Interview with

Marcel Jaspars

Ethics Advisory Board

1st Question

Interviewer: So first question is: in your view, what are the main ethical challenges in marine bio-prospecting that projects like EUREMAP need to address right now?

Marcel Jasper: So typically with ethical concerns for any bio-prospecting project is to make sure you have all the access and benefit sharing permissions in place. So there's different regimes, of course, there is the Nagoya protocol, which would be the first one to look at if you're collecting within national jurisdiction, and especially if they're exchanging samples between countries.

And whereas within Europe, this is all fine, in between countries that are not in Europe, like Norway and the UK, and then Europe, then you would need to make sure that you did the right checkpoint, decorations and things like that. The other one, of course, is the new agreement, the BB&J agreement that is just coming, but just being ratified. So it'll come into force in January.

And then we'll have to think about how to deal with that if you're going to collect anything from outside of national jurisdiction, or you're using materials that are already from outside of national jurisdiction. So those are the main concerns I would have at this point. The other one to consider is if you are recording DNA sequences, again, from the project, that those are all compliant with the new CBD decisions that are coming through on digital sequence information.

So those are those are three things I would keep an eye on. I think the project itself has already taken great strides towards making sure that you're doing all those things correctly, you're interacting with the right people, you have the right experience, you are trusted collections and trusted actors. So I think there's a major problem.

It is just that the landscape is very complicated, and that you must make sure that you're doing everything correctly.

Interviewer: So in your perspective, you think the main challenges are related to governance, not technology or involvement of communities. What's your perspective on that?

Marcel Jasper: So that's the angle I'm coming from. There are working with communities and coastal communities, for instance, if you're working with these things, you have to consider indigenous peoples and local communities as important actors in this knowledge ecosystem, whatever you like to call it. And then that has to be recognized through again, making sure that there sometimes the requirement is just recognition the other times that there is the possibility of having benefits shared back with the local community from which these materials came.

So again, these are things that are considered under all of those three things that I mentioned, they all have aspects of additional knowledge and additional knowledge and traditional knowledge and things like that all come under that.

2nd Question

Interviewer: So going on to the second question, looking ahead, how do you see the future of marine bioprospecting? And what ethical priorities should guide its development?

Marcel Jasper: So I think the big thing for bioprospecting is, you know, having good culture collections, having good what I would say trusted culture collections, so that you can rely on the fact that the materials that they have are obtained with legal certainty.

So something like the DSMZ in Germany has these collections that are, you know, legally compliant with every protocol you can think of. That's critical, I think, on the one stage, the other side is technology is moving so fast. If we do genome mining, and we share those genomes with everyone, then you could build powerful AI around that.

And that AI, again, has the potential to be used to create new products that could be quite valuable. And again, is how to share those benefits with the originators of the data or the communities or, I would say, you know, actually tying a sequence to a product is going to be very problematic. So having a system that relies on a measure of usage of sequences.

So if a country used a million sequences, and produce two million, then you can offset the sort of production versus the usage. And you could then calculate in some way what they owe to the system to make sure that benefits are shared on usage of DSI, especially if you have valuable companies that are generating really, you know, profitable products, that some of that money should go back into a system that allows for the benefits to be shared. And my perspective, things like training capacity development are the most important things that could come out of that.

Interviewer: Okay, okay. So it's sure to say that one of the key drivers is benefit sharing. But what do you think about like, in terms of biodiversity protection? Do you have any words on that?

Marcel Jasper: So a lot of that, what biobanks are important for is to have access to those materials in a form that is essentially a record of what that material was and when it came

from where it came from. So it's a baseline of what exists at a certain point of time. So again, things like the National History Museum, and the collection in Marbank in Norway, for instance, are great examples of valuable collections which have collected materials over years that say these are, you know, this is collecting this period of time, this is collecting this period of time.

And that means that it's useful to be able to say in the future when things change, that might be good. But yeah, so those are important things, trusted collections, biodiversity conservation, I think are critical aspects to having collections that are well connected with the rest of the world and are basically, you know, you can, you can say roughly where the material came from when it was there, and how it can be useful biodiversity conservation in terms of that knowledge that you generate.

3rd Question

Interviewer: So for the last question, I wanted to talk about the EUREMAP's role in specific. So from your perspective, how can EUREMAP contribute to setting high ethical standards in these fields in particular?

Marcel Jasper: So again, the way to do that, and I think you're already doing this is to make sure you survey the ethical aspects of each project before it starts. We demonstrated projects already, as I know, you have a really good system for doing that.

And that's, that's useful, I think, as a tool for others to use as well, say, what are the things you want to try? The second one, I think that you're doing very well is to look at the standardized material transfer agreements between the institutions so that you don't waste so much time in the future on these legal things, but you know that things can be done swiftly and legally and, again, with an eye on tracing the benefits in the future. So again, this is, I think this, this is where you're about to really contribute in terms of that. The second thing is to make sure that collections have essentially a minimal data set that can be shared with others.

So you might want to share it through the global biodiversity information facility where you have these collections. And that's useful because then everything is collected in the central place. People can access your collections through that.

They can collect materials, and they know that when they go to a collection that a certain set of information will be there about their samples or the metadata will be consistent. It might not all be exactly the same, but they all have a core element of that metadata that's consistent throughout. That's tremendously helpful, again, for the question you asked earlier, which is about biodiversity conservation, because the more data you have that's consistent, the more you are able to say things about how things are changing in different places at different times.

Interviewer: Of course, of course. So open source data, it's one of the best practices that you're sharing with us. But do you want to share any other practical steps?

Marcel Jasper: I think, so the kind of principles I'm interested in, in that case, if open source is a very good thing to do, open science is important.

It is making sure that the data and the representation of materials in collections is there in such a way that it's ready for us as my philosopher friend Sabina Leonelli calls it, is that the data is ready for travel. But the data is in such a form that it can be used by the community that wants to use it. But it's not so much, it's not in such small sections that it can't be found, or it's not so lumped together that you can't analyze it.

So it's making sure the right metadata is there to be able to interrogate the data clearly. And that's something that's really important. So that's the role of data curators.

And I think they're going to only become more and more important. And so curators for collections, curators for databases are essential to make sure those collections are findable, accessible, interoperable, and reusable, the fair principles we will talk about, right. So but that's, that's, that's critical.

I think once once that's done well, and I've seen countries where that is done really well, that the collections can be interrogated by people to find out, you know, I want a sample that has this and you can find immediately from your map, your map map, we're going to call it, you can find essentially that there are collections of I don't know, standard bacteria that you're interested in, in these three collections. You can look at their genomes, you can do investigations and things. So that's a really cool aspect of this whole project.

And by tying it together, by setting common standards, you're going to end up with something that is more than the sum of its parts.