changed. They became focused. They were calm, their work became neater, their work became more productive. They wanted to complete each task.

5 Anne Savan: At the end of five months I contacted the University of Reading and we set up a research programme where we would use these children and actually measure physiological parameters in them, to see if there was any difference when the music was being played. And they taught them how to measure their own blood pressure and their body temperature and their respiration rate and their pulse rate, and we made a pupil profile. And they would actually take these measurements at the start of the lesson, twenty minutes into the lesson and then one hour after they had left the lesson. We actually found that there was approximately a ten-percent drop in all of the physiological parameters within twenty minutes of the lesson when there was music playing.
Now, I stuck to Mozart because that was the one that was actually having the effect.

6 Paul Robertson: The neurologist Dr Oliver Sacks talks of listening to Mendelssohn's violin concerto whilst recovering from a debilitating injury. He is a powerful advocate for the healing properties of music.

Oliver Sacks: The first example of this I saw was with some of my Parkinsonian patients. And in Parkinsonism the usual flow of movement is impeded or irregular, so that people are stuck or stuttering. Parkinsonism is sometimes called a kinetic stutter and one can see very remarkably how people unable to take a step can dance fluently, how people unable to utter a syllable can sing fluently and in a way music seems to give them the flow and also the sense of time which, which they lack.

7 Robertson: Is it possible to postulate what might be happening and which areas of the brain are processing information in such a way that this happens?

Oliver Sacks: Er, well, one could certainly make a guess that the basal ganglia are involved here, these deep nuclei to both sides in the centre of the brain. One knows that this is the part of the brain, which is damaged in people who have Parkinson's, and the basal ganglia have been called the organs of succession. Their integrity seems to be necessary to have a smooth succession of movement or perceptions or thoughts. And it's almost as if music is providing a sort of prosthesis for the damaged basal ganglia, a sort of substitute for them.

8 Paul Robertson: Mozart was arguably the most precociously gifted child there's ever been. This is a reason why the 1993 researchers Shaw and Rauscher chose him for their study. The fact that he was composing at the age of four and could write down an entire work without changing a note made his music the prime candidate for their research. In other words, the boy was functioning neurologically at such a high level that this must show through his music. Child development and education specialists today recognize that such a perfect mind comes with its own problems. His father, Leopold, was a dominant character and Mozart's health, behaviour and education would nowadays certainly ring alarm bells.
I wonder whether his way of coping with these problems tells us anything about the therapeutic qualities of his music.

13 Douglas Adams: One of the objections to e-books of course is that people don't like reading off computer screens. That's not surprising. Books are usually printed at six hundred or twelve hundred or even twenty-four hundred dots per inch whereas a computer screen only gives you a resolution of seventy-two or ninety-six dots per inch. It's not comfortable to read. But that's just technology. It doesn't work yet, but it will. Stewart Brand.

Stewart Brand: As soon as we get anything like electronic paper, or there is a really pleasant surface to read electronic text on, it really is very quickly a, a new game. But at the same time, I think, people ... as these technologies rapidly move along, a lot people don't want to bother with keeping up. It's too much of a nuisance. And so two things happen. One: they stick with what they know, which would be bound books, and the other thing is, they become, er, more in love with bound books than ever.

14 Douglas Adams: It's important to remember that the relationship between different media tends to be complementary. When new media arrive they don't necessarily replace or eradicate previous types. Though we should perhaps observe a half second silence for the eight track ... There! That's done. What usually happens is that older media have to shuffle about a bit to make space for the new one and its particular advantages. Radio did not kill books and television did not kill radio or movies. What television did kill was cinema newsreel. TV does it much better 'cause it can deliver it instantly. Who wants last week's news? Let's look at my bookshelf. Now, here's some PG Woodhouse, some Jane Austen. Well, I want those for life. Prime candidates for good paper and strong bindings. And next to it is a manual for a laser printer. Complete waste of shelf space! Put it on the web, update it when necessary, but otherwise don't bother me with it.

15 Douglas Adams: Here's Martin Eberhard, who has created a device called the rocket book.

Martin Eberhard: The book is in electronic form and delivered electronically, but you're not reading it on your computer screen, you're reading it in an a hand-held device that's made for reading. The rocket book, for example, today is the size of a paperback book. It holds about two hundred books at a time, allows you to download books electronically over the Internet in a, in a matter of minutes and a battery life that's suited for reading twenty hours on a charge, the backlight allows you to read in any lighting conditions that you can set, the print size whatever you like, and mainly it's a, it's very easy to use. You don't need to use the owner's manual ever. You turn it on and you read the book. I love the feel of an ordinary book in the right circumstances but it's not exactly pleasant to read a stack of ten books on the airplane with you, and I don't think that the mass-market paperback is really designed to give you that pleasurable feeling.

16 Douglas Adams: E-books will work if they're not only convenient to read, but easy to use and integrated into everything else we're doing. It would be a nightmare if for reasons which had nothing to do with technology, program makers compelled you to buy their device to listen to their programs. Peter Kumik of Sealed Media thinks this may be what publishers have been trying to do.

Peter Kumik: In the early days, and I think this is, this is rapidly changing, erm, but in the early days their initial reaction was, 'We can't maintain control on the Internet, so therefore we're going to have to think of another ki-, kind of device, that we can actually sell on, er, er, a physical device that we can actually sell, that allows us to maintain our interest and maintain copyright control. Many people have access to the Internet, many people have PCs, not many people have e-books. So therefore, if you launch a new book, er, your potential audience for that book is very, very limited if you launch on e-book, it's massive if you launch so-, launch on a PC.

17 Douglas Adams: Generally, old media don't die. They just have to grow old gracefully. Guess what, we still have stonemasons. They haven't been the primary purveyors of the written word for a while now, of course, but they still have a role because you wouldn't want a TV-screen on your headstone, and the work of the stonemason persists for centuries, while many of the old Technicolor films, for instance, are rotting away or exploding. Which brings us onto another issue. Maybe it's new media that die.

Stewart Brand: I think one of the most deeply, unsolved problems is preserving digital material. Because once it's digital, er, it's readable in the current formats. Those formats move on typically every five or ten years now and you can't read once it's moved on. So in that sense you may want to have printed copies of your books just to be sure they're around in twenty years ...

Einde van het audiodeel

Audiodeel

(Eerste gedeelte)

1 **A** a form of criticism
B a form of aggression

2 **A** unique
B significant

3 **A** This is the music we want to rap over.
B This music is just as good as rap.

4 **A** the most popular form
B the ultimate you can get

5 **A** is based on a philosophy
B can be said to have a pure form

6 **A** original
B similar

7 **A** accept its impurity
B return to its roots

8 **A** quite amazing
B very urgent

9 **A** something different
B no exception

10 **A** indifferent to its effects
B concerned about its nature

11 **A** offer a kind of release
B be a subversive influence

(Tweede gedeelte)

12 What does Richard Honingham say about the eco-system in the Antarctic?

A The underwater system is surprisingly rich.
B It is rich and varied due to the inaccessibility of the place.
C It may seem rather poor but it is of great scientific interest.

13 Living organisms in the Antarctic seas

A are bound to suffer from global warming.
B give a reliable record of temperature fluctuations.
C can thrive at low temperatures, using little energy.

14 What is the experiment that is described about?

A Looking for an explanation of changes in the eco-system.
B Carrying out research into the vitality of sea organisms.
C Studying newly discovered organisms on the sea bed.

15 Which phenomenon is described here?

A Icebergs falling apart.
B Icebergs running aground.
C Icebergs melting down.

16 Which question will the experiment hopefully answer?

A What measures could be taken to protect the eco-system of the South Pole?
B Will exploitation of the South Pole's natural resources be worthwhile?
C How will the eco-system at the South Pole react to human interference?

17 The high concentration of oxygen in Antarctic waters makes for

A favourable conditions for animals.
B a good cold resistance of animals.
C high energy reserves in animals.

(Derde gedeelte)

18 Laughter is a demonstration of the fact that people

A feel uncertain about themselves.
B are without reservations.
C have respect for each other.

19 Which function does laughter have in the example given by Robert Provine?

A It reflects the roles people adopt towards each other.
B It is a means of gaining control over a situation.
C It is a way of making yourself attractive to someone else.

20 From an evolutionary point of view laughter is

A an early form of speech.
B a form of controlling your breath.
C breathing under physical strain.

21 Why was walking upright important for the development of human speech?

A It increased the capacity of the lungs.
B It made for the development of a speech centre in the brain.
C It took the strain off the upper part of the body.

Einde van het audiodeel

3 Correctiesleutels van de kijk- en luistertoets Engels vwo 2006

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11 A	11 A	11 B	11 C	11 B	11 C
12 A	12 C	12 C	12 C	12 A	12 B
13 C	13 B	13 C	13 B	13 C	13 A
14 B	14 C	14 C	14 B	14 B	14 C
15 C	15 B	15 B	15 C	15 B	15 A
16 C	16 C	16 A	16 B	16 C	16 A
17 A	17 A	17 C	17 B	17 A	17 C
18 A	18 C	18 B	18 C	18 B	18 B
19 B	19 C	19 B	19 A	19 A	19 B
20 A		20 B		20 C	
21 B		21 C		21 C	

5 Volledige tekst van de kijk- en luistertoets Engels vwo 2006

Audiodeel

(Eerste gedeelte)

(rap muziek)
Intro
LaurieTaylor: An example of hip hop, or more specifically, rap music from Outcast, a musical genre that can hardly have escaped anyone's attention. But what are the origins of hip hop and rap? How does it differ from such other popular musical forms as rock, blues, R&B and punk? How radical and revolutionary is its message?
Well, to get an answer to at least some of these questions, I recently spoke to Andy Bennett, who's is a lecturer in sociology at the University of Surrey. Andy has followed rap around the world. He's recently finished research on how this music has been reworked and made local in two very contrasting cities: Frankfurt on Main, in Germany, and Newcastle-upon-Tyne. Andy was joined by another expert on hip hop and rap, the cultural critic and author Kodjo Eshun.

1 LaurieTaylor: I began by asking Kodjo to talk about what appears to me to be the essence of rap: the sound of the energetic put-down.

Kodjo Eshun: Hip hop puts intelligence at the service of the insult. That means there's an elaborate attention paid to a kind of verbal violence, to a kind of theatre of violence. And hip hop does this because, frankly, at the age you get into hip hop, you feel an outsider, you feel that you don't owe much to society as it functions and you want to be noticed. Erm, hip hop is above all (----------)

2 LaurieTaylor: What you've done, er, Andy, is, you've looked at the universality of hip hop and rap, discovering it in places as far-spread as, you know, France, New Zealand, Sweden, Japan –

Andy Bennett: Hmhm.

LaurieTaylor: – and not satisfied with just noticing this, this universalism, you've gone out and looked at the ways in which it's been reworked, er, the way in which it's been made local. Because you want to say the fact that if I go to Hamburg next week, or I, you know, turn up next week, er, in, in, in Rome, and I hear this, it's not like buying a Macdonald's hamburger. This isn't a straight case of stuff being exported –

Andy Bennett: Hmhm.

LaurieTaylor: – and then being bought: it's turned into something which is (----------)

3 Andy Bennett: The, the work that I did in Germany was a, pretty much a, a personal exploration for me as well because I went over there with very much a rock musician's knowledge of music and how music works, and I was immediately confronted with young Turkish and Moroccan kids from Gastarbeiter families who were coming up to me and saying, 'Well, can we do some rap music?' And they'd be bringing along sort of tapes and cds of traditional musics that they've got from their parents, that they were listening to at home, and saying, (----------)

4 Laurie Taylor: But what language would they be rapping in?

Andy Bennett: It was a mixture of, of the sort of home language, Turkish. Some of it was in German – it just depended, really.
I think that is the beauty of rap, really, because it does allow you to sort of thread a value through music in a way that very few musics would allow you to do that. You can personalize it to that degree. And I think that's very much – when I talk about music being reworked – that is (----------)

5 Laurie Taylor: But Kodjo, how much do you –

Kodjo Eshun: Yeah.

Laurie Taylor: – er, do you, do you carry around with you a notion of that which is authentic, or, I mean, if you were listening to some of this sort of Turkish rap in Germany, would you be prepared to say, well this is ... the word authentic doesn't have any meaning here, there is something about the nature of rap which precludes the use of the word authentic?

Kodjo Eshun: I think so. I don't think hip hop (----------)

6 Kodjo Eshun: I think what's compelling, as Andy shows in his work, is that hip hop provides a space for confrontation and antagonism and dissent. And that dissent can be ... put forward in a resp-, socially responsible way or it can be put forward in the most socially irresponsible, socially confrontational, socially aggressive ... absolutely anti-social way. No matter what the language is, the concerns are remarkably (----------)

7 Laurie Taylor: Is there a sense, Kodjo, in which when you hear about this, you feel that these are in a way bastardised forms, that this is not the full thing? This is half power rap?

Kodjo Eshun: I'd agree with you if it wasn't for the fact that hip hop was a bastard to begin with. Remember hip hop is part Jamaican, part African American. The original pioneers of hip hop brought sound-system culture over from Kingston. So, to me hip hop initially is part Jamaican, part latino, part African American. So, it's a bastard from its inception. And in order to be truthful to hip hop, you actually have to (----------)

8 Kodjo Eshun: How can music which h- ... has such a harsh message yet be in the bosom of the kind of American recording industry, vertically integrated into films on one t-, on one hand, music videos on the other hand and advertising, on a third hand. How can that be? How can we have that situation? That's kind of what we have to answer. And that *is* (----------)

9 Andy Bennett: The problem with music, I think, is that people have short memories, but if you look back at, er, rock&roll, if you look back at punk, all the same sorts of problems were there. It was seen to create particular kinds of social malady, which were probably actually inherent in the social fabric anyway. It's just that the people who, or some of the people who were involved in that music were also involved in forms of crime. And unfortunately, everything gets tarred with the same brush.
I think hip hop is (----------)

10 Laurie Taylor: But, I must say when I first began to read – whether it was politicians or whatever saying, 'Well, we've got to go and look at these rap lyrics, we've got to stop them, something's got to be done about them,' all my sociological background, which remembered the way in which the music hall and the talkies and rock&roll and everything, right, was regarded as having some causal effect upon delinquent behaviour, I suddenly thought, oh, here we go again! Here we go again. But then, listening a little bit to you Kodjo, when you're, when you're talking about there having been no popular cultural form which is quite so insistently and self-consciously been about violence, or in some cases almost be seen to be promoting violence, maybe one shouldn't be quite so (----------)

11 If you believe that popular music can inspire and elevate, then you can also believe that popular music can harm and can degrade, and undoubtedly it can. If you accept one then you accept the other. I'd say that hip hop's social resp-, irresponsibility really takes effect when it's heard by people who have no stake in society. So, when it's heard by young white middle-class kids who are comfortably off, then that, it's, it's, then it's engaged as, erm, it's felt as tourism, as enjoyment, as excitement. If it's heard by people who have no stake or no place in society as it functions, then hip hop can (----------)

Slot
LaurieTaylor: I was talking there to, er, Andy Bennett and to Kodjo Eshun.

(Tweede gedeelte)

Intro
Visit the British Antarctic Survey's headquarters in Cambridge and in chilly rooms containing large tanks of near freezing water you can find fish, crustaceans, molluscs and all sorts of marine life harvested from the southern ocean. Richard Honingham has done better than go to Cambridge. He's been to Antarctica itself. Here's his report on what scientists are finding out about survival at the edge of existence.

12 Richard Homingham: This is Rider Bay, just off Rothera Point on the Antarctic Peninsula. The British Antarctic Survey has its largest base here just behind me. In front beyond the small dirt runway is the sea, packed with icebergs: some great slabs others just small lumps around the size of a fist. Ice cliffs surround the water rising up to the peaks of mountain ridges, a few tips of dark rock protruding above the snow. On the face of it this is certainly an extreme hostile environment. But take a look under water and the story is very different. There's a complex eco-system of everything from microscopic single-celled animals to sea spiders, limpets and large fish – although they're all slightly different to anything else in the world.

13 Loyd Pack is head of a new research program to study life at extremes.

Loyd Pack: They have very, very low costs of staying alive, so their metabolic rates, the, their rate of consuming oxygen, their respiration rates are very, very low. Their abilities to survive low food supplies are extreme and extended. They also grow very, very slowly. They live a long, long time. Many of them living in excess of fifty years. They can survive with very little food, they also have very limited abilities to survive raised temperatures and they die usually at around plus five degrees. So for them a comfortable temperature is round about zero and it gets much, much too hot and uncomfortable when you get to refrigerator temperatures.

14 *Briefing: If I can just run through the, the two-part brief. Er, Jenny's our, er, diving supervisor for the, for the dive. I just want to run through the overall plan really. Er, it's two boats out to deploy, er, Dave's sediment plates on anchorage –*

Richard Homingham: In the dive – briefing room scientists are preparing for an ambitious experiment. They're planning to drop concrete blocks down to the seabed each one covered with a perspex sheet. The idea is to monitor them to see how long it takes before they're covered in life. Dave Bowden is trying to find out how the animal communities here establish themselves when so much is against them.

15 Dave Bowden: We've got very large bergs, small bergs, little bits of ice floating. This is grinding against the seabed, all the time: the big bergs are coming in and they just, there's that much momentum behind a large berg, it just needs to touch the seabed and everything underneath it is dead. So thi-, this is happening all the time in these waters. We've got massive physical disturbance – very frequently in shallow waters, less frequently as you get deeper

16 The divers are on their way, the semi-inflatable boats being navigated through the ice, pushing the bergs apart. In one boat the two divers, Dave Bowden and Paul Rose. There's also someone to oversee the dive, a coxswain and a scientist who will guide the ropes. In the other me and eight large concrete blocks. Dave assured me the effort was worthwhile.

Dave Bowden: It'll give us a, a, a very good idea of the possible consequences of any disturbance down here, any development: if we get fisheries developing down here or if, say drilling were allowed or mining of any sort. We, we'd actually have a good idea of how long it's going to take for the seabed to recover.

17 Richard Homingham: whilst the divers struggle with heavy gear, the fish around them have it easy. Loyd Pack says it's all down to physics.

Loyd Pack: As you get colder, you can get more oxygen into the water because the solubility of the oxygen goes up as the temperature goes down. So, if you look at Antarctic water, that's the water in the seas around the Antarctic, it holds about two-and-a-half times as much oxygen as water in the tropics. As well as that because the, the blood of the animals living in those environments is at the same temperature as the water outside, the solubility of the blood is much higher than the solubility is in the tropics.
So, if you like, there's more oxygen available and the animal's ability to carry oxygen around the body is enhanced so the animals can get much, much bigger.

(Derde gedeelte)

18 Laughter is something that we do to communicate a playful eh feeling, when we're in the presence of others. Laughter is not consciously controlled. Most people will tell you they can't laugh on command and that's a very important observation. Laughter simply happens in certain situations.

The fact that we can't laugh on command has been part of the speculation by previous psychologists about laughter being some kind of communication of sincerity, or truth, the fact that when you laugh because you can't control it, you are actually in a sense communicating genuine relaxation or trust in a relationship. Do you subscribe to that?

When you look at patterns of laughter, you're looking at uncensored versions of what people really think about each other.

19 If you look at men and women in conversation, you find some very striking things. Let's say two guys are are laughing it out with each other, and a woman joins their group and suddenly the guys clam up and the women start to laugh more, both eh men and women laugh more in the presence of men than they do in women. This pattern simply happens and if you look at personal adds run in newspapers, women are advertising for men who make them laugh.

And why do you think that is?

One possible explanation is that female laughter in the presence of males is an acknowledgement of their subordination to a more dominant male.

20 Ehm do you do you subscribe to any of these evolutionary ideas about why laughter is there at all?

For the roots of laughter I think it's best to go back to the rough and tumble play and tickling that is probably the most primal stimulus for laughter. For example laughter, the sound hahahahahaha, is a kind of ritualisation that stands for the laboured panting of rough and tumble play. If we look at laughter in chimpanzees, orang-utans and gorillas, our nearest primate relatives, we find that their laughing is a kind of laboured panting. I give you a sample of it, hehehehehehehehehehehe, so we go from hehehehe to hahahaha. So when you laugh in the presence of someone else you are making a sound that has come to stand for what used to be the sounds of the laboured breathing.

21 We found not only that chimpanzees make one vocalisation for inhalation and exhalation, heheheheh, sound like that contrasted to the hahaha of human laughs. This contrast suggested why chimps can't talk and we can. As I'm talking to you now, I'm modulating an outward breath to make the fancy sounds of speech. The key evolutionary event I believe was the emergence of bipedality, the ability to walk upright on two legs and just as we hold our breath to lift a heavy weight, all animals that run on four legs, have to synchronise breathing and running, otherwise you wouldn't be strong. So who would have guessed that walking upright not only did things like free the hands for tool use and gesturing but also permitted the blooming of human speech.

Einde van het audiodeel