

The Telepathy Debate

http://www.skepticalinvestigations.org/whoswho/telepathy_RSA.htm

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Speakers: Rupert Sheldrake -- Biologist and author; Lewis Wolpert -- Professor of Anatomy, University College London; Chair: Edward Nugee Q.C.

Professor Lewis Wolpert:

Let me try and explain to you my position with regard to telepathy and other paranormal phenomena. I think it would be very, very, very exciting if it were true. You know, it would open up - and I think Rupert's made that point, that if any of these phenomena - let's say, if angels existed, I think that would be absolutely wonderful. If there were really fairies at the bottom of the garden, how exciting that would be. If really, thoughts could go from one person to another, this would be a totally new phenomenon and it would really be extremely exciting, and I suppose the line that I take - and it's a boring line, I must admit - is that the very nature of science is based on evidence, and the blunt fact is, there is none that's persuasive.

Now, it could be that the Queen is a Russian spy. It's a possibility, yes. The evidence is not very good, I don't think. I think you would agree with me. That there are ghosts ... I know, I've very close friends who have seen ghosts. There's no question about it whatsoever. That does not mean that although she's seen ghosts, doesn't mean to say they actually exist, and I suppose the position that I take with regard to telepathy and all these paranormal phenomena, is it would be wonderful if they were true, but there ain't the evidence to support them. Zero reliable evidence.

Now, let me tell you what I mean. One way of looking at this whole phenomenon is based on an idea of a famous Chemist called Irving Langmuir. He was a very distinguished Chemist who coined the term 'pathological science,' and what he meant by pathological science is that this kind of science focuses on a number of phenomena, which are totally startling. The effect observed is always very small. It's near the limit of detectability. The magnitude of the effect seems independent of anything that you can actually think of. It's usually a fantastic theorem, and when there are criticisms of the experiments, there are always ad hoc explanations as to why they actually occur. I think in relation to telepathy - I've look at the literature on this - there is not a single example in the whole of the scientific literature, which gives reliable support to telepathy. I'll repeat myself, in case you did not hear me clearly! There is not in the whole of the scientific literature, properly refereed in proper journals like the British Journal of Psychology, a single paper that is persuasive with regard to the ability of thoughts to be transferred, and that's not terribly surprising. I cannot say it's impossible. You see, Richard Fineman, a very, very famous Physicist, was once asked if he believed in flying saucers, and Fineman said, "No," and the person said, "Well, that's very bad science. What is your evidence they don't exist?" He said, "I don't have evidence they don't exist. That's my gut feeling, and I'm terribly sorry, the evidence for them is extremely poor."

Now, please don't misunderstand me. The fact that the evidence is poor, does not mean to say it doesn't exist, and there are many examples in history, of science where the evidence was very poor, and yet, and yet, it turned out to be right. "One of the best examples, (he said, quoting from his own book!) is of course, continental drift." If you remember Alfred Wegener, a very distinguished German Geologist, believed that the

continents had drifted apart and that's why South America looked as though it fitted with Africa quite nicely. Nobody believed him at all. They thought he was crazy. The Physicists said, "I've never heard such rubbish," and then eventually evidence did appear and he turned out to be right.

The very grand Lord Kelvin, one of the greatest Physicists ever, had really false ideas about the age of the earth. That's because his ideas about temperature were wrong. He didn't know about radioactivity. So, Scientists can be very, very against ideas and then, eventually, turn out to be wrong themselves, and one of the nicest examples - and I love it - is Newton himself. When Newton put forward his ideas about gravity, can I remind you what Leibniz said, that is, "any true bodies have an attractive force between them. You may not believe it, sir, but you and I attract each other!" as do the rest of the audience. This glass is attracted to each other by a force proportional to their masses and inversely proportional to the square of the distance between them," and when this happened, Leibniz, the great German and Scientist said, "a senseless occult quality that it can never be cleared up, even though a spirit, not to say God Himself was endeavouring to explain it." Newton said, "look, you know, it's difficult," and [?], "It is inconceivable that inanimate brute matter, would, without modification of something else, which is not material, operate and affect other matter without material content. He goes on to say - and I'm not going to give you the whole of quotation, "It's so great an absurdity that I believe no man who has a philosophical matter, can really fall into it, but gravity must be caused by an agent, because this is what the evidence shows."

So it's really ... the whole issue, is about evidence. Now, I don't think any of you would really wish to deny the bodies - we still don't really understand gravity, as far as I understand - that bodies, you know, you and I are attracted to each other by our weights. You, more than me, you are heavier than I am! It is mutual. It is absolutely astonishing and when you get down to remarkable things like Quantum Mechanics, it really is astonishing in every possible sort of way, but you have to be careful. There have been many claims, and one of the most famous claims was, if you remember, the famous case of Benveniste who published a paper on Nature, saying that although a particular substance had been diluted so much that there were no molecules left in the water, it could still have an effect and that the memory was held in the water ... it was shown to be false, and so, once again, the whole issue is that of evidence.

All I can say is that, looking at the literature and listening to Irving Langmuir's point that all the studies in relation to extrasensory perception and telepathy, fall beautifully into the category of pathological science. Very small effect, unrepeatable, lots of excuses why people can't repeat them, and of course, it goes against one's intuition that the idea there's something going on in one's brain. Any Biologist or Physicist who thinks about it would say it's extremely implausible. That doesn't mean to say it's not true. As I keep telling you, there've been many cases in science where things were thought to be untrue and turned out to be right. Why do people believe in these things? Well, there are many coincidences. You know, you often get a phone call and you think, "gosh, I was just thinking of ..." I've got a friend, Pat Williams. Quite often she would claim that she knows when I'm about to phone her, but coincidences happen and that's not the issue. I think a lot of the confusion comes from what I'm going to call, 'the Clever Hans' confusion. Let me tell you about Clever Hans. It goes back over 100 years. There was a Russian aristocrat called William Von Osten who was very keen to show that animals were very much cleverer than people thought. He bought a horse, whom he trained to solve mathematical problems by tapping with his foot and he travelled the world with this horse, Clever Hans, showing how clever this animal was. Oh, it was very impressive, but then came along a Scientist called Oscar

Vogt who said, "Look, this is very weird. I'm going to design a series of tests to see whether Hans is as clever as I thought. When He gave Hans a set of questions to which Von Osten didn't know the answer, the horse did very badly and what it turned out then is if he put on blinkers on the horse so that when the slate was shown to the horse and he was asked to tap ... very bad news, and what it turned out is that this horse had learned to look at Von Osten's head, which would move very slightly or just - do you see my eyebrows raising? - horses are very good at eyebrows, apparently, and this is how Clever Hans knew how to think. I think you have with these experiments, to be very, very, very careful about experimental error, the influence of the experimental and unless I've done it in 10 minutes 36 seconds, my line is really quite simple. There is zero evidence to support the idea that thoughts can be transmitted from a person to an animal, from an animal to a person, from a person to a person, or from an animal to an animal. Thank you very much.

Rupert Sheldrake:

Well, Lewis Wolpert and I agree on one thing, which is that we think the nature of science is based on evidence. He thinks there's no persuasive evidence for telepathy. Of course, that depends on how easily it is to persuade somebody.

There are many creationists who think there's no persuasive evidence for evolution. If you have a closed mind and if you're convinced you're right, then no amount of evidence will make the slightest difference. I think that the question really is, what is the evidence for telepathy and that's what I'm going to talk about.

I, myself, think there's a lot of persuasive evidence for telepathy, and I think that the experiments that have been done to test it have been far from pathological. They've been done, largely by people who've had no grants ... they've had every kind of adversity placed in their way. They're not people within the scientific establishment, quite often and I think it's more like heroic science than pathological. Anyway, the evidence, I think, falls into several categories.

For me, the most persuasive and important evidence is the fact that so many people believe they've actually had telepathic experiences. Most people, indeed, according to surveys in Britain, Europe, America and all round the world, believe they've had these experiences. Now, some might say, and in fact Lewis Wolpert would say, that this is, in fact, an illusion, that they have been coincidences and they've wrongly believed these to be telepathic. Tricks of memory, forgetting when they're wrong, only remembering when they're right and so forth, but the fact is millions, hundreds of millions, in fact, billions of perfectly normal, rational people, believe that they've had these experiences. Can they all be wrong and so easily deluded?

Secondly, there have been many collections of case histories, stories of peoples' telepathic experiences. These are generally dismissed, in their entirety, as being anecdotal. An anecdote is by definition, an unpublished story. ... Many branches of science are based on experience. It's the starting point for science. It's not something we can reject, and there have been many collections of case histories and if you collect hundreds of anecdotes, lots of people have had similar experiences ... anecdotes turn into a kind of natural history.

I have databases, myself, with more than 5,000 case histories and you hear the same story over and over again. It may be only a case history of what people believe and believe falsely, but nevertheless, there is a huge amount of this kind of evidence. But from a

scientific point of view, in order to rule out the obvious objection that's being raised right from the beginning of research on telepathy, that it's just a matter of coincidence, then you have to do experiments where you can actually estimate the probability of coincidence, and in the 1880s with the founding of the Society for Psycho Research, statistical methods were applied to this research, starting with the great Physicist, Sir William Barrett. In fact, this was one of the first areas of science where statistics were actually used in experimental research. Psycho research actually paved the way for a lot of subsequent science. The statistical evidence is important, because the only way you can tell if something is a chance coincidence is if you know what the expected level of chance is. So, you can actually compare what occurs with what you'd expect by chance.

I'm going to talk now, mainly about experimental research on telepathy, and the classical forms of this come in four kinds.

The first kind was the card-guessing experiments that were pioneered by Sir William Barrett. This is based on a recent review of all this early literature. There were 186 published papers, describing 3,600,000 trials. These, combined together, give the results you see ... these are papers published in journals. There's 186 published papers, more than 30 investigators ... the statistical significance is astronomical. P is 1 times (10 to the (minus 21)) you can express in this form as the odds against chance, this accumulative result being due to chance. This is based on a technique, widely used in medicine called, 'Meta- Analysis' where you combine the results of many different studies. It's the basis on which clinical efficacy by the Institute for Clinical Excellence, is judged. It's a pretty standard technique in science and it enables you to combine different kinds of data. Anyway, that's the effect of combining together all these papers. The effect is repeatable. It's true in this case the card-guessing things produce a rather small effect, but when you have a small effect repeated over hundreds of thousands - in this case, millions of times - it becomes very significant.

The second kind of research on telepathy was the transmission of drawings. Many people did tests where one person would draw a picture and another person in another room or in another city would try to draw what they were drawing. There were spectacular successes with this research. The best-known summary of it is by the American writer, Upton Sinclair, who published a book called Mental Radio in 1930. It was a great bestseller. It's hard to quantify the similarities, even though they're very striking, and so that hasn't been generally pursued by parapsychologists.

In the 1960s a new line of research was started in experimental parapsychology, involving tests on dream telepathy. Many people have telepathic experiences in dreams, and in these experiments, people went to sleep in a laboratory. When they started dreaming, which was measured by rapid eye movements, an experimenter in a different building - quite remote from the dreamer - looked at a randomly chosen picture and concentrated on it to see if they could transmit that image to the dreamer. These experiments gave positive and highly significant results when taken together. I'm going to show you the results, a meta-analysis of the dream telepathy data, which went on between 1966 and 1973. 25 published studies in peer-reviewed scientific journals, 450 trials, statistical significance 1.3 times (10 to the (minus 8)), or if you like, 75 million to 1 against chance, and here are the results of the individual studies. These are arabas at the 95 percent confidence limit. Here's the chance level here. Some of them were, indeed, below chance. Some were at chance, but many were above chance, and if you combine them all, using standard statistical techniques, this is the result here with an araba that's showing it's significantly above chance. It's not true that these are not repeatable. Many of them were repeatable ...

there were certainly a few that didn't follow the general pattern. This is very common in science. It's certainly the case in many medical trials, which is why people use this technique. Very few peoples' experiments work the same way every single time. Maybe they do in school classrooms, but in real science at the Research Frontiers, it's more messy and this is the kind of thing that's quite normal in many fields of science.

Then there was a development of a new kind of experiment, the 'Ganzfeld' telepathy tests, which had been going since the 1970s in parapsychology labs. In these tests, the subject lies in a room in a state of mild sensory deprivation with half ping-pong balls over the eyes, white noise through earphones, a red light, relaxed conditions, while somebody in another room or another building, looks at a photograph or a video clip, selected at random from the pool of photos or videos, and then the question is, can the person tell, identify out of four possible pictures that they're shown at the end, which was the one the person was looking at. If they were just guessing, the success rate would be 25 percent. Well, the Ganzfeld experiments conducted between 1974 and 1985 were reviewed in 1985 with this result. 25 published studies, 762 trials ... overall statistical significance, (you'll see here) it's 1 thousand billion to 1. Here are the results of the individual trials. Again, like the dream telepathy ones, there were some that were negative and sometimes sceptics say, "Oh, it's totally unrepeatable, so-and-so got a negative result." True, but if you look at the whole picture, the overall significance is given here and you see this is above the chance level. Again, it's a fairly small effect, but it's nevertheless, a clear one. If you're looking at the effects of aspirin in preventing heart attack, you're looking at effects much smaller than this, and yet these are medically recommended procedures. In 1985 these were reviewed by a number of people who call themselves 'informed sceptics.' That's people who actually study these experiments, and they made a number of criticisms, admitting that the effect was there ... something was going on. They put forward a number of criticisms that parapsychologists then tried to meet, by automating the procedure and ruling out various things that could have led to leakage of information. Of course the 'Clever Hans' effect has been known right from the beginning in parapsychology and all these things are done in separate rooms. So, there's no possibility of subtle cues. All these experiments are subject to intense scrutiny by extremely hostile and impeccable sceptics who are eager to pounce on any flaw. This is probably the most rigorous and heavily monitored field of research in the whole of science, and sceptics identified a few possible flaws and by taking these into account, the Auto-Ganzfeld telepathy tests were done. When reviewed in 1977 they gave this result. At six laboratories ... nearly 2,000 trials ... that's the significance ... here are the detailed studies and there's the combined result. That includes the first up to 1985 tests. The 10 most recent tests on the Ganzfeld, in a Review published in 2001 show again a significant effect, not as big, but still showing big odds against chance. Well, although I think this kind of evidence collected by parapsychologists from research in laboratories is quite impressive, indeed, persuasive, it does have one big disadvantage, that they're based on extremely artificial situations. In an attempt to be scientific, many of these experiments have moved very far away from telepathy in real life, and in particular, in real life, telepathy most commonly occurs between people who know each other well. It typically happens between partners, as is mothers and children, twins, best friends, sometimes between therapist and clients if there's an emotional bond transference and so on. It doesn't happen between strangers in the real world, or at least if it does, it's very rare. Yet, in these laboratory experiments, what they typically did was got a couple of strangers - (usually students in the lunch hour) to guess meaningless cards selected for lack of emotional significance - in separate rooms. What surprises me is that they did get such positive results. I, personally, wouldn't have expected the results to be as positive as the ones we'd seen, because the conditions for telepathy are so poor.

In some ways, I think, parapsychologists have shot themselves in the foot by working under such totally unnatural conditions so far removed from the real world. However, there have been many experimental studies of telepathy under much more natural conditions. One that I particularly like - in fact, it's one of the very first I ever read - was done by Sir Rudolph Peters who was Professor of Biochemistry at Oxford. Then he moved to Cambridge and I knew him when I worked in the Biochemistry Department at Cambridge. One day in the lab tearoom the subject of telepathy came up, and at that time I was a standard knee-jerk sceptic and I said, "Oh, it's rubbish, it's all coincidence and delusion and so forth." Sir Rudolph, who was a very intelligent and charming fellow, said, "Well, I'm not so sure." He said, "I've been looking into a case that a friend of mine found," and he told me about it. It was a mother who lived in Cambridge with a severely, mentally-retarded son. It came to Sir Rudolph's attention through a friend of his who was an Ophthalmologist. This boy had very poor vision. When he tested his eyes, he found the boy was getting brilliant results on the eye tests and he couldn't understand it. He then sent the mother out of the room and the boy's scores went way down. He couldn't do it without his mother. They then did other tests and they found that this boy could get all sorts of things right if his mother was there. Of course, they thought, well, this must be the 'Clever Hans' effect. So, then he had the mother in a separate room and it still worked. They then did a controlled series of experiments, from the laboratory in Cambridge to laboratories in Babraham, which is about five miles from Cambridge, where the mother was shown a series of cards with numbers or letters on them, in a random sequence, and at the other end of the phone, the boy was told when the trial began and then he had to guess what the number or the letter was. The whole thing was tape recorded as well, in case anyone could have argued there were subtle cues going over the telephone. The results of those trials were very different from the normal laboratory parapsychology trials. These, in the 479 trials involving numbers, the chance expectation with numbers from 1 to 10, is getting it right 10 percent of the time. He was actually right 32 percent of the time ... the significance is there ... 1 times (10 to the (minus 27)) and with letters, 163 trials ... chance expectation was 4 percent, because there are 26 letters. So, actual success rate, 32 percent (10 to the (minus 75)). Well, these are staggeringly, significant results, much more impressive than the standard laboratory parapsychology.

This is not an isolated example. The Psychical Research literature is full of studies of this kind. No one has ever flawed this study. They've simply ignored it, and Sir Rudolph Peters was very eager, when he told me about it. (It's published in a Peer-Review Journal.) He said, "Would you like to listen to the tapes to see if you can detect any background noise?" I did listen to them ... I couldn't ... there was absolutely no sign of it ... it was examined by professional conjurers and magicians. No one could find a flaw in it. So, what happened to it? It subsided into the obscurity that most research on this subject does, because it just doesn't make it into the mainstream, scientific literature, because it's a taboo area. Anyway, that's an example of a study that I think shows quite clear-cut results.

I, myself, have been doing research in areas, which are closer to real life phenomena. Through collecting large numbers of case histories and doing surveys, I've been trying to identify, which are the commonest areas where people have telepathic experiences and then trying to design experiments to test them under real life, or as close to real life conditions as possible.

One very common claim is that mothers are often telepathic with their babies and some nursing mothers claim that they're physiologically telepathic, in the sense that their milk lets down, their nipples start leaking if they're away from the baby, maybe shopping in a supermarket when the baby needs them. This has never been investigated scientifically,

and so I set up a controlled study where we monitored milk letdown in nine nursing mothers over a two-month period. We found out exactly when their milk let down, and also monitored when the baby woke up - they were miles apart - to see whether the milk letdown correlated with the babies waking up. It did ... well, they weren't always right, but the odds against it being a chance coincidence were a billion to 1. Then, you might think, well, then it's just synchronised rhythms. Well, it wasn't, they didn't follow a particular pattern but if you analysed the statistics, to eliminate any possible rhythm, you still get a highly, significant effect. Many mothers claim to have experienced it ... the data show that it seems to be happening, so, more studies are, no doubt, needed but here's a case where real life telepathy does seem to correlate with what happens.

Probably the commonest kind of apparent telepathy in the modern world is telepathy in connection with telephone calls, as Lewis Wolpert has already mentioned, and the usual response to this is exactly what he said, "Oh, it's just a coincidence ... that you remember when you're right, you forget the millions of times you're wrong and there's nothing in it."

I've done surveys that show this is by far the commonest kind of telepathy in the modern world. The surveys show that in an average population, about 80 percent of people claim to have had the experience of thinking of someone who then rings in a seemingly, telepathic way, or ringing someone who says, "That's funny, I was just thinking about you." How many people here, as a matter of interest, have had that sort of experience with phone calls? Well, yes, I would say that's about close to the national average.

Now, can we dismiss it as easily? This easy armchair argument that's ruled the roost in science for 100 years since telephones were invented, has not a shred of evidence in its favour. No one has ever done the tests. Now, it's very good to put forward a hypothesis, but in science, putting forward a hypothesis is not enough. You need to test it and there are very few areas of science where people can put forward a hypothesis with no evidence at all, and achieve universal ascent within the scientific community. This is one of those pathological areas of regular science (I think) where there's a denial of evidence ... a blindness to evidence, and in fact, a wilful ignorance. Can you actually test it, though? Can we take it further than mere armchair arguments? The answer is yes, you can do experiments on telephone telepathy and I've now done - with the help of my colleague, Pam Smart, who is here this evening - over 800 of these tests.

How the experiments work is as follows:

We find people who say this happens to them. We ask them to name four people it might happen with ... they're usually close friends or family members, and then they sit at home. They're filmed - the phone's on the table in front of them. They're land lined, because of course, all mobile phones have 'Caller ID' displays, and they know they'll get a call at around, say 10 o'clock. At around 10 o'clock the phone rings ... it's one of those four people. Before they pick it up they have to guess, who. They can't know by rational means, because we picked that person 10 minutes earlier by the throw of a dice, at random. So, it's a randomised design. The person is miles away. There's no 'Clever Hans' effect of noticing nods of the head or anything like that ... just the phone ringing and they have to guess, who.

By chance, they'd be right one time in four, 25 percent. In fact, the average success rate is way, way above chance. The results here of our experiments are shown, summarised on this sheet. Our original experiments were not filmed and they were, possibly, open to cheating. We had 63 subjects, less rigorous than the other ones, but here, the chance

expectation is 25 percent, the actual results, 40 percent ... significance, 4 times (10 to the (minus 16)). This is a massively, significant result. Of course we need to rule out cheating, which is why we then moved on to the filmed version of this, and the results of those experiments are shown here. The scores were actually higher in the filmed experiments than the unfiled ones ... 45 percent at (10 to the (minus 12)) significance. So, these experiments have given dramatic results. They've now replicated at two other universities, Cape Town and Amsterdam.

A version of this was shown on television a few months ago, where the television company did it with five people. They chose the Nolan Sisters, a 1980s pop group, because they thought if there were going to do an experiment on television, it's got to be with celebrities. Well, the Nolan Sisters did fine. Their success rate was 50 percent, statistically significant, and this was shown on Channel Five Television - some of you probably saw it.

Well, now, telephone telepathy, it's fairly easy to do these experiments. They make great school projects, but what I'm now doing is experiments on email telepathy. This is a similar phenomenon. Many people have said they think of someone then get an email from them. Is this just coincidence? Well, the only way to find out is to do a test. We have the same design for potential emailers. They are selected at random. You know you'll get on at a fixed time and just before it, you have to guess who it's going to be. 25 percent is the chance expectation. With 50 participants in unfiled experiments, the success rate was 40 percent, similar to the telephone telepathy ... highly significant. With five participants in filmed experiments, the success rate is 46 percent ... again, massively significant.

With the help of Mike Lambert, this has now been put into an automated form on the Internet and you can carry out this experiment yourself by going to my website. You can do 10 trials in less than 20 minutes. All you need to have is some friends, willing to be online at the same time. So this kind of research can now be tested by anyone. You don't need to take my word for it.

I want to talk now in the remaining time, on animal telepathy. This is extremely common. Many people have had telepathic experiences with dogs and cats. With Pam Smart, we've done hundreds of experiments, filmed experiments on dogs that know when their owners are coming home. They go and wait at a door or window when the owner's on the way home, and we've shown that this happens, even when people come at random times. It's all filmed, it's objectively evaluated, it happens when they travel by taxis, it's not a chance effect. It's highly significant statistically and it's been replicated, rather unwillingly, by sceptics eager to debunk it and they got exactly the same results.

I don't have time to show those, owing to the limitation of time, because I want to talk now about some experiments that are going on at present with a psychic parrot that lives in New York! The owner of this parrot found that it picked up her thoughts. It seemed to know what she was thinking. It has a vocabulary of 950 words, currently. It's the most accomplished language-using animal in the world. Like, it's now been shown that parrots can use language meaningfully. This parrot speaks in sentences, and it picks up her thoughts. It even interrupts her dreams when it sleeps beside her bed. It wakes her up from dreams by commenting on what she's dreaming about! Now, when I first heard this, of course I didn't believe it. I thought this is off the end of the scale of anything I'd done before! I went to visit her in Manhattan, in New York where she lives. We did some simple tests where I got her looking at pictures in a different room, and the parrot said what she was looking at. I couldn't see any conceivable means of trickery. So, we set up a filmed experiment where we had a whole series of sealed images in sealed envelopes and the

images were in a random order. She opened them in one room on camera. In another room, the parrot - with no one else there, on a separate floor - was filmed all the time. The transcripts were done, independently, to see whether it said what she was looking at. The success rate was staggering. In 71 trials, it was right 23 times, 32 percent. There were 19 possible words. This result was hugely above chance.

Now I'm going to show you a video that gives you the feel of this particular experiment. [Videotape running ... from now on, the only voice is that of the parrot. It's hard to believe, because it sounds so like Amy ... because it speaks with an American accent, we have subtitles to make it clearer! This one's obscure ... you'll see on the close-up, though, there's a chap's head out of the car window. Videotape ends.] Okay, well, I've run out of time so, I'm afraid I can't go into more details on that, but I should just say that these experiments have been evaluated and transcribed independently, by three different people. The statistics have been done by an independent statistician - a Professor of Statistics in Amsterdam - and it's all been written up and published in the Peer-Review Journal. It in fact came out today in the Journal of Scientific Exploration. I've brought copies of papers on the videotapes experiments on telephone telepathy, the filmed experiments on a dog that knows when its owner's coming home ... and this one, which will be available afterwards. There aren't enough for everyone but if any of you are particularly interested in the technical details, you can read them there, at your leisure.

Well, I've run out of time and there's a great deal more I could have said, but I hope I've said enough to show that there's actually, rather a lot of evidence for telepathy. It may not persuade people who don't want to believe in telepathy, or convinced it's impossible, because by definition, any evidence must be flawed, fraudulent or whatever, but for many people who are more open-minded, I think there's a great deal here to engage with, and I think what we see here is normal science, working under rather adverse conditions, but working normally through hypothesis, through testing, through evidence, through criticism, through improved techniques and so on. So, I'll just end by saying it again. I think there's a lot of evidence for telepathy of various kinds, including experimental evidence under controlled conditions.

Professor Lewis Wolpert:

Well, it's hard to review critically, without going into each case separately. I suppose, as a scientist, it's slightly weird that, what the people who work in this field do is just to provide more examples. They make no effort whatsoever to understand what's going on. You see, any normal scientist would say, "Let's take our best example for telepathy." Let's say it's the phone. "Now, let's try and understand what's going on there. For example, how does it vary with distance, for example? What happens if I actually cheat and none of the people or the people I've told, will the people at the other end know?" In other words, try to falsify the hypothesis. It ain't like that, and you see, my difficulty Rupert, is from the papers I have in front of me. I have in front of me a paper by Richard Wiseman, Matthew Smith, and Julie Milton, actually done with your dog ... (sorry, no, Pam Smart as your collaborator), with your dog, Jaytee, which you claimed, knew when (I think it was you) who were coming home, and their analysis of the behaviour of the dog, Jaytee, shows that the dog didn't have a clue. It would go outside for all sorts of reasons, and, you know, there was somebody passing by, there was a cat in a nearby tree. It didn't have a clue when you were coming home. So, here is a people, trying to replicate your experiment, and simply falsifying it.

Now, I am sorry, I do not work in this field, but that's the sort of problem that we scientists ... I have another paper here by Julie Milton and Richard Wiseman, which is a meta-analysis of mass media tests of extrasensory perception, a meta-analysis of the sort of thing that Rupert's been talking about, looking at all the studies, and representing one point ... we like using big numbers, showing, or 1.5 million trials. The analysis shows there's nothing there. Now, the only way, of course, to resolve this is for people to sit down and look at these things. You see, I think you must understand that, if telepathy were really there, the Neuroscience would be begoggled, bedazzled. They'd work on it like a shot. It would be exciting beyond words. Scientists aren't as dim as you may think they are. If you take my own field, for example, we are so bogged down in detail, you could die of boredom on occasion ... I really mean it. It's technique ... to find a new phenomenon where you could open up a whole new world ... you'd jump on it like a shot. Why haven't they done so? Simply, there isn't a good experimental system, which gives you reliable results. I know Rupert's given you all these figures with hundreds of millions of odds against chance. The only way would be to try and repeat those experiments by other people, and I think, when for example, Rupert wants to go for personal anecdote ... I'm terribly sorry, I don't take personal anecdote seriously ... sorry, that's not the way science works. Sorry, you actually think ... let me give you one of your personal anecdotes. When you're at 400mph in an aeroplane, do you think there's a force pushing you forward? Yes, or no? Cowards, come on ... yes, or no? There isn't, you know that. Force causes acceleration, not motion. So, your anecdote ... all of you would say, "Yes, of course it's a force. It's the aeroplane pushing me forward. It's false." So, anecdote, I'm afraid, will not do and I can give you millions of examples. I'm terribly sorry, that's not impressive.

Also, when Rupert says, "186 papers were published in the scientific literature." Which scientific literature? The parapsychology literature. Now, I'm not snobbish - (yes, I am, of course I'm snobbish!) - if it were in the British Journal of Psychology or Science or Nature or the Transactions of the Royal Society, I would take it much more seriously, and if it were a real phenomena, these journals would publish it. There's no question of it. What's in it for us? Why should we scientists, be worried that telepathy exists, even though we can't explain it? You know, we don't really understand quantum mechanics. I've got a quotation here from famous physicists, saying, "Yes, quantum mechanics works." We don't really understand it. This is just one of the things that we have to live with and we'll try and investigate it, and what I keep coming back to is the people, like Rupert who work on this, make zero attempt to understand what's happening. They don't want to know how big the effect is, they don't want to know they can confuse it, they don't know what barriers you could put in the way to prevent these thoughts being transferred. So, it's all just a nice, spiritual exercise, to make one really feel better, and when we come to the child's mother one, the chance ... I'd need to look at those statistics, because I would once again, have to argue that the chance of coincidence there is extreme ... just let me give you ... you go into a room, yes? Do you not think it's remarkable that in a small group of people, very often two of you have the same birthday? Do you not find ... would you find that? Do you know how many people you need in a room in order for the probability of two of you to have exactly the same birthday, is one half? Bet you don't know ... 23 ... so if you want to make money, go to groups of 50 and that evens that there are two people in that room who have exactly the same birth date ... you will make a fortune. You only need 23. If you don't believe me, take anyone who you like, (as I've done with students) and just let them randomly write down the birth dates of the people. How many do they have to go through, on average, before they find two with the same birth date? 23 - coincidence can be much more surprising than you would imagine. I think that example of the child and the mother, where the child, you know, could actually get the exact numbers, I think one would have to look at that in a very ... I mean, that is a remarkable example, but one would have to look

at it in much more detail, and why did they not make any effort to find out what was going wrong, or going right, as it were? So it's all lovely stories, which I regret to say, lead me unpersuaded, totally, that there is something called extrasensory perception ... sorry.

Rupert Sheldrake:

Well, I noticed that when the parrot film was showing, Lewis wasn't looking at it! That film was shown on television ... and in early stage of our investigations, he did the same then. They asked a sceptic to commentate. Lewis appeared on the screen and he said, "Telepathy is just junk ... there is no evidence whatsoever for any personal, animal or thing being telepathic." The filmmakers were surprised that he hadn't actually asked to see the evidence before he commented on it, and I think, this is rather like the Cardinal Bellarmine, and people not wanting to look through Galileo's Telescope. I think we have a level here of just not wanting to know, which is not real science ... I'm sorry to have to say it, Lewis. Let me come to his specific points.

He said that in the telephone experiments we didn't bother to find out the effects of distance. Yes we did. If you read the paper, we deliberately recruited people in England who had relatives living in Australia and New Zealand and South Africa. We tested it at distances right up to the Outer Hebrides, precisely to find out, is it distance-dependant. It's not ... distance had no effect. We looked at other variables ... familiar versus unfamiliar people. As you will remember, I think, telepathy happens with familiar people but not unfamiliar ones, and here, when we compare the results of familiar and unfamiliar people, you'll see that with the familiar people, the result was about 53 percent massively significant. The unfamiliar ones were at the chance level. There was a guessing bias. People said the names of familiar people more than unfamiliar ones, and when you correct for that, these are the results. It's still, however, very significant, this difference between familiar and unfamiliar people. So, that's in the telephone and email telepathy thing. We are actually looking at just these variables. They are all in these published papers you're welcome to take home with you afterwards. Now, when we come to the case of the psychic dog, Jaytee, - the dog that belongs to Pam Smart who is here this evening - what we found in our experiments was that the dog - here are some averages from these experiments the dog ... these are 10-minute periods after Pam went out ... these are the number of seconds at the window, evaluated from the videotape by a third party who knew nothing else about the experiment in an objective measure at the time it went to the window. That is the first 10 minutes of her homeward journey, from at least five miles away. These are medium-length experiments and these are short ones. The dog did sometimes go to the window, when she wasn't coming home, to bark at passing cats or look at commotions or disturbances outside or people arriving in cars, but it went to the window far more when she was on the way home and it started waiting, in the 10 minutes before she started off home, when she decided to come home or when she got a random signal on a pager to go home. It was highly significant it was at the window most when she was on her way home and it wasn't just that it waited a certain time and then went there, because in these short experiments, you see it was at the window at long time, whereas at the same time after she went out here, it wasn't. These results are highly significant, highly repeatable. We've done lots of them.

The case of Richard Wiseman and his colleagues is a very interesting one. Wiseman is one of Britain's leading media sceptics. He is an informed sceptic, in the sense he reads the literature and knows what's going on and he actually does experiments. However, he is a very committed sceptic who believes these things are basically impossible, and Wiseman went along to do these experiments with Pam Smart. He invented a criterion for

the success or failure of the dog, which was, that it should go to the window, for no reason apparent to Wiseman ... the first experiment it was 60 seconds. Then he changed the criterion to being two minutes for no apparent reason. If the dog went to the window for no apparent reason when she wasn't coming home, it failed the test. He published a paper in the British Journal of Psychology, saying it had failed the test. There's the paper. He put a Press Release. It was in all the science correspondence that most of our broadsheet newspapers are committed sceptics (most of them). They're very credulous when it comes to claims of sceptics. The papers were full of it. 'Psychic dog fails test ... Psychic dog fails to give scientists a lead,' and so on! It was on the radio, it was on the television ... the whole phenomenon was totally refuted and everybody bought it (who wants to believe that) and we've heard from Lewis, a categorical statement. However, if you plant Richard Wiseman's data on a graph, which he didn't do in his papers, even though I sent him graphs before he submitted it, showing it's a self-reinforcing system, reinforced by a system of taboos and prejudices, which I think, are a shame to science. I think that this is an outrage, really, that in a scientific world we have this kind of behaviour going on, which I think, brings discredit on the whole of science, and I think one of the things that really disillusion people with science is the feeling that science is not actually about evidence ... it's about dogma, and my view is that science needs to be about evidence, not dogma, and personally, I see telepathy as a test case for this very principle. Thank you.