We have to use what nature has provided for the, you know, thousands of years of evolution of that hunting skill. So what we do is we found that breed in our collie dogs, so we use that ambush and that we can't train our dogs to do that.

So we just take advantage of it. So to put that into a machine, it'll be quite impressive. Yeah, yeah, yeah, you're caught away. I'm not worried. Do I look okay? So can you just quickly introduce yourself and what your expertise is?

Hi, I'm Stuart Barnes. I'm a dog behaviorist for about 25 years in the UK, but I've been an animal behaviorist for about 35 years. Traveled the world, been to a hundred different countries, mainly doing two projects.

One was saving wildlife. The other one was educating people about domestic animals. Like I said in my show, my first job in 1994 in the UK was horse whispering debates, teaching people how to understand the air body language from a prey animal to a predator.

You know, because a horse is a prey animal and we are predator, but we can still use the pack instinct behavior to get the connection. With dogs, it's easier because they were another predator, so we can get that connection quite quickly and quite easy as well.

Same system that we can pack. So the first question, from your perspective, what behavioral signs would indicate stress when a dog's interacting with sheep? Which is showing the stress? You mean the sheep or the dogs?

Either. Okay, so it depends on what breed. If it's a working sheep dog, there wouldn't be much stress because that's doing its favorite job on the planet. It's an instinctive behavior. It's called the breed instinct, and that's gold.

I mean, you know, I used to saw my show, I didn't care if they put biscuits in front of that dog. That dog would just want to go and do the job instinctively designed. If it was another breed of dog, let's say a golden retriever, it can be triggered, but it wouldn't be a controlled trigger.

We're just having a joint. The stress would be the prey animal, and that's in nature. animals on the side of the head so they see 360 predators eyes at the front like humans and dogs we need to see distance and a depth to attack the prey so we're designed to enjoy what we do to survive to hunt and the prey animals are designed to be very alert and find a predator coming up so there's stress on the prey animal i wouldn't say there's much stress on the predator okay and do you think sheep could habituate to a robot herder over time it'd be interesting um again because sheep recognize dog as a predator um that's where the instinctive comes from if you had a bunch of sheep and a horse walked through them it wouldn't either be a flight mode if the horse went up to them or cow but they're in the same bracket as prey animals um i would be interested to know what a um a robotic dog would fall under um the sheep i think would be very curious and it would flight when the robot dog got with them but unless it can do movements and very close to a dog or predator the sheep won't be alert to it because they are looking for,

their programming is looking for body language of a predator and how it moves and how it's coming towards them and that lends them to the flight mode, frightened flight. So yeah, it would have to be a pretty amazing robotic dog.

Pretty impressive. Do you think there'll be any behavioural risks when automating a task like that? Any, sorry, one more time? Risks, behavioural risks like problems you could have with the sheep if it's a...

Oh no, no, I think, I don't think there'll be a problem with the sheep that, you know, otherwise, you know, you wouldn't be able to use dogs on them. Dogs would be the biggest, you know, predator for a sheep and that would be the highest risk to elevate the sheep in that flight mode.

Yeah. Like I said, I don't think it would be any higher than a dog. I don't think it would be any more stressed, probably less stressed. Even though it's something new in an object, it would desensitise to it quite quickly.

Yeah. It surprised me that you say that dogs prefer, like, regards hard English sheep rather than a dog more than like a tree. Yeah, it's a drive, it's a passion. Like, when I was born, I knew animals was my passion because I get so much enjoyment of working with them.

So, I don't know if you saw my... Dogs are born with a DNA code and it's a survival instinct. You know, how to crawl to the teeth, how to work a giver, how to work in a pack and then they have a breed instinct, which is different.

Survival codes is exactly the same in every canine. It doesn't change. It's in their DNA. Then the breed instinct is like the branches of the tree and that gives them their purpose or their job. So, it's a driving force to keep them alive.

So, it's much deeper than a tree, much, much deeper. Yeah, it's nothing like you see those dogs who get treated. Sit, walk up, sit. I don't train like that at all because that's, you know, you can train any animals to do tricks.

You can bribe them to do anything. But I'm not bribing them. He's doing what he naturally does and I'm putting commands on it and we're working together as a pack. so slightly different. Is there any studies then you'd suggest doing with a robot dog and some sheep?

Yeah just trial and error. I mean I can see you probably you already tried a few things. The movement would be the biggest thing I mean sheep have to feel threatened with their lives to be able to see it as a threat and I think at this stage the robot dog might give them a spook here in there and they might jump and I think the sheep would regroup, re-look at it and probably just say what is that?

Because it doesn't move in unlike anything else in nature unless you can get the robotics that you know I'm not we're heading that way eventually there will be a dog robot dog body just move as well as a dog but I don't think we're that close to that yet and until you can get to that movement and that shape it doesn't trigger the sheep's brain into it.

It will be always a flight animal so from a human to anything going into it even a cow can run up to sheep and they will run backwards they won't see it as an attack on their life, where they would see it with a dog.

So obviously you've had lots of dogs trained over the time. What would you say the better quality is when you're training a sheepdog? The best thing is them doing what they naturally are designed to do.

There's no happier dog when it's instinctive behaviour. There's a reason why collie dogs in the UK are number two in the rescue homes, because people don't understand how strong that breed instinct is.

I reckon I could get rid of 40% of all dog problems and I just taught people how to pick and breed a dog for them, because they don't go into London in a house with a collie dog and all of a sudden it's chasing car tyres.

Why is it doing that? Well, it's a control freak. It's seen something escaping, it wants to stop it and control it, and humans have moved away from nature. We don't understand it anymore. But I can look at a dog's problem or what is the human problem in their eyes to a dog and I don't see a problem.

I just see a dog with the wrong jaw, but I understand why it's doing it, where humans don't do that anymore. We've gone into cyberspace instead of nature. So you even must have worked with farmers and stuff in there, sheep dogs.

Do you think Annie would be willing to use a robot dog instead of a sheep dog? I don't know. I've seen, I mean I even saw Clax on his farm, which is quite a big problem. I don't watch the TV actually, but I've heard about it, and he was trying to use drones and they were flying around trying to move things.

Once upon a time I used to use, when I was a young sheep, I was in helicopters and we could use them, but with helicopters there's noise and something to do with it as well. You know, there are ways of doing it, but I think you're going to be limited with what you can really do when you've got small mobs of sheep, big mobs of sheep, large mobs of sheep.

It's got to be very super fast. I mean you saw how fast my dogs were. They were sprinting around that arena in seconds. It would be quite impressive because the sheep are fast. So you get a robotic dog to be able to move.

to read the sheep. Like half the time I was into him in the commands, he saw the sheep going the wrong way, the dog read it without anything. And I liked to not over command my dogs. As soon as you over command them, you stop them thinking.

They go and they become like, what do we do now, Dad? What do we do now? When you let the dog develop and think, it's like sending a kid to school, their brain expands and they can read the sheep and then they can read the problem and they can read it way faster than me.

So the sheep start to think he wants to go that way, the dog will see the body language even, not even moving. But the sheep looks that way, the dog reads it and it's already moving before the sheep's moved.

You know, a human can beat that. So even if it was a human behind a robot dog, we could never be as good as a dog. It's literally impossible. Do you think instead would it ever be better if you had a robot dog working with a sheep dog together?

Yeah, but that would still be a human controlling the robot dog. Or do you think it would be better if you have a drone on top as well to sort of be able to see all the sheep and sort of give directions on those where the sheep are going?

I mean, I think there's definitely this is the way it looks like it could be going, but you know, I'm old fashioned. You know, I like a horse and a dog and I don't think animals can't really outsmart animals in their own environment yet.

And I think it's even if humans are doing the drone, humans are still reading the livestock and we're not as good as predators designed by nature for thousands of years to be able to hunt like they do.

And humans are never going to be as good as that. And we won't be here for a long time. It doesn't matter what we're controlling. Like I said, dogs read sheep's thinking of the movements, they read their energy.

We can't, we're not even, we've lost all that. We lost that art when we moved from nature. So maybe potentially with AI, where we use dog behavior to develop the AI in itself, when AI becomes self aware, then we're all in trouble and dogs occluded.

When they become self aware, yes, then I believe it can do anything. And it will be able to move sheep around without, because it can take all that. knowledge and input I don't I don't know I'm hoping we're not that close to that but I know but if you're talking about AI becoming self-aware and becoming central and controlling yourself then it will take over.

I believe that will in the future. I believe AI will come self-aware very soon. Well I'm a bit nervous about it. How long does it take for you on an average to train a dog to become a sheepdog? So there's a very good question and there's two parts to that question.

I can train, you saw that new dog, don't you see that? She's the only room here for a few weeks. I haven't done hardly any training and she's already improved and just in a few shows I've done with her.

So in six weeks I can teach her who lifts, who writes, who sit and walk up but she needs a lot longer to get an experience. Real learn how to move, how sheeps move and all that. That can take a year or so to become a really smart dog who thinks for itself.

I think I've got a show coming.