

Temple Grandin Interview
Janet Bishop, Interviewer
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INTERVIEWER: And Dr. Grandin, what are your parents' names and do you have siblings?

TEMPLE GRANDIN: Yes, I've got a brother and I've got two sisters. They live back in Connecticut, and I was the oldest of the children.

INTERVIEWER: OK. And a lot has been-- you have written a lot about your childhood and your life leading up to your academic career, but just for the record, briefly, did you have any favorite pastimes as a child?

TEMPLE GRANDIN: Yes, I loved model airplanes that flew. I loved kites. If it flew, I liked it. I made parachutes out of scarves, and I figured out how to throw them up in the air and not have the strings all tangle up. I just loved flying things when I was child. And then when I got into high school, it was horses. Horses, horses, and more horses.

INTERVIEWER: Did you own your own horse, by the way? Or did you board horses?

TEMPLE GRANDIN: No, I didn't. I went to boarding school, and they had a stable, and I rode their horses.

INTERVIEWER: So, Dr. Grandin--

TEMPLE GRANDIN: Sorry about the blowing my nose part, I'll do that over again.

INTERVIEWER: That's fine, and for the record, it's allergy season. I have my allergies, too. Dr. Grandin, you mentioned your early schooling and the influence teachers had on your life. Were those your primary role models or did you have other mentors or other people you admired?

TEMPLE GRANDIN: Well, really there were people that were-- OK. There were some people that really helped me when I was in high school. My aunt had a ranch out in Arizona, and Mr. Carlock, my science teacher. I was a student that was messing around in school. I wasn't interested in studying. I just didn't have a goal, and Mr. Carlock, my science teacher, gave me a goal. I can't emphasize enough the importance of these mentor teachers. You know, they can get a kid turned on to something like computer programming or journalism or art. Or whatever the subject. If I had not had Mr. Carlock, my science teacher, I don't think I would've become a professor.

INTERVIEWER: Because I read some of your writings, was Mr. Carlock the person who helped you create the prototype of the squeezebox?

TEMPLE GRANDIN: No, I'd already created that, but of the things that Mr. Carlock did was, I wanted to figure out why pressure was relaxing. He said, well, if you want to figure out why pressure's relaxing, you're going to have to learn how to look things up in scientific journals.

Now, of course, back in my time, there were no computers. We didn't even have a copy machine. You had to go the library and copy the abstracts out of journal articles onto index cards. I mean, academic research was work in those days. And he taught me how to do that. There's a whole world of information beyond encyclopedias.

INTERVIEWER: And I see those readers' periodical books in my library helped me to do research. Dr. Grandin, you write a lot about grade school and high school, and it seems from your writings, even though you grew up—and were you diagnosed with autism early? Or late in life?

TEMPLE GRANDIN: I was diagnosed with autism as a young child. I had all of the full-blown autism symptoms, no speech, screaming, just everything. I was definitely fully autistic.

INTERVIEWER: But yet you were mainstreamed as a child. You were put in schools with children not diagnosed with autism. You write a lot about it, so we don't need to go too much into your grade school and high school experience, but tell me this. You describe yourself as a visual learner. But did you enjoy books and reading at all?

TEMPLE GRANDIN: I enjoyed reading very much. And Mother taught me how to read with phonics. There's other autistic kids that learn by sight words. And I loved reading. I love to read. And we gotta get kids turned on to books. And one of the ways to do this is have them reading books about interesting things. I mean, I was so happy with all those people lined up all down the street for the Harry Potter books. To see young kids getting that interested in like a 700-page long book. I thought that was just wonderful.

INTERVIEWER: That's pretty amazing. Do you have a few favorite titles? Or a few favorite books you read as a kid?

TEMPLE GRANDIN: Well, I liked science fiction books. Those were some of the things I liked as a kid. When I was a kid, I loved Star Trek. I really liked Star Trek's sort of logical ethics, too. It kind of always had a-- each episode had kind of a story about something right or wrong, and I liked the logic of it.

INTERVIEWER: I liked Star Trek, too, and I liked the-- what is it?-- the prime directive to do no harm.

TEMPLE GRANDIN: Yes.

INTERVIEWER: So, excellent. Any other science fiction books?

TEMPLE GRANDIN: Oh, I liked Isaac Asimov and Arthur C. Clarke, and a number of different science fiction books.

INTERVIEWER: OK, so, Dr. Grandin, from your boarding school, and your love of horses, and the influence of your science teacher, you went on to college. Could you tell me, just briefly, what college you went to?

TEMPLE GRANDIN: I went to Franklin Pierce College in Rindge, New Hampshire. I was one of the students that kind of was let in the back door. My mother talked to Dr. Coles, the dean, and they just figured that I would be able to handle it. And fortunately, I still had Mr. Carlock to visit on weekends and do science projects with.

If I had not had that for my first two years of college, I might not have made it. And the thing is, when I was in college, I had really unrealistic ideas about graduate school. I had this fantasy that when you went to graduate school, all the labs would be like James Bond labs. And when I finally got to graduate school, I was very disappointed to find out that they were pretty much like the labs we had at Franklin Pierce but just with more expensive equipment in it.

INTERVIEWER: So no bubbling test tubes, or--

TEMPLE GRANDIN: They weren't-- they weren't James Bond labs. I know that's stupid, but I-- Unless you see a lot of things, you just don't know.

INTERVIEWER: How large was Franklin Pierce, was it pretty small?

TEMPLE GRANDIN: Franklin Pierce had 400 students when I went in there. And I think they've got quite a few more now.

INTERVIEWER: And you graduated in '70?

TEMPLE GRANDIN: 1970.

INTERVIEWER: So, from Franklin Pierce, you went on to-- straight on to graduate school?

TEMPLE GRANDIN: Yeah, I went straight on to graduate school. I originally was going to get a master's degree in psychology. It was the height of the Skinnerian era then. I didn't believe all of that stuff, that everything was just operant conditioning. When I switched over to animal science, I got fascinated with squeeze chutes out in the feed yards. And I went around all the different feed yards to help them work cattle, and I did my master's thesis on cattle behavior and different types of squeeze chutes.

INTERVIEWER: Which is fascinating. Now, Skinner was the one with the box, the Skinnerian box, is that true?

TEMPLE GRANDIN: Yes, that's correct.

INTERVIEWER: And you spoke with, you met Dr. Skinner.

TEMPLE GRANDIN: Yes, I did. And, of course in the '60s, when I was in college, B.F. Skinner was like the god of psychology. And I wrote him a letter, and I asked if I could visit him, and he wrote back and he said I could visit him. I mean, that was like, a really, really big deal.

And I remember saying to Dr. Skinner, I said if we could just learn about the brain. He says, we don't need to know anything about the brain. We have operant conditioning. But I had just taken a two-semester ethology course with a professor that worked with turtles and reptiles. They're much more instinctual in their behavior. And I just didn't believe that.

INTERVIEWER: So, Skinner didn't want to focus on the brain. That's interesting.

TEMPLE GRANDIN: The thing that's interesting, and I wrote this in my book, *Animals in Translation*, Skinner had no interest in finding out what went on inside the brain until he had a stroke. And then after he had a stroke, he admitted maybe we need to get inside the black box, that's what he called the brain.

INTERVIEWER: Yes, my mother was a child psychologist, I digress, and had a picture of B.F. Skinner on her wall so that proves he was very popular then. Tell me, you write about it in your books, but just for the record, tell me about your shift from psychology to animal science. Was your aunt's farm in Arizona instrumental in this shift? Or were there other--

TEMPLE GRANDIN: Well, my aunt's farm in Arizona was where I first got introduced to cattle. And a lot of things I learned in psychology, I was able to use. I had taken a lot of classes where we studied optical illusions. And then I went out to the feed yards and I'd notice the cattle. They'd spook at a shadow. They'd spook at something shiny.

And sometimes when you had a shadow on the ground, I thought, well maybe, it's like this one optical illusion. Maybe they think it's a hole in the ground. That's why they're stopping. Because their depth perception is so poor. So my experimental psychology stuff-- I did have some courses where we studied visual illusions and things like that. That was helpful in my work.

INTERVIEWER: And so, at Arizona, when you went from Franklin Pierce to Arizona State, who were your main teachers at Arizona State in terms of animal science?

TEMPLE GRANDIN: Well, I had-- the thing that's interesting in animal science is some of the animal science people thought it was kind of crazy to study animal behavior in cattle chutes. So I ended up getting Mike Nielsen from industrial design and Foster Burton, who was chairman of the construction department, to be on my committee. Kind of an unorthodox committee. They were interested in my work.

INTERVIEWER: And did you do-- was your thesis or dissertation on the cattle chute?

TEMPLE GRANDIN: Yes, it was. And I actually have a master's thesis. And my degree was awarded in 1975.

INTERVIEWER: OK, so we're at 1975 now. So you've done a progression through academia. Where did you go after '75?

TEMPLE GRANDIN: Well, if you wonder why it took five years to get a master's degree, I was also working for the Arizona Farmer-Ranchman Magazine. I worked for a feedlot construction company. I was busy going out to all these feed yards. So I was doing a lot of other things. And then, I would just pretty much work as a consultant until 1980. And I started my business designing things, designing cattle handling facilities. In 1980, I went out to the University of Illinois to get my Ph.D. with Stan Curtis.

INTERVIEWER: And were doing you more research then on advanced modes of cattle chutes?

TEMPLE GRANDIN: No, but I worked with pigs.

INTERVIEWER: Pigs?

TEMPLE GRANDIN: Pigs. I had read this research by Bill Greenough, that if you raise a rat in an environment with lots of toys and stuff to climb on, boards and old wooden things to climb on, that they would grow more little dendrites and nerve endings on their nerves because the enrichment increased the brain complexity.

And I thought, oh boy, this would be a good animal welfare test. We could take the pigs up in outside, and the pigs that live in a barren pen. Now, of course, the pig is a rooting animal. So we looked at somatosensory cortex of the pig, and we looked at the visual cortex. And we got results that were just the opposite.

And of course, Bill Greenough was shocked at that. And we repeated the experiment. We put video cameras on the pigs, so we could find out what they were doing at night when we weren't there. And they were just rubbing their noses into the floors of the pens, rubbing their noses, rubbing them on each other. It wasn't complexity. It was use.

Unfortunately, my study never got published right, because both professors said they didn't know what to do with the results. Serendipity should be looked at as a discovery, not as something that goes against your hypothesis. And unfortunately, it was something that went against my hypothesis. I was also, at that time, working on my Ph.D. part time, and doing consulting.

I had invented a piece of cattle handling equipment called a center track restrainer system at that time. And I was too busy with other things, and then I came out to CSU. And I just didn't want to deal with two professors that didn't want to believe the results of this experiment. We do have one little abstract, with a few little abstracts, Journal of Animal Science meetings, so it is in the scientific record, in the abstracts. And we did our research.

INTERVIEWER: It's good that you should deposit it into our institutional depository, but I digress.

TEMPLE GRANDIN: Yes, I do have abstracts for the study. And I have a thesis.

INTERVIEWER: Interesting.

TEMPLE GRANDIN: It should be at University Microfilms. Can you access, oh, this is off the subject, can you access University Microfilms on the internet? I tried. I couldn't even get their web page up.

INTERVIEWER: Well, now it's on ProQuest. We're digressing. It's on ProQuest, I believe, so you should be able to access your thesis, though. Because UMI has--

TEMPLE GRANDIN: I typed "university microfilms" into Google at home and I got nothing. I couldn't even get a web page up.

JANET BISHOP: That's 'cause ProQuest has bought out UMI. It's another company. We can help you with that.

TEMPLE GRANDIN: Well, I just wondering, so, but I typed in, then I typed in things like "copies of dissertations." I couldn't get it to come up. They probably don't have the right keywords on their web page.

INTERVIEWER: Did you type in Grandin and dissertation?

TEMPLE GRANDIN: Yeah, it gets my web page because I've got theses of it up on there. I was just wondering. I mean, I don't need to get all of that. I was just wondering how you get theses now that University Microfilms doesn't come up on the web.

INTERVIEWER: Well, there's a company called ProQuest that has bought, I believe-- I'm not a reference librarian anymore, but has bought a lot of the dissertations throughout the country. And they have it digitized online, so it's not a microfilm.

TEMPLE GRANDIN: What do they charge for these things? Because some of the stuff they're charging--

INTERVIEWER: That's a good question. That's a good question. But I think because you work at CSU you can access them.

TEMPLE GRANDIN: Yeah, I was just wondering.

TEMPLE GRANDIN: I'll get somebody to call you. So, anyway, so OK, you were at Illinois. Now we're back on. Could you tell me, Dr. Grandin, and we'll go to the next part, which is the heart of this interview, your impressions of CSU and your work here. What year did you come to Colorado State?

TEMPLE GRANDIN: I came to Colorado State in 1990. I got my Ph.D. in 1989. Now, again why'd it take nine years to get a Ph.D.? In the first two years, I was there with my classes. I was there full time, but then I was there part time. Because I was consulting and doing speaking engagements and all of my other livestock stuff.

Then after I got the Ph.D., I thought I really would like to have at least a part-time academic position, and I knew Bernie Rollin out here at CSU, and I called up Bernie, and I said well, I might be interested in coming out here. And Bernie was very instrumental in getting me hired here. And that's how I got here.

TEMPLE GRANDIN: One digression before we return to CSU and Bernie Rollin. What companies did you consult for?

TEMPLE GRANDIN: I've designed handling facilities for all the major meat companies, Cargill, Tyson, Swift, a whole lot of different companies. Half of the cattle in this country, when they go to a meat plant, they're handled in a center track restrainer system that I designed. The three biggest plants in Canada have got my equipment.

INTERVIEWER: And who was your first-- your reputation grew very quickly, it seems, and so, who was your first consulting--

TEMPLE GRANDIN: Well, I started back in the '70s, designing things to feed lots in ranches. And my first big breakthrough was when I designed dip vat systems for the McElhaney Cattle Company and the Red River Cattle Company that was John Wayne's feed yard.

And they worked really, really well. I can remember when they did that dip vat, Beef Magazine and all the cattle magazines were there, and one of them called it a work of art. And I was just so happy. People thought-- being autistic, they thought it was really weird, but my stuff worked.

INTERVIEWER: So John Wayne had a cattle that he-- he raised beef cattle?

TEMPLE GRANDIN: Yes, he had a 26-- John Wayne had a 26 Bar Ranch, Hereford Ranch, and then he had the Red River Feedyard, great big 80,000 head feed yard. Yes, I designed dip vat at that feed yard, too. And then in the mid '80s, I worked on developing the center track restrainer system for field calves, and then in the early '90s, developed the system after I got here to CSU, for big cattle.

INTERVIEWER: So, CSU. You come to Colorado State in 1990. Had you been to Fort Collins before? Probably so.

TEMPLE GRANDIN: Yes, I had been one other time. There was a meat industry meeting. And I had been to Denver to the stock show a few times.

INTERVIEWER: The Great Western Stock Show. So, what were your impressions of Fort Collins?

TEMPLE GRANDIN: It seemed like a really nice place and-- beautiful place to be in. The climate in Illinois was hot in the summertime, and freeze your butt off in the wintertime. Much nicer climate here. I had a chance to come out here. It's what I wanted to do. I started doing my livestock handling class, and my students in my class actually have to draw drawings, and I have

a written final exam. I don't do the fill in the blanks thing. I'm trying to make it more like realistic, what you'd do out in industry.

INTERVIEWER: Which is good. Good for the students. So, tell me this, in my question cluster here, I have, how did you hear about CSU, and it sounds like Bernie Rollins was instrumental--

TEMPLE GRANDIN: Yeah, that's right.

INTERVIEWER: --in bringing you here. Aside from Dr. Rollin, who were your other colleagues, or who did you have immediate rapport with?

TEMPLE GRANDIN: Well, some other people I had great rapport was Nancy Irlbeck, and with Kent Odde, he's now at K. State. But Nancy Irlbeck and I worked on a project on training on Nyala antelopes at the Denver Zoo, to voluntarily cooperate with getting veterinary work done. And when we did this, this is over 10 years ago now, people thought we were crazy. Like there's absolutely no way you could possibly make this work, and we figured out how to make it work.

INTERVIEWER: And so you were persuading antelopes to calm down and let the vets--

TEMPLE GRANDIN: Well, what we were doing is, we were training the antelopes to walk into a box for treats, stand still, and just present their leg for having blood samples taken out of their leg. They were doing this completely voluntarily. You see in the past, they just forced the antelopes up against a wall with a board, which was very stressful. Now, the antelopes with veterinary work, it was going to become their fun time, not their big stress time.

INTERVIEWER: And how did you persuade them? The same systems of restraint--

TEMPLE GRANDIN: No, we didn't do any restraining. This is, you just train them. They're a very flighty animal. So, it took 10 days to teach the antelopes to tolerate the doors on this box sliding up and down. The first day, move the door an inch, and it goes [SLIGHT SOUND] and they'd look like that. That was all we did that day.

Next day, three inches. [LONGER SOUND]. And they would look. And the next day, it was a foot. And at the end of the 10 days, you could just jerk it open. But if you had done that all of a sudden in the beginning, the antelopes would have panicked and they would've crashed into the wall and you would have never gotten them trained.

INTERVIEWER: Fascinating. Did bring you bring some of-- you already brought some of your cattle chute design to your classes, your animal training to your classes.

TEMPLE GRANDIN: Yes.

INTERVIEWER: What, specifically, were the classes that you taught?

TEMPLE GRANDIN: Well, I did the short course on livestock handling and students had to do drawings. And a written final. They also have guest lectures in a lot of other classes. On humane

slaughter methods, cattle handling, pig handling, meat quality things. I also do a set of lectures on livestock behavior for the veterinary college.

INTERVIEWER: Tell me a little bit, because you're a sensory person, a visual person. Describe your office where you research and work, and what's campus life for you on a daily basis, walking around, getting the senses here?

TEMPLE GRANDIN: Campus life for me is [INAUDIBLE], go down to my office, go in the classroom. It's pretty much work, work, work, work. I'm a visual thinker. I think totally in pictures. I don't think of words. Words narrate the pictures in my imagination. That's been a big asset for me as an equipment designer, because I can actually test run equipment in my head. I thought everybody could test run equipment in their head. And I was shocked to find out that other people don't do that. I started interviewing people about how they think.

INTERVIEWER: And so, am I imagining it, or did I read it somewhere, where-- I read about someone who tested a piece of equipment in their head for many days, to see if it was working. Do you do that?

TEMPLE GRANDIN: I think that was Tesla. Tesla, and it was spinning a dynamo. Spinning the dynamo for the electric power plant and then you could tell whether it was gonna be off balance and not work.

INTERVIEWER: So you're like Tesla.

TEMPLE GRANDIN: And Tesla definitely today would be diagnosed autistic. If you got rid of all of the genes that cause autism, you'd be rid of Carl Sagan, you'd be rid of Mozart, you'd be rid of all kinds of people that are really good people. Einstein, today, would be labeled autistic. He had no speech until he was three years old.

INTERVIEWER: Interesting. Do you think-- are most of the people you mentioned, do you think they're visual thinkers and learners?

TEMPLE GRANDIN: The thing about autism and then Asperger's, which is the milder form of autism, where there is no speech delay, they are a specialist thinker. Only some of them are visual thinkers. There's like three kinds, and I have figured this out from interviewing people.

There's the visual thinker like me that thinks in photo-realistic pictures, and has a horrible time with algebra, because there's no way to visualize it. The next kind is the patterned thinking mind, the music and math minds. They think in patterns. They don't think in photo-realistic pictures. I mean, think things like extreme origami. These people tend to be weak in things like reading and writing composition.

And then the third type's the word fact mind. They know every statistic. They'd be great working in the reference library. And they absolutely are not a visual thinker. The thing about the autistic Asperger mind, it's a specialist mind. Good at one thing, bad at something else.

INTERVIEWER: But it helps you, or facilitates invention, creation, because of the intensity of focus, I imagine.

TEMPLE GRANDIN: Well, when you look at the brain research in autism, there's some social emotional circuits that don't get hooked up. We have a huge frontal cortex that associates everything in your brain, emotions and everything else, helps to be really social. People on the spectrum, you disconnect some of that. Well, now they got lots of processor power to do things like invent electricity, program computers.

Again, if you didn't have a little bit of those Asperger autistic genes, you wouldn't even have any computers. I mean, half of all the people that work in these big tech companies have at least got a mild version of Asperger's. See, there's a continuum from a very severe autism, where they stay nonverbal, all the way up brilliant scientists. Brilliant artists, brilliant, lots of different things.

INTERVIEWER: And so, thinking in pictures, thinking visually, do you-- does that help your memory? When you remember something, you remember it as a film?

TEMPLE GRANDIN: It comes up-- they come up like slides. Starts out as a still picture. But then if I hold the picture there, it turns into a video. Everything in my memory is visually indexed. One time, somebody asked me to think about a smell. And I saw this picture of my grandfather's living room. And then I smelled the nice smoky smell of the fireplace. But I saw the living room first.

INTERVIEWER: And then you smelled it later.

TEMPLE GRANDIN: That's right, after I pulled up the picture of the living room. My brain is visually indexed.

INTERVIEWER: So, are you kinesthetic? You know how they say how children have different learning styles? And visual kinesthetic, or there's sometimes like combining.

TEMPLE GRANDIN: Well, I'm basically you know--

INTERVIEWER: Just visual.

TEMPLE GRANDIN: The totally visual. I mean, everything in my mind works like a search engine set for the image function. And you type in the keyword, and I get pictures, and it comes up in an associational sort of way. Now, pretend that I'm Google for images. And I want you to give me some key words, not something in this room, and don't give me something common like house or car, because everybody can visualize that. Almost everybody can.

INTERVIEWER: A non-common word.

TEMPLE GRANDIN: Yeah, not house, car, or dog, or something like that. Something a little more different than that.

INTERVIEWER: Alfalfa.

TEMPLE GRANDIN: Well, I saw a field of hay. Now, I'm seeing bales of hay over where Mark's horses are. And I go, oh that's grass hay, that's not alfalfa. And now I'm down at the zoo, and they used to feed alfalfa hay to the antelopes, and Nancy used to complain it was way too rich.

OK, you can see how it's associational. There is a logic to it. OK, you're wondering how did I get from alfalfa to the Phoenix Zoo. OK, now I'm thinking about Nancy Irlbeck, and now I'm seeing her in her office over at CSU. And now I'm seeing dean-- at the dean now. Now how did I get from alfalfa hay to the dean? OK, there is a logical progression there.

INTERVIEWER: Yes, I can see it, too. And I think for-- I'm a mildly visual learner, so I too associate with--

TEMPLE GRANDIN: Yeah, visual thinkers tend to be associational. People that are very verbal, it's totally linear. Completely linear.

INTERVIEWER: Whereas I jump from A to Z, to one to two--

TEMPLE GRANDIN: That's what visual thinkers do. But you don't jump -- but there is a reason. OK, you said alfalfa. I saw a field of alfalfa, then I saw the stack of hay where Mark has his horses. Then I go, oh, whoops, that's grass hay. Then I saw the alfalfa hay at the zoo. And I see Nancy. Now I'm seeing Nancy saying, that's too rich.

And now I'm going in like the Nancy Irlbeck file. And I'm now seeing pictures of her around campus. I'm having lunch with her over at Yung's restaurant's coming up now. We used to like to go there, that's a Thai restaurant, and we liked to have this meal called Tropical Island.

INTERVIEWER: I've had that over at Yung's. So now you're seeing the food that you ate at Yung's.

TEMPLE GRANDIN: That's right.

INTERVIEWER: Well, that's fascinating. And you know, I think for visual learners, it's hard to think the opposite. I can't-- I don't know how linear people really think linearly, because my mind jumps. So, it works the other way, too. Sometimes it's hard to get a sense of that.

TEMPLE GRANDIN: Yeah.

INTERVIEWER: So, are there any-- you mentioned going from an office to teaching, to consulting, to work. Do you have any favorite spots or buildings on campus? What refreshes you, is it mostly off campus, the things that refresh you? I know you mentioned your squeeze box, which you still use.

TEMPLE GRANDIN: I remember when the library got flooded, I got very upset about that. In fact, I have a picture of that-- saving the books and I show it in my autism talks. And I'm going, why was I so upset about the library being flooded? Well, knowledge was being wrecked. You see, and this was kind of pre-internet when this happened. We didn't really have the internet like we have it now.

And I go on, why was I so upset about this? Well, as an autistic person, I am what I do more than what I feel. One of the big concerns I have right now is getting people on the spectrum into good careers. Into things like computer science and stuff like that. And I was upset about all those books that get wrecked, then nobody reads them. I feel very strongly about preserving knowledge.

INTERVIEWER: And if the books are wrecked, knowledge is lost. And I heard, I mean this was before my time that--

TEMPLE GRANDIN: [BLOWS NOSE] Sorry.

TEMPLE GRANDIN: --you'd heard.

INTERVIEWER: This is before by time, but especially our reference collections librarians, their lives' work of collecting books in a certain topical area, some lost their entire life's work in terms of the books they purchased for the library and worked on collecting through the flood. So it was very traumatic for the librarians here too.

TEMPLE GRANDIN: I heard Arthur C. Clarke 's original manuscripts or something were here. Were they wrecked, or they managed to save those?

INTERVIEWER: Archives was upstairs on the second floor.

TEMPLE GRANDIN: Oh, OK. Oh.

INTERVIEWER: Because I wouldn't be here, probably today--

TEMPLE GRANDIN: That would have been all right, then, on the second floor. It just flooded the basement.

INTERVIEWER: Yes. It flooded the basement. But a lot of the books in psychology, in animal studies, where your books are downstairs, were flooded. So you do mention-- sorry for the pun. The saying, it's a paraphrase of the saying, you are what you eat. You are what you work, or you are what you do.

TEMPLE GRANDIN: Yes. I am what I do. I mean, career is very important for me.

And I get a lot of satisfaction in life, you know, I design something and it works, or I have a student say, you know, your course was really helpful for me. I find that very gratifying. You know, I go out and I run into a vet student that's taken my lectures and they found it was real

helpful to them, or somebody likes one of my books, they say, well, it helped them with their autistic child, or it helped them to understand their dog. That makes me really happy that I'm doing something that does something constructive on the ground.

I mean, there's too many people in this world, and I can't believe all this awful stuff going on with the banks ripping everybody off and all this subprime loan horribleness. I mean, that's not anything to be proud of. If you were trading in subprime futures or something stupid like that, that's certainly not anything to be proud of, ripping off poor people on their houses.

INTERVIEWER: It's nice to have something solid and constructive. So that leaps into the teaching and research cluster. And I think I already have the answer to this question. My question is did you feel a special calling to be a teacher or to do research? And I guess for you the answer is yes.

TEMPLE GRANDIN: No. I really like doing my class. And I make sure I'm home on Tuesdays when my class is in session. And I also like doing research and figuring things out.

INTERVIEWER: So what do you hope your students will learn from you? And what have you learned from your students?

TEMPLE GRANDIN: Well, you learn every student's different. And one thing I've tried to do is, there are some students that were the kind of like me, that had some problems. I've held the back door open for students. And I'd say half of them have been successful and half of them have not been successful. And the thing that separates the not successful from the successful is motivation.

The ones that were motivated to finish, they did, even if they had some kind of a problem. I was let in the back door at Franklin Pierce College. And that doesn't mean that the students I let in the back door I let them get off easy. I don't. But one's motivation is so important. The students that are going to go out and really do something really great afterwards, it's the motivated ones.

INTERVIEWER: That's true. What have you learned from your students?

TEMPLE GRANDIN: Well, I've learned that some things I've got to be more flexible. Some of them really work hard. I try to get them to good careers. I worked with two of my Ph.D. Students to get them placed in decent jobs. That's something I feel is part of my job. I want to get them into good jobs.

INTERVIEWER: And as you mentioned before, you have worked beyond your students here at CSU with a wider autistic community [INAUDIBLE].

TEMPLE GRANDIN: Yes. And I also have given talks at a lot of vet schools, animal science departments, cattlemen's meetings, lots of different talks in lots of different places.

INTERVIEWER: So quickly, challenges, rewards, and lessons learned. When you came to CSU, brought here by Bernie Rollin, what were the largest challenges facing you during your first years at CSU?

TEMPLE GRANDIN: Well, one of the things is I had to learn how to teach the students how to do the corral drawings. You know, when I first started out, I gave them assignments that were too hard. So I had to start out with a simpler design to have them do, then go to the ranch designs, which are the hardest ones to do.

And I had to figure out how do I teach this class so they're going to understand it. You know, that's a challenge. And research things I really like. I mean, basically I had a good time here.

INTERVIEWER: Excellent. And how did you figure that you needed to teach a simpler design to the students?

TEMPLE GRANDIN: Oh, because when I first did the class, I was going to give them a complicated ranch corral. The ranch corral has got too many different sorts, too many different things you've got to do. So I had to give them the meat plant layout to start with, because that's simple. You unload, go through the panels, go up the chutes and into the plant.

And I knew the ranch kids probably didn't want to lay out the big meat plant. And I explained to them that I had to use that because it was simpler. You know, you've got to do the easy one first, and then go to the hard one.

And then the drawings that I used were from actual jobs. So they had to design the new system around existing corrals, existing fences, existing roads and things that were already there on the site, buildings and things that were already on the site.

INTERVIEWER: And how large are your classes, usually?

TEMPLE GRANDIN: When I first started out, I had like maybe 12. Now I have anywhere from 35 to 50 in my class each semester. And the class goes for seven or eight Tuesday afternoons from 1:00 to 3:00.

INTERVIEWER: So it's grown in popularity quite a bit.

TEMPLE GRANDIN: Yes.

INTERVIEWER: And do most of these students then go on to work in pure animal sciences or meat processing or a combination?

TEMPLE GRANDIN: Well, they're a combination, because I have some equine students too in my class. A lot of the things about cattle behavior applies to equine. And then the equine students, sometimes I have them lay out horse facilities. Other times, I've had them lay out cattle facilities and explained to them, think of this as an exercise in visual thinking, because I explain to them, knowing about cattle has nothing to do with whether or not you can do these drawings.

One of the interesting things I've found is that there are some students that absolutely can't draw. To do my drawings, they've got to make circles with a compass. You know, we're getting a lot of students today that they never did protractors or rulers. I had a student that didn't know what a compass was. I think that's really bad.

But I'm also seeing some students that have learning problems. And I can tell by looking at their drawings, because instead of just drawing nice half-circles like this, they've got it all over the place. And I had a Ph.D. student that had a problem, when she went to read, the print would jiggle on the page. And she went and got the Irlen colored glasses, which really helped her.

I just had a student this year in my class that her drawings were really horrible. And I asked her if she hated driving at night, hated fluorescent lights. Yes. Does print jiggle on the page? Yes. I suggested she go out and try on some different colored sunglasses.

And she went out and got some little pink sunglasses and her economics grade went from a B to an A, because now she could see the charts. When the teacher would show PowerPoint slides of economic charts, she could actually see them.

INTERVIEWER: Because of the light and the pink glasses?

TEMPLE GRANDIN: Well, nobody knows why it works. But it's a very common thing. And I find two or three of them out of the 50 students.

I just had two students that dropped the course. They never came. I told them to call me. They never contacted me. And the thing that's disgusting about it is they're flunking out of school for something that's easily fixed.

INTERVIEWER: Interesting. And it's just--

TEMPLE GRANDIN: And the only reason I know about this is because of the autism community. And I had one student, the only computer she could use was the laptop, because the screen didn't flicker. She printed her homework on tan paper.

And she thought these glasses were just a whole bunch of rubbish. And then she went and they tested her over here at the counseling center. And now you couldn't get the glasses off her. Why would colored glasses help with this? Nobody knows.

There's a thing in brain physiology called the binding problem. We have color, shape, and motion circuits in our brain. They must work together to make the graphics file. Something's wrong with the binding problem. And nobody knows how they work.

But it does. I mean, I had a student come back the next week. She had pink sunglasses on and was telling me how her economics grade had improved.

INTERVIEWER: And if she had had green sunglasses--

TEMPLE GRANDIN: It might not have worked. The thing is, each student that has this problem has to pick the color that works for them, and the precise color that's the best. Irlen can give you the precise color. But I'm finding that it's really common and drawings that are just all over the place.

INTERVIEWER: Do you think it's because-- I sound like an old fogey-- kids today, or students, A, they don't have a lot of tactile exercise with pen and paper because they're on the computer and laptop? Or do you think it's a mind-brain thing?

TEMPLE GRANDIN: It's a mind-brain thing, because I've seen it even 18 years ago I would see it. No. It's a problem in the visual system. It's real common. And there's kids flunking out of school right now because of it.

I had two students drop my class. They never came and talked to me. And I couldn't talk to them about it. And their drawings were horrendous.

You know, you're supposed to be drawing three half-circles along a line. They're drawing-- And I'm asking the student, so what are you seeing? She said, well, I see just waves.

INTERVIEWER: Interesting. And not corrected through--

TEMPLE GRANDIN: Oh, no. No. A regular eye doctor can't fix it. A regular eye doctor can't do anything about it.

INTERVIEWER: And won't catch it either.

TEMPLE GRANDIN: No. No. They won't catch it. And there's kids flunking out of school that don't need to. That's the thing that's so disgusting.

INTERVIEWER: Have you written about this too?

TEMPLE GRANDIN: Oh, yes. Yes. In my book Thinking in Pictures I've written about this. I've written about this in autism publications. I've got a book coming out that's a compilation of a bunch of columns I did for an autism magazine. It's written up in there.

I talk about it in my talks all the time. And I'm finding it's real common. And it's messing up the lives of a lot of students.

INTERVIEWER: All the pink and green and brown--

TEMPLE GRANDIN: Well, cheap sunglasses, simple intervention. Nobody knows why they work. But they do. That's the thing.

INTERVIEWER: That's what's fascinating. Some things we still don't know about.

TEMPLE GRANDIN: Well, I think that one of the things, they need to be doing research in the autism and dyslexia and learning problem field is on these sensory problems. See, it's a sensory distortion in the visual system. Well, the thing is, not everybody with autism has a problem. So if you do a study on it by autism, you're not going to get any results. You've got to find the people that answer yes to the screening questions, which are you hate fluorescent lights and if you drive, you hate driving at night, the print jiggles on the page, and you tend to be afraid of escalators because you can't tell how to get on and off of them.

INTERVIEWER: Interesting. I don't like fluorescent lights and I don't like to drive at night. So there you go.

TEMPLE GRANDIN: Well, the problem's a continuum too, through a little bit of a nuisance to it's going to wreck your career at school.

INTERVIEWER: Dr. Grandin, is there anything you know now that you wish you knew in your early professional days here at CSU?

TEMPLE GRANDIN: Well, that's a hard question. Well, you always just keep learning, learning more and more things. You know, some of the things is some earlier students I might have been able to help better, but then there's others that they just are goof-offs.

INTERVIEWER: And you do what you can.

TEMPLE GRANDIN: I had a brilliant student, straight A student, but she didn't have any motivation. And she worked fine when she had the structure of going into her classes, straight As. But when she had to do a project where she had to figure out her time, she just couldn't get it done. And she did not go into a good career. Brilliant student with no motivation.

INTERVIEWER: So motivation is the key.

TEMPLE GRANDIN: Yes. If I had a choice to whether I'd rather have the brilliant student with no motivation, I'd rather have a motivated and maybe not such a brilliant student. You know, it's the old thing they say, well, the solid B-plus student makes a good veterinarian or makes a good person that gets things done.

INTERVIEWER: Interesting. I never heard that saying.

TEMPLE GRANDIN: Yes. That's been said about a lot of jobs.

INTERVIEWER: Because of the motivation.

TEMPLE GRANDIN: Well, the motivation and the other thing is flexibility, tend to not be such a linear thinker.

INTERVIEWER: Interesting. How do you see CSU relating to Fort Collins and its community? A big question.

TEMPLE GRANDIN: Well, Fort Collins has grown and grown and grown and grown and grown. You're building shopping centers when you've got empty shops in other parts of the city. It has nothing to do with CSU. But I find that concerning.

INTERVIEWER: Do you find concerning also the-- Colorado strikes me, this part of Colorado, as very agrarian, or very agriculturally oriented until very recently.

TEMPLE GRANDIN: Yes. I mean, when I came out here 18 years ago it was totally agriculturally oriented. But now it's not getting that way. Now when it comes to the relationship between CSU and the State of Colorado, the State of Colorado's really bad on not supporting higher education. I'm just shocked at how bad it is.

And when it comes to services for autism, this state ranks almost last in the country. I just talked to a family about two weeks ago that has a five-year-old, there had been no services, sitting in the corner, watching TV. That's atrocious.

INTERVIEWER: So how can we persuade people of the importance of education, higher education, and also the importance of social services, because that's--

TEMPLE GRANDIN: Well, you know, there's a lot of other states that seem to do a much better job. We've got a lot of people that come in here from California. I mean, I got out here in 1990. And it was about five years later that the influx of people started and all this building and stuff got started.

But I think as the country, we've got to support higher education. I mean, it's eating your seed corn. You know the old thing you eat your seed corn, you don't have anything to plant for next spring. You just can't do that. Well, this country in a lot of things is eating its seed corn on education and--

INTERVIEWER: Well, it is an investment in our future, in the higher education. And primary and secondary school education, investing in our future. So you already mentioned this, you alluded to the most significant change at CSU during your time here has been the growth. Is that correct?

TEMPLE GRANDIN: Yes. The growth of the town.

INTERVIEWER: And that's a change you notice in Fort Collins. Any change in students in the 10 years or so you've been here?

TEMPLE GRANDIN: Well, what I'm finding with students is you've always got the really super good students. But then you've got other students, they're not as well prepared. This is concerning me. I mean, what are they teaching in high school?

INTERVIEWER: And how are they not prepared?

TEMPLE GRANDIN: Writing skills, you know, just organizing their writing. I was a terrible student when I was in high school. But my writing skills were better than some of the students today. I could add, subtract, multiply, divide, find the area of a circle, do percents, do fractions. And I was a terrible student.

INTERVIEWER: So what would you-- if you could persuade teachers or--

TEMPLE GRANDIN: One of the things you've got to do is teach kids how to write. And I had this when I was a child. I mean, I can remember in fourth grade I'd write a little composition about my vacation. And then the teacher would mark it up with a red pen. And then I had to go back and redo the paper, making all the corrections. And when I took college English, every two weeks we had to do a little two-page paper. The teacher marked it up and then made us re-do it.

It's called copy-editing your work. That's how you learn how to write. Well, I don't think they're doing that anymore.

And I don't know how students are going to learn how to write unless somebody copy-edits their work. I mean, I found 10 years ago when I wrote *Thinking in Pictures* when Betsy, my editor, marked up the manuscript, copy-edited it, I learned a lot from that. That's how you learn.

INTERVIEWER: I notice my son's class has an exercise in trading papers and editing that. So I think for the younger kids, I think they're coming back to return to basics.

TEMPLE GRANDIN: Well, good.

There's basic skills you have to just teach kids. Some people think they can learn it all by osmosis, but no. The Dick and Jane books, that did not work with me. What worked was my mother sitting down with me when I was in third grade and teaching me how to sound out my words, because I was a phonics learner.

And then there are some other kids, especially autistic kids, that are sight learners. But you have to work on kids, teaching them how to read. The other thing you want to do is give them a book worth reading, so there's a motivation to want to learn how to read.

INTERVIEWER: Well, that's true. That's key. And you're right. You mentioned earlier, the Harry Potter books, I think that that's what makes educators like them so much, because kids are actually--

TEMPLE GRANDIN: Well, I think it's wonderful when a three-year-old is carrying around a book he can't even hardly pick up and wants to learn how to read because all the other older kids in the family are reading. I think that's just wonderful. And we have to be working on better education.

INTERVIEWER: Dr. Grandin, I only have three more questions, but I think I'll ask them in the two that are written here in the last cluster, and then a general question for you. So what is the

significance of a land-grant university, the premise of land-grant universities as education, democracy's college, education for kids who could not traditionally afford education?

TEMPLE GRANDIN: Well, the thing that worries me is tuitions are just going up and up and up and up. Because I've supported quite a few students to get them through college. I make money in my speaking engagements, I've turned right around and I've supported students. I've supported three Ph.Ds. that have already graduated, I have a fourth one I'm supporting. She'll be done, probably, in another six months.

And the tuition fees, it's just terrible. But unless the tax money and stuff like that puts more money back in, the universities don't have any choice but to raise tuition. It's going to get to where the low income folks aren't even going to get to go. And I think that's a real shame.

INTERVIEWER: And you're seeing that now, actually, with the stratified-- kids who can afford it go to certain colleges, kids who can't go to others. But even land-grant universities such as this one are getting pricey.

TEMPLE GRANDIN: Well, they're getting pricey because, if I remember right, it's 90% of your budget comes from the state. You don't run a college on air. You have to get the money somewhere. People just don't realize that it takes funding to do stuff.

INTERVIEWER: So what do you think, then, is most important for CSU's outreach activities or mission in the next 10 years?

TEMPLE GRANDIN: Well, I think that I want to see outreach to high schools. One thing that I feel strongly about is to get kids motivated. You have to expose kids to interesting things.

I was an unmotivated high school student until I had this goal of wanting to go to graduate school and become a scientist. That motivated me. If you don't show kids interesting things, how can they get interested in it? I'm seeing too many kids getting addicted to video games. You can't get them to do anything else.

INTERVIEWER: So perhaps it's placement of a good teacher or a good goal. Would you say high school is too late, or high school is the perfect time to get kids into the motivational schema?

TEMPLE GRANDIN: Well, I think it's a real shame in high schools. They've taken out a lot of the hands-on classes; auto shop, cooking, sewing, drafting, fixing computers, all the hands-on things they used to have. Because there's a lot of kids where those are good jobs, like auto mechanics class, things like that. Those are good jobs that are not going to get outsourced to China.

And I'm the kind of kid where those were the things where I was really good at those things. And it goes like, you take the job of a doctor now, they have 30 patients to see and five minutes for each patient. They're running around from cubicle to cubicle, and I'm going, well, yeah, but I'd

rather fix cars. I get paid well for that, and it isn't like the old days with the shade tree mechanic. It's all computers and everything, now, to fix cars.

INTERVIEWER: So my last question is, could you tell me a little bit-- You work a lot with the--

INTERVIEWER: Last question, Dr. Grandin-- this leads into my question about your primary work right now with autistic kids-- do you work in the same way for motivation, for education--

TEMPLE GRANDIN: Well the big thing I do, I do a lot of talks. So I talk to parents about the importance of early educational intervention. You can't let an autistic three-year-old sit in front of the TV. I really talk about you need to take these smart, high functioning autistic kids, or Asperger kids-- which is the milder variant-- I want to get them into good jobs. Because I work in a technical field-- in the meat industry-- and there is undiagnosed Asperger's all over the industry.

INTERVIEWER: Really?

TEMPLE GRANDIN: Asperger's has always been here. And it has another name, geek and nerd. And when you get into the really smart kids, I get worried about them getting held back by that label. Because I know odd maintenance guys that are just brilliant in appliance. Engineers-- in fact, there's 2 and ½ times as many engineers with a family history of people with Asperger's. It's always been here. But I think what's hurting a lot of these Asperger kids now is, when you have autistic tendencies, you have to learn social rules like being in a play. In the '50s, when I was brought up, I was expected to sit through church. I was expected to sit nicely at Sunday dinner for my grandmothers. And kids don't get that kind of social structure today.

INTERVIEWER: So you're saying that you were given the script, so to speak? And so--

TEMPLE GRANDIN: Well there are kids now where they go in a store and they're just pulling stuff off the shelves. I learned when I was six not to do that. They go in and mess up stuff in a store.

INTERVIEWER: Let's go back for just a second because geek and nerd are, they're used so pejoratively a lot, like a bad word. It's not cool to be a geek. It's not cool to be a nerd.

TEMPLE GRANDIN: Well the thing is, when you take the kids are kind of the geeky and the nerd kids-- I was the kind of kid that needed to be taken out of that pressure cooker of the regular high school. Socializing with teenagers is not a life skill that I need to have. What I've noticed out in Silicon Valley, there's a lot of kids out there that are Asperger's. They're geeks, they're nerds. And their parents apprentice them into the computer industry. When the kid is maybe 11 years old, he's taught programming. By the time the kid's in high school, he's doing Mom and Dad's work on the computer. And they're just apprenticed in. Those are the lucky ones. And they're all over the tech industry. And then I go out somewhere away from Silicon Valley, and see a guy come up to the book table. He's got a big pony tail, and ought to be going to computer school, and they want to put him on welfare. I say, no, he needs to be going to computer school. But you see, unfortunately, with the looser society-- let's say the guy is rude-- they'll say, well,

Asperger's is the reason why he's rude. That is just nonsense. If I said something really rude, my mother got all over that. You know, about rude stuff, making rude comments about people's appearances, I just--

INTERVIEWER: So what you're saying is--

TEMPLE GRANDIN: Didn't do it.

INTERVIEWER: Your Mom didn't cut you any slack.

TEMPLE GRANDIN: Not on that stuff. But the thing where you do have to cut some slack is sensory sensitivities. Like when the school bell went off, loud noise hurt my ears. Scratchy clothes were like sandpaper rubbing my skin raw. Well there has to be some accommodation for clothing. There are some people where they cannot tolerate fluorescent lights. There are some of these sensory things we need to accommodate, but rudeness and sassing back, and just refusing to do stuff, and-- The other thing you've got to teach the child young is turn taking. It's very important to teach turn taking. They also have to learn the concept of doing something that somebody else wants. Like I'd paint a picture of a beach because that's what my mother wanted. Well you see where that translates into doing what the boss assigns you to do at work when you grow up.

INTERVIEWER: So the socialization skills are very, very important.

TEMPLE GRANDIN: They need to be taught.

INTERVIEWER: They need to be taught. But also--

TEMPLE GRANDIN: And all kids in the '50s, they were taught. So the kids that were the geeky kids, they were taught. And they might be overly formal, but you could keep a job. They wouldn't come into the library here and start throwing stuff. They were taught you just can't do that.

INTERVIEWER: So, in a way, the lack of structure is disadvantageous to an Asperger's kid.

TEMPLE GRANDIN: Yes.

INTERVIEWER: If their parents don't have the wherewithal to, say, start them on computer classes at eleven, or give them--

TEMPLE GRANDIN: Or they need to-- but they also need to be-- No, you are going to go to Sunday dinner at Granny's and you're going to sit there for 20 minutes. Now if the church had had a loud rock and roll band that hurt my ears, no, that would not have worked. If they'd wanted me to go to church, we'd have to find a quieter church. The sensory stuff we have to make some accommodations for. But just telling people off and being rude? No. We don't need to make accommodations for that.

INTERVIEWER: Do you think Asperger's kids have that rep of-- are they given slack because they're just--

TEMPLE GRANDIN: Well I think--

INTERVIEWER: Not trying to be rude?

TEMPLE GRANDIN: Well, no. It's just that the parents are just, oh, he's Asperger's. He doesn't know any better. Well, he's got to be taught. He's got to be taught. And there's a few social circuits aren't hooked up, and they just got to be taught. No, you can't just tell Mrs. Smith that she's fat. That is rude. You just can't do that. I was taught those things very young. No, you don't stare at that guy that's on crutches. That's rude. I was taught these things extremely young.

INTERVIEWER: So there has to be incorporation of structure?

TEMPLE GRANDIN: But then, on the other hand, everything was done to develop my ability in art. I had art lessons, I had professional art supplies. You need to take the thing where there's an ability, and you want to build up on that.

INTERVIEWER: What did you-- when you drew as a child-- I'm digressing a little. And then we'll make a wrap of the interview-- But what were your favorite things to draw when you were given your first art supplies? Animals, or--

TEMPLE GRANDIN: I drew some animals. I used to like to draw some geometric things. Water colors was the medium that I would use. Then we would go to a summer house at the beach, so I did beach things. I liked making little murals and things out of shells. That's some of the things I liked to do.

INTERVIEWER: So it seems like your parents-- and especially your mother, whom you mention in your books a lot-- really gave you a good balance.

TEMPLE GRANDIN: That's right.

INTERVIEWER: They gave you structure yet helped facilitate some of the things that you were skilled at.

TEMPLE GRANDIN: That's right.

INTERVIEWER: Actually, that's a good guide for any child, not just Asperger's children or autistic children.

TEMPLE GRANDIN: Well they have more-- that child has more social circuits hooked up and can muddle through it. But the Asperger kid needs to have that structure. Otherwise they have problems at work with just obeying the boss. They also have problems with turn taking. Well, that was taught with board games when I was very, very, young. It's a very important skill to learn.

INTERVIEWER: Any last words you want to say regarding CSU, or your career here? You've done an amazing, it's an amazing wealth of work you've done. Done a lot of great things and good for many communities. Anything you want to impart to future students, say, 10 years from now?

TEMPLE GRANDIN: 20 years down the road?

INTERVIEWER: This is a time capsule question.

TEMPLE GRANDIN: Well find something you really like to do and try to make it into a career. When people ask me about what kind of career should my kid go in. I ask, what's his best subject in school? I first of all then ask some things about grades so that I get some idea of functioning level. What's his best subject? What does he like to do? What are his hobbies? Because I want to find out is he a visual thinker, is he a pattern thinker, is he a word thinker. The word thinkers are going to be very good at jobs, anything to do with working in a library and journalism. Those are two areas where the word thinkers really can excel. They'd also be very good legal research. For the pattern thinkers it's math, computers, statistics, chemistry, those would be good subjects for them. And then the visual thinkers like me, industrial design. Then, of course, the pattern thinkers, of course, engineer. I forgot to say engineer. My kind of thinking, the visual thinker, jobs like graphics designer, industrial design, anything to with drawing, photography, architecture, things that would make use of the visual skill.

INTERVIEWER: Well, Dr. Grandin, thank you so much for taking time to--

TEMPLE GRANDIN: Well it's been good to be here.

INTERVIEWER: Thank you so much.

TEMPLE GRANDIN: OK, great.