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[SPEAKER_00]

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[SPEAKER_04]

So hi there, I'm Muzamil, joined by my co-host Raj today.

And you are listening to the very first episode of the Innovation Podcast at University of Stavanger.

Through this series, we will be going beyond academic journals, sitting down with the researchers, scholars, and experts shaping our understanding of innovation and regional development to hear their stories and insights in their own words.

Today, we are diving into a question that sounds deceptively simple.

Who decides which direction innovation goes and who gets left out in that conversation?

Our world is full of promises, possibilities like green transitions, sustainability missions and responsible innovation.

But what if the very frameworks we use to talk about change are quietly reinforcing the status quo?

What if the roadmap only ever had one road?

[SPEAKER_02]

Thank you, Muzamil.

That was a very nice start.

Our guest today is one of the most cited voices in science and technology policy.

He has spent over 30 years in different places that matter a lot, like the Greenpeace boardroom, UK government's advisory, the European Commission and so many other places.

His latest work is quite provocative, and that is what we're going to talk in length about today.

His latest work argues that the politics of innovation direction are hidden in plain sight, and fixing that is nothing less than a democratic imperative.

Please join us in welcoming Andrew Sterling.

[SPEAKER_04]

Thanks, Andy, for being with us today.

Thank you very much.

Yeah.

So I'll start like this.

You have worked as a hospital porter, a building labourer, a farm worker, and a Greenpeace board member before becoming one of the leading voices in science and technology studies or science and technology policy studies.

Most academics, you know, they come from libraries, but your trajectory has been different.

How does that shape how you think about innovation, actually?

[SPEAKER_01]

Well, yes, thanks.

Some of that was quite a long time ago.

But to get to the core of your question, doesn't everyone have a normative orientation?

The implication of what you said is that somehow I have a normative orientation because I'm coming out of that background.

And I'd say actually that find me an academic who doesn't.

I don't think I'm different.

It's kind of you to be generous in your words, but I'm not different.

I can be explicit about my normative orientation.

But if you don't do that as an academic, an innovation scholar, then basically it's self-advancement, disciplinary influence.

That's the kind of thing that academics will be very passionate about.

And I just feel that buried in all views of innovation are values and interests, whether we are open about them or not.

And other people may see different interests.

I'm not saying I'm the last voice on mine, but there's no difference between me and others in that respect.

Just because I work for Greenpeace doesn't mean I therefore have values.

Everyone has values for which they should be accountable.

[SPEAKER_02]

Yeah, that's so beautiful, Andy.

On your background, what drives you towards innovation research?

What's your fuel?

[SPEAKER_01]

Well, that's a good question.

To be honest, I think it's a commitment to democracy.

In my head, democracy is about the capacity to challenge power.

That's not because power is bad.

It's just because it becomes bad when it's not challenged.

And I think that is foundational, not just to democracy, but also to science.

The motto of the Royal Society from 400 years ago in the UK, and it's similar in other countries, is nullius in verba, not on authority.

Don't treat knowledge and science as a source of authority, but as a process of argument.

And so for me, it's a common feature between democracy and science.

So it's a commitment to science and to democracy that makes me interested in challenging power and privilege in innovation.

I feel that's the only way to be rigorous about it.

[SPEAKER_02]

That is very thoughtful.

Talking about where science should go and the direction of science, even if I'm using the word correctly, there are three different topics that you're very clear about, which sounds exactly very, very similar, but they mean completely different things to you and you think that it means different in general.

These three words are directing innovation, direction of innovation, and directionality in innovation.

Could you clarify the distinction between the three?

[SPEAKER_01]

Sure, I'm very happy to.

But I want to be accountable.

It's not because I think.

I believe there are three very big differences rolled up in the way innovation studies addresses it.

So my claim, I could be wrong, but my claim is not just this is an idea in some words I thought up.

So that's to be clear about that.

But also, it's not an abstraction.

in a way that maybe could be implied.

It's arguably the most important thing about innovation.

So let's take an example.

If you are wanting directions, pick up the word for somewhere.

So in everyday life, you want direction.

Are you satisfied just being told go forward or how fast to go?

That tells you nothing because it depends which way you're facing.

So in everyday life, very straightforwardly, the most important thing is about direction.

So in those terms then, I think if you look at the literature, you can see words used in many different ways.

I'm not interested in policing words.

I'm interested in really important practical differences.

And the differences are then, if you think of that example, what is directing the way forward?
in any given setting?

So in any given area of innovation, what directs the way forward?

Then secondly, what direction is that in?

So in the case of agriculture, is it towards biotech or is it towards ecological farming?

Is it towards nuclear energy or is it towards renewable energy?

So that big question that often gets missed, what direction?

Not just who's directing, but what is the direction?

And then finally, the third word, directionality, is about there being different directions.

about an ability not just to discuss who's driving it, what is the direction, but also what are the other directions that

we might also talk about?

We cannot go everywhere, but we have to have some idea of what the other places actually are.

And I think on those very practical questions, innovation studies is nearly silent

It's all about directing the direction.

And very little about these wider issues such that, finally, when someone like me comes along and says, hey guys, what about directionality?

A large part of the innovations studies literature that picks up that word uses it to mean direction again.

The idea there are different directions is really not taken up enough.

[SPEAKER_02]

Yeah.

And do you think innovation actors should fix one direction and go towards it?

Or how frequent should the discussion about directionality be in the innovation process?

[SPEAKER_01]

Well, when you say innovation actors, of course, what does that mean?

I mean, for me, there is no innovation anywhere in the world which is not a function of the whole society in some way.

But there will, of course, be the most influential actors.

So for those guys, whoever they are, it's entirely understandable that they fix their attention on going where they want.

So for a typical firm...

in a particular sector like biotech or pharmaceuticals, it makes sense to go where the business model drives.

For instance, intellectual property.

We're not interested in public health measures or preventive care.

They may be great, but we can't make money.

We don't have a business model.

So for them, it's understandable, and we should expect them in the current society to be interested in directing innovation towards their interests.

It's entirely understandable.

It's not a criticism of them.

It's just what they will do.

But if we're interested in policy, then we stand back from that.

Yes, it's important.

We should listen.

But there's also questions of other voices who might have different ideas about their own directions.

We expect them, like environmentalists, like Greenpeace, they will have their own assertive language.

And then finally, for society as a whole, for democracy,

It should be interested in directionality.

It should be interested in talking about, well, yes, we could go that way.

We could go this way.

These are different futures we could have.

Let us talk about those futures in a more open way and not just reject anything else as being not possible or not even worth talking about.

[SPEAKER_02]

Where does innovation roadmap stand in your argument?

Is it a good thing to have a roadmap or will it fixate you to a particular route and then make it difficult for you to switch?

[SPEAKER_01]

Well, again, your question, is it a good thing?

You know, what I'm trying to do is say, look, these issues are political.

It's OK.

We don't have to pretend they're not political.

They are political.

What that means is there are different values, different interests, different understandings about the answer to your

question, what we should do, who we is,
and what we should do.

That's a political question.

And innovation scholars will often answer political questions as if they're technical.

I don't want to do that.

I want to say it is openly political.

It depends.

But on roadmaps, to pick up your particular example, well, let's think about when we... Roadmaps are one of the most common formulas in innovation studies.

They're very common.

And I just ask you, have you ever seen a roadmap?

in innovation studies that does not just emphasise one road.

It's, for me, far and away the most common, in fact, the only, I think, real idiom for roadmaps.

Now think about everyday life.

When you have a roadmap, does it show only one road?

So a real roadmap shows many roads out across a landscape of possible destinations.

[SPEAKER_02]

Yeah.

[SPEAKER_01]

but a roadmap in innovation study shows one road.

So this isn't a, you know, this is a very practical, concrete, clear point that we use the metaphor of something in a completely eccentric way, because what's going on there is capture particular interests who only want one destination,

will assert their road and then everyone else follows.

So I don't criticise particular actors for doing that.

I just say the rest of society, and especially innovation studies, should be more able to question it in the spirit of science.

[SPEAKER_02]

So you see roadmap in a holistic way that connects to the point that you made earlier about the directionality of innovation as well.

[SPEAKER_01]

Exactly.

I mean, there are many destinations for innovation.

Innovation is a wonderful, important thing because it contains possibilities for different futures.

Are we going to have energy systems based around nuclear power?

Is it going to be around centralised renewables?

Is it going to be around distributed renewables?

And that's just within zero carbon.

Yeah.

Even within that, there are many different possible futures.

So we should talk about those different futures and not have a language of the way forward, the roadmap, the road, the transition.

This assertion of just one thing is, I think, corrosive of both science and democracy.

[SPEAKER_04]

Yeah, that's really insightful.

Now, we'll talk a little bit about your recent work.

You invoke colonial modernity as an overarching political system driving bad directionality.

Critics, they might argue that the framing is broad and it explains everything and therefore explains nothing.

And how do you respond to that charge that this is a more political diagnosis than an analytical tool?

[SPEAKER_01]

Sure.

Well, first of all, there's a lot of things there.

Let's take the last point first.

Which academic frame is not also absolutely saturated by values and therefore political?

So when an academic says to me or anyone else, that's political, as if it's uniquely political, I'd say, what about you? because the one most corrosive thing, both of science and democracy, is to deny the politics that's inside the analysis.

So first of all, you show me an analysis in innovation studies that is not saturated with politics.

That's not a criticism, it's inevitable, because values, priorities will always be built into analysis.

So the first point is that, which I think is very relevant to our topic, that when you point out directionality, you get called political as if people just arguing for one direction and not political.

I think I'm less political.

I'm more open to different possibilities.

Secondly, colonial modernity.

So of course it's political as is any name, modernity itself, capitalism, whatever we want to call the prevailing, deep, pervasive historical formation that the world is now in.

Now, that is quite abstract, but it's a necessary word.

We have terms in the Middle Ages, we had feudalism, we have antiquity, we have words for overarching formations that cover large parts of the world.

We have these words.

Now, this is not just abstract now, because with sustainability, 190 countries have signed up in law to transform our world.

That's a UN phrase.

But if you ask, what from?

There is no answer.

So we know everyone is signed up to transform, but we will not name what it's from.

So my purpose in naming, I'm trying to name, I'm not saying it's bad even, I'm just saying, what is the name of the thing that the UN, including all the countries in the OECD, want to transform away from, they say?

capitalism could be the answer but I found in international discussions if you say capitalism you sound too political but actually capitalism is not too big it's too small because what about fascism what about state communism these have caused similar injustice and to put it mildly environmental problems

So capitalism is too small.

Modernity is a bigger thing.

But I think personally, if you want to understand modernity for the last few hundred years, you have to think about the processes of colonisation that lead to the world as it is now.

And in that, I'm just respecting a very large literature.

So I call it colonial modernity.

I don't mind what we call it.

because I want to have a discussion about those shaping forces that we can recognise in history, but somehow innovation studies doesn't want to recognise now, as if we're beyond the end of history.

So I think that's the eccentric political view.

Mine is simply analytical, and I'm very happy to have discussions and disagree with people who have different ideas about what that formation is, but not to speak of it is very problematic.

[SPEAKER_02]

I think I can think of one example where we can narrow down this principle idea.

It's Norway and its experience with having this massive oil industry, and also on the other side, having a brand of being one of the most sustainable countries in the world in terms of energy consumption.

How do you see this?

And what are the options for Norway?

Where does directionality come into for Norway?

Yeah.

[SPEAKER_01]

Well, you know, every political setting, every country has its paradoxes and contradictions.

I'm British, so I could hardly... The paradoxes and hypocrisies are enormous everywhere.

So yes, Norway certainly has its share.

And if Norway thinks itself above these things, then maybe it's a particular problem.

because if you stop recognising the contradictions of your own position, then you're in trouble.
On climate, yes, of course, I would not be the first to observe that, but I think climate is not the only place where that occurs.

What about an arguably even more pressing imperative for war?

You know, we are less than half an hour away from nuclear conflagration.

This is hardwired into infrastructures in many countries of the world that we can enter into, never mind the destruction of cities and people and environments that that causes.

The climate itself...

would be more changed from a few percentage points of the Earth's nuclear weapons being used than by fossil fuels.

So even there, what society will and will not talk about are quite interesting.

I think it's, again, a reflection of what I call colonial modernity, that we're allowed to identify climate disruption, which is a very important problem, but other equal problems, even on the climate itself, get sidelined.

So we need to recognise how much our imaginations, our understandings,

our discourses are shaped by the power structures of the world.

What that entails will be different.

You know, people have different views, but we should recognise that we are shaped in these ways.

And if academics cannot talk about that, who can?

[SPEAKER_04]

Yeah, coming to that, I think we'll have our last question now.

So, you quote the idea that it's easier to imagine the end of world than the end of capitalism.

If that's true and the evidence is mounting, so what should the scholars who work on the forefront of responsible innovation, what should they be doing which they are not doing right now?

[SPEAKER_01]

pick out the end point of your question first.

What should scholars of innovation do?

I don't presume to tell other innovation scholars what to do.

It's political.

They will be shaped by their own political interests, intellectual priorities, and then we should have a discussion.

As I said, the spirit of science, nullius in verba, let's argue, present evidence and reason to each other.

So what should they do?

What should they back?

I don't think there's any necessary conclusion.

I just want to have an open discussion

where people, first of all, do not pretend that their view is objective and someone else's is not objective, because that's toxic to democracy and science.

And secondly, fail to recognise that they are shaped by bigger structures.

The question is what those shaping effects are.

Let's talk about that.

Plenty to argue about.

Plenty of uncertainty.

And then finally, on your point, what was the, sorry, the end of capitalism.

I mean, it's not my phrase.

Of course, it's a very well, but for me, it's quite, it's manifestly the case.

We will, whether it be AI, nanotechnology, nuclear, asteroids, we have plenty of visions in popular culture, in films, We see all the time the end of the world, zombies, aliens.

We have end of the world all the time, almost pathologically.

But end of capitalism, other than as a consequence of that...

Hardly at all.

So whatever view one has, even, and I wouldn't criticise everything in modernity, you know, I think there's many things to celebrate, but even where you're in favour of the system you're in, not to even be able to imagine the ending of it is very irrational.

And again, if academia cannot escape that, who can?

If innovation studies cannot escape that, who is going to be giving us advice about innovation, which is free from potentially very dangerous

Errors.

[SPEAKER_02]

Thanks, Andy, for this wonderful conversation.

We learned a lot.

I'm sure our viewers learned a lot as well.

Before we part, could you let the audience know what you've been working on now so that they know what you're working on?

[SPEAKER_01]

Sure, thanks for asking.

It's dangerous to ask an academic that, isn't it?

But I mean, actually, I'm quite old now, you know, 64.

So I'm working on everything I ever worked on.

As life goes on, I mean, it's a huge privilege that you're in a position where that can happen.

That's what I'm doing.

So there's nothing I've ever worked on, which I am not in some way working on.

So power, uncertainty in science and technology.

But within that is a little bee in my bonnet, as the English language has it anyway, of topology.

So it's quite a more analytical end away from the practical areas, but I think with enormous implications.

Think of the implications of topology for what we're doing, that there are ways of describing the forms that things take which are deeper than quantification.

And even mathematicians understand that.

So economists and innovation studies should understand it too.

That's what I'm interested in.

There's some very practical implications flow from that.

[SPEAKER_02]

And at the same time, very philosophical.

Thank you so much, Andy, for joining this discussion.

We really learned a lot.

Thank you.

And thank you also to the listeners for tuning in.

See you in the next episode.

[SPEAKER_00]

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