Resolution Through Resolution: Open-Source Information and Nuclear Policy

Speakers

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Beth Sanner: Well, I am really happy to be here today with all of you. I'm Beth Sanner and I was the Deputy Director for National Intelligence in my last role, but I've spent my about 35 years doing intel and policy and open source was a really important part of that. I'm really excited to be here today to talk about open source with three people who come at this issue from I think, three different angles, which is great.

Jeffrey, everybody knows who you are already. You are the godfather of, I think the use of OSINT in nuclear policy and policy support. I'm really happy to have you here to talk about this topic. I'm going to go next to James because James comes at this from the intel community, and so he uses open source, but he combines open source with what is called in the biz all-source analysis.

He, I think, will give us a great perspective on how open source is incorporated into intelligence analysis. Then goes to Mareena, who is in this case serving as our policy representative. She will be able to talk to us, I think, really effectively about how open source from both the unclassified world and other information from the intelligence world combines into helping make policy.

With that, I am going to kick it off here. Just say to begin with that, I think it's fair to say that the Ukraine war has really brought open source front and center to many, many people. We've been in the midst of what I think is an open-source revolution for some time, but with the Ukraine war, it's really in everybody's face. I think it's
important for us to use that as a context for what's working and what's not, and we can maybe get to some questions about that.

I think about this because when I was in intelligence, I was getting information including open source, but it was given to me by smart people like James. I had an automatic curation mechanism, and now I'm on my own and I'm talking about geopolitics all the time. I'm talking about Russia-Ukraine war on CNN, or at conferences, and I have to pull all this information together myself.

I have been amazed when I'm here in the world where I don't have intelligence, how smart I can be. I think, at least I try, but how much information is out there for me to grab onto? At the same time, I miss my colleagues in the intelligence community who helped me validate that, make sense of it, tell me what was important and not, and then added that secret information into it.

It'll be really fun to have this conversation today. I wanted to start off by, and I'm trying to make this a little bit more concrete instead of talking big picture OSINT by asking Jeffrey to talk to us a little bit about the case of North Korea and how important has open-source been since the UN inspectors were kicked out in 2009. Then have you had any feelings of gaps or how it, how it hasn't worked?

**Jeffrey Lewis:** Well, looking at North Korea is all gaps. It's an incredibly difficult place. When I think about the value of open-source information, I think of it as being a very distinct way of knowing. One of my colleagues at CNS who recently retired, Sandy Spector, spent many years at the Carnegie Endowment, wrote these incredible books about non-pro proliferation in the 1980s and 1990s. They are remarkable, and they are based entirely on things he could get people to tell him because he really did not have, and no one had an ability to look out and get facts for themselves. I couldn't have done it the way Sandy did it. I am just not that smart. I don't work that hard. Now we live in this era where data is ubiquitous. We have so many commercial satellite images.

I have more satellite images of North Korea than I can ever look at in my entire lifetime. When you have a country like that where you can't access it, I've met North Koreans on a few occasions, but that's pretty few and far between. I don't really feel like I get good answers out of them, and I certainly can't roam around the country myself. That ability to take information that comes out, whether it's photographs that are ground truth or satellite images, or building computer models of facilities and infusing that data together, I think it is literally the only way that we have to know about North Korea's sensitive defense programs given that they don't let anyone in.

**Sanner:** James, I'm going to put the intel officer in the uncomfortable spot of talking to an audience.

**James Murphy:** Thanks.

**Sanner:** You're welcome.

**Murphy:** Thanks.
Sanner: I wanted to start with you with a bigger picture question about how do you think about open source in the context of all source analysis, how important is it to you and how do you rack and stack the different incoming pieces of all source analysis?

Murphy: Sure. I'll start off by saying open source information is crucially important to the IC and to our assessments. You hit it on it earlier. A lot of the analysis that informs policy is what we call all-source analysis, meaning we as analysts look at information from multiple different sources, and we treat open-source information just like we treat all that information.

Other sources of information, basically we break it down. Open source, from my perspective, is any kind of information that's not acquired through a classified means. The more classified sources of information would be things like human intelligence, or human and signals intelligence, and SIGINT, also classified imagery, so not necessarily open source imagery stuff.

As an all-source intelligence analyst, I use all of that information informing my suspects. I've been in the IC now almost 30 years, worked all kinds of hard target issues including North Korea counter-terrorism, and now as the NI for WMD everything. I have always used open-source information in my assessments. As an analyst, what you do is you look at all information like I'm an information consumer, I want as much information as I could possibly get. The more information, the better. Although I'll caveat that by saying, I want good information. I don't want bad information, and that's a challenge with everything. As an analyst when I'm looking to answer a specific intelligence question, or if I'm in more of a monitoring role and just looking at developments, I'll look at all forms of information. What I'm looking for is the best information. I literally do not care where that information comes from, well I do care, but only in the context of establishing whether or not it's good information. If somebody says, "Murph, write an assessment on North Korea," I will look at all information and if the best information that I have available to me is open source information, I will use that figure, use it prominently in my assessment and write that paper.

Now, typically the kinds of questions that I get asked as an intelligence analyst are not the kind of questions that we can answer just by looking at open-source information. We use those classified sources of information, but the open source information is really crucial. In fact open source information, historically I think, most analysts use open-source information for what I consider context and background. I can't understand what I'm seeing through classified reporting on a country or a terrorist group if I don't have access at an open source information that puts that on a perspective. That's traditionally how we've used it. Things like newspapers, I would say that my day starts off the same way a lot of you start off your days. I open paper, I read the paper. We don't just read US papers, we'll read foreign language papers, we'll read journals.

We'll read academic publications because there's just a ton of information that's out there and that helps us do our jobs. Then we incorporate that provides the context
and the background information that we need to make sense of the information that we're seeing for more classified sources.

**Sanner:** What do you think is the difference, the delta now? Open source is a lot more than newspapers, right?

**Murphy:** Absolutely.

**Sanner:** There's so much commercial imagery that's out there. There's so much, maybe not as much with North Korea, but certainly, we're seeing in the Ukraine war and other contexts that we're having social media. GPS is playing a big role in geolocation and there's a lot of things going on, what do you think for you is the delta between what you can get in that open-source world and what you rely on on the classified world in terms of answering those questions?

**Murphy:** I would say that delta is shrinking in a lot of cases because of so much information. Well, when we say there's a lot of information out there I think what we're actually saying is there's a lot of sources of that information that's then getting published online or through social media or something so it's out there and it's available. Because I guess the collection scope of open source is increasing, the things that state and non-state actors can hide from us is also decreasing because there's just so much. Everyone's got a camera, everyone's got access to Twitter and they can post it on there and so that does decrease the delta and that's a good thing and a hard thing.

It's a hard thing sometimes because there's just so much open source information out there and we have to be able to find it and then we have to be able to figure out what's good and what's bad, but the good thing is as that delta decreases, we can shift our collection resources to other areas that may be open source isn't well positioned to collect on. That's a benefit to us because if we can acquire something through open sources we're not going to spend a lot of time focusing classified collection sources on that because that's just a waste of resources.

**Sanner:** I'm going to turn to Mareena in just a second but I'm going to ask Jeffrey, are you ever jealous of what James has and you don't?

[laughter]

**Lewis:** Good Lord, no.

**Sanner:** I kind of knew the answer to that before I asked and I want to ask why that is.

**Lewis:** Look, nicer toys are better and I appreciate that but at the end of the day I think this is fundamentally an analytic problem. There's the saying in horse racing that you bet the jockey not the horse and it's better if your horse is faster and you got a faster horse and that's awesome but we are really focused on the idea of analytic quality and being resourceful and working with what we have. To me, that's a challenge that's very appealing and adds a certain richness because sometimes we really have to work at it.
I have an example that I use in the class I teach which is there is a declassified National Intelligence Estimate from just after the Soviet Union had cut off assistance to the Chinese nuclear program and in that NIE which reflects the best-classified information they had access to at the time, they don't actually know that the assistance had started let alone that it had stopped. There is simultaneously an article written by a guy named George Ginsburg and all he did-- now, he was a special kind of person because he spoke Russian and Chinese. He just read communist block newspapers and he knew how to read them. He understood what that propaganda indicated and he did better than the NIE.

That is a case where someone who was admittedly a very special analyst, I think much more than I would ever be, was able to get so much information out of so little. There are definitely days where I'm like, "Oh, I wish I had a better radar picture of this place," for sure. I don't feel fundamentally our problem is that we don't have enough data. That our problem still remains fundamentally one of analytic approaches and thinking about problems clearly and solving that is a thing you solve with better method more so than better data.

**Sanner:** We're going to come back to that because I think this idea of creating better jockeys is a really important one but I'm going to turn it over to Mareena now and ask, as a recipient of all of this information and you have the problem too of you have so much coming in from think tanks and smart people, labs where you used to work and the intel community and policy colleagues, how do you sort through the idea of the importance of open source for you and do you think that the policy communities in this space of nuclear policy, arms control policy, do you think that we are where we should be?

**Mareena Robinson Snowden:** Yes, thank you so much, Beth, and thank you to Carnegie for having me back. It's really great to see so many colleagues. I come at this from the arms control policy-making perspective. I currently work in the Bureau of Arms Control, Verification and Compliance where we're responsible for bilateral negotiations and implementation of arms control agreements as well as all of our multilateral engagements. As it relates to how open source affects the day-to-day of our work, you can take for example New START implementation, for example.

When we're trying to monitor compliance to that agreement we use national technical means in addition to information exchanges with our Russian counterparts as well as on-site inspection. Those have been the primary information streams by which we make formal compliance judgments, but that's not to say that we don't see a value in open source information in the way that we think about our work and also the way that we conduct our work.

You said earlier we've been in this revolution or renaissance or this maturing field of open-source information and I absolutely agree and all of these technologies coming together at the same time over the last 10 years with the proximity and prevalence of social media, the continued maturation of commercial satellite imagery. All of these things have come to ahead and we've been wrestling, as a bureau and I think as an organization, with what the role of this information should be in our work.

As early as 2011 we were asking these questions. You can see different government players wrestling with this and starting to bring these commercial tools and
particularly on the imagery side into their strategies more formally. You think about organizations that are responsible for geospatial analysis or what have you and they have these hybrid architecture visions where, to James' point, you'll be able to leverage open source unclassified information alongside the classified exquisite sources. That in part gives you the opportunity not only to use the limited bandwidth of your exquisite sources better but also to think about the further research and development for future systems that you'll develop.

If there's, to James' point, information that we can get from the unclassified space then we may not need to devote the R&D to doing that in the exquisite sense, assuming that the quality to your point, Jeffrey, is to where we need it to be. I think we're open, we're trying to understand and when we tend to talk about open-source information, I think we immediately go to commercial satellite imagery.

There's a lot of different data forms, to Jeffrey's point, about modeling, about social media. I think as an organization we're thinking through how best to use that not only in the formal judgments that we make on our agreements but also the way that we do work. You think about certain organizations are able to text in the midst of meetings.

Sanner: Yes, not intel people, no.

Robinson Snowden: That can help in relationship building and accelerating negotiations. Other organizations particularly military alliances and conversations around those type of topics, obviously, you cannot have your phone in that conversation, so it slows things up. I think there's different levels to this question, but we as an organization like many others are working to understand and I think there's, to the point about the delta, I think there was a lot more hesitancy or just unfamiliarity with how impactful this could be but the last few years and particularly now have demonstrated unequivocally that there is value and there's a role, especially from a diplomacy standpoint.

Being able to share information, call out bad action and misbehavior, disinformation. That's hugely important for the work that we do, so we definitely appreciate the role. We're working through the formalities of wrapping it into our processes.

Sanner: When you said that about the disinformation, I think about the run-up to the Ukraine war and certainly there was some open source used there in terms of the US government policy but there was also declassification of information that wasn't available in open source, especially about the plans for blaming Ukraine and creating a pretext for war and that was only available and classified. Again, what I'm hearing from you, it's still a fusion that's important to you even though Jeffrey is not jealous, but I don't think you have any reason to be.

Lewis: I have a really good life,

Sanner: I know. I was saying like-- if I could live in Monterey, really.

Lewis: Occasionally people confuse me with James, [unintelligible 00:20:20].

Sanner: Funny.
Lewis: By the way, it's easy to tell difference. It happens all the time. Remember, James is British and odd.

Sanner: I won't go there. I want to remind everybody to ask questions on the app. There are a few coming in here who have been at two sessions that know that already. The next things I want I wanted to ask is about how open source is now changing with technology. Because one of the things that I really think about is how we use big data. We use data sets. We use machine learning in order to monitor a lot of different sites at the same time. There's a lot of technology now coming into play. I wonder, our practitioners who have been doing this for a while, are we actually ready for this change and how should we think about maybe how we need to change our approaches because of this advent of technology? Maybe I'll start with you, Jeffrey

Lewis: Well, this is actually something that we focus on a lot at the institute because we train a lot of students, some of whom may go on to be intelligence analysts, in which case they get to play with your cool toys. Some of them will go on to be policymakers. Not as good as you, but maybe pretty okay. For those people who are going to be policymakers, we always discuss, well, how much detail do you give people? Because they may never actually do this kind of work themselves. I actually think it's very important for policymakers to understand where the data is coming from, to at least know how information is produced, how it's analyzed.

Sanner: I agree completely. When I first interviewed for the intelligence community I went down to the predecessor of NGA called NPIC. They had me sit at this light table, and they showed me this image and they said it was a test for my interview like, "Well, what do you see?" I saw a baby. I didn't pass the test. It is not easy. It looked exactly-- Anyway.

Lewis: We have some light [crosstalk]--

Sanner: Anyway. I think it's really hard and there's skills involved. One of the things that I think is really important that I've noticed during the Ukraine war is there are a lot of people out there who are looking at this commercial imagery and they're commenting on it. How do you know if that person knows what they're doing or not? This gets to your point, James, about, there's a lot of information out there. Not all of it is good. How important do you think training is in developing these open-source skills?

Murphy: Again, I think it's crucial. I've heard Jeffrey talking about this in some of his blogs and posts about teaching people how to do this stuff because you can't just,
"Oh, okay, well, I've got access to imagery and a lot of articles, now I'm going to figure it out." I started off as an imagery analyst at CIA.

**Sanner:** You did not see a baby.

**Murphy:** No.

**Sanner:** You saw missile sites.

**Murphy:** I don't how you could look at a light table and see a baby, so I am fascinated.

**Sanner:** I didn't actually see a baby, but I did not see the missile site.

**Murphy:** One of the things that always drives me crazy when I see people post imagery is when they post it the wrong way.

**Lewis:** I am with you. Makes me just [crosstalk]--

**Murphy:** There is a way to orient the imagery so that it makes visual sense and it drives me nuts.

**Sanner:** See, they are nerds. They're trained nerds.

**Murphy:** They'll put it on upside down. It drives me crazy.

**Sanner:** Yes, it's important.

**Murphy:** if you put a piece of imagery upside down in a paper and then publish it, you've already lost credibility with everybody who knows that you have to orient the imagery so that you can make sense of it. That's just basic tradecraft. You have to have tradecraft. You have to know the basic concepts of your trade. I guess that's why they call it tradecraft. Every IC agency does that. Every IC agency teaches its analysts how to do their stuff. I actually started off in my career as a SIGINT analyst in the army. The army trained me how to interpret the things that I was getting-- I wasn't actually listening. I was looking at transcripts, but they taught me how to interpret that and how to make sense of that.

When I went to NEMA, which was after NPIC and before NGA, they taught me how to look at imagery and how to make those kinds of conclusions. Then going to CIA, they taught me how to do all source assessments. It's not terribly complicated. We put a lot of effort into training analysts, but it's a lot of the same kinds of things that you're going to learn in graduate school. It's teaching you how to think critically. It's teaching you how to think about the source, or as much as you can understand about the source of information that you're taking and then using it.

Those same tradecraft skills that I learned as an all-source analyst that are applied mostly to classified collection apply to open source as well. You can't just look at an article or social, especially a social media post, and take it at face value. You have to interrogate the source. You have to think, what is this? Who is the person who posted this? What are they posting on? Are they in a position to actually know what
they're talking about? If they're passing rumors, that could be fine too but then it's like, "Okay, who's the ultimate source of that rumor? Is that person in a position to know what they're talking about?"

**Sanner:** You, as an experienced intelligence officer, you learn those things. Jeffrey, you've learned in your cohort. I've had to learn that too and I have to ask friends. It's like, "Oh, is this person good? Is that person good? How do we think about that?

**Mareena:** as a policymaker, what are your views on all of this?

**Robinson Snowden:** I really appreciate the training question, and I come at this, again, not as an intelligence officer, but as someone who focuses on arms control policy. For me, I think equally as important, particularly when we're talking about monitoring compliance or behaviors under agreements is everyone needs to have an appreciation of the difference between monitoring and verification and also an appreciation of the nuance when we're talking about violations.

Monitoring is a technical activity. You are taking in a measurement, whether it's an image or you're collecting radioactive samples, what have you, that is a technical activity. Verification is a political activity. It's a judgment that you're making based on the data that you have in front of you. I think sometimes those two words are used interchangeably in a way that's not helpful to the conversation. I bring that up because, like I said, we do see the value in open-source analysis, broadly speaking.

I think when we're talking about activities that one state might be doing versus another, there's this idea of are we looking for politically significant violations, militarily significant violations. Different states look at this differently. Having the open source community develop a literacy and a muscle memory with that part of the conversation about, okay, once we've observed something, what are the different interpretations that we can have? What are the different factors weighing into that judgment? Because we've seen from administrations to administrations, things handled differently based on their perspectives and worldview. I think that's an important part of the conversation that's not always represented.

**Sanner:** I think that answers partly, at least, Jordan Smith's question about the standards by which you judge the validity of these sources. Jeffrey, did you have anything to add to that?

**Lewis:** Yes. It's a funny thing. We don't often use the phrase open source in our work. We tend to talk about new tools because our sense is that the research methodologies are the same as they ever have been. The institute that I work at started as a language school and all those old ways of knowing, we think are not just legitimate, like we tolerate them, but they're foundational. It's not that there is this new universe, it's just that there are these new tools, but you are still engaged in the same critical reasoning of interrogating sources. I often, in my class, if anybody here ends up taking it, I'm ruining it, but when I first assign something to read, the first question I ask is, okay, who wrote it? Why is this person writing about this?

The number of people who don't pay attention to that is really surprising. I say, look, reading is not staring at each word sequentially. You really have to engage critically with the text. Now we have new tools in the form of commercial satellite images and
data, but that fundamental reasoning capability, you could have learned that 300 years ago.

**Sanner:** I agree completely on that. I think that that was one of the big lessons out of Iraq WMD and the intel failure there is that in large part it was a failure on sourcing and to really question sourcing and to understand it and to go back again and to deal with sourcing in a way. The result of that was the intel community really doubled down on critical thinking as well as technically trying to deal with some of the sourcing issues that were related to the operational sourcing.

I do think that that critical thinking and the processes and the research methodology, these are all fundamental and I think something we all share. I wanted to ask and one of these questions it’s related to one of the questions of the audience here about crowdsourcing open source. Mareena and I were talking a little bit about this before we came on about some of the ideas you have about creatively using open source.

**Robinson Snowden:** Yes, absolutely. It’s a great question. I think the way I think about it, there’s two ways that open source can be immediately helpful or is immediately helpful to the work that we’re doing in our office. Part of it, I think I have to give a preamble of the way that when we use the term arms control, we’re using it broadly speaking. Typically when folks hear the term arms control, we’re using it broadly speaking. Typically when folks hear the term arms control, they immediately think legally binding agreements. New START start things like that.

Those are, yes, a part of the equation, but there’s also less formal things like risk reduction that we’ve heard about in the previous sessions. Confidence building measures that don’t have to go through senate approval and ratification, but are nonetheless important to laying the groundwork for more stable relationship. For us, particularly in these new domains, like space and cyber that don’t lend themselves nicely in the way that nuclear did or even conventional does to quantitative limits on systems, what’s going to become more important is the idea of norms. How do we constrain irresponsible behavior? How do we define what we think is irresponsible and inappropriate? How do we put agreed upon boundaries around that? A good example is something that we’re actually trying to gain support for at the UN First Committee right now around our ASAT resolution.

You all might have heard the vice president earlier this year announced the US commitment not to conduct direct assent destructive anti-satellite missile tests. We chose that path as a first step towards norm building in space, in part because first of all, it was achievable. It’s a very simple resolution. It’s exactly the words I just said. It’s exactly what we’re committing to. It’s in the interest of all parties. Industry, government, space debris is no one’s friend. For us, it was a natural first step and it is externally verifiable.

You know when a country has launched a missile to destroy a satellite in orbit. It’s not something that’s easily hideable. To us, we saw that as a strength because it’s something that will allow for very easily being called out. Here we see open source information and analysis as being potentially very useful, in terms of not only having the exquisite capabilities to see it on the inside classified, but to be able to see it on the blogs and on Twitter that this has happened because from a diplomatic standpoint, that information then becomes the content that we can use to galvanize
the international community, to say, listen, we don't appreciate this behavior. You're putting all of our systems at risk.

You're putting all of our citizens at risk in terms of their daily life, the systems that we need to rely on for internet, for comms, for GPS. This is not something that we can accept from a responsible state. From that perspective, we see a natural synergy with open source in terms of helping to build and externally observe these behaviors but then the second piece to that is in the day-to-day work that we do.

A lot of the work that we do in my bureau and in state department in general is not just focused on negotiating an agreement, but often around building a common understanding. Literally just having conversation so I can understand how you see a problem. When you use this word, what exactly do you mean? Et cetera, et cetera. We have initiatives that we've been supporting and pushing really hard on that are designed for just that. For example, the creating an environment for nuclear disarmament initiative that brings together a really diverse group for informal conversations around risk reduction, around incentives for nuclear use.

Things like IPNDV, the International Panel for Nuclear Disarmament Verification, where we're digging into the details of verification. All of these are forums where you have really unique states together to talk to understand what you see when you look at an image or when you look at a data point. Some of the activities we do are things like tabletop exercises, where we saw that great panel with Sharon this morning where she put us in a VR experience and tried to simulate a crisis situation.

We can do that with a tabletop experiment where it might be text-based, where we're giving folks scenarios, but what if we were able to wrap in real open source data that wasn't manufactured by the folks in the bureau, but was actually something that we could reference from a historical event or what have you. That's the way that we're thinking through how to incorporate open source imagery, social media data, metadata, what have you, into both the agreements we're trying to negotiate and we're trying to lobby for and also the day-to-day work we do to build common understanding.

**Sanner:** That's great. I hope you can do that.

**Robinson Snowden:** Me too.

**Sanner:** Jeffrey, what do you think the pros and cons are of crowdsourcing open source?

**Lewis:** Well, crowds are incredibly valuable but they are incredibly valuable in specific ways that we know. A crowd is going to do a great job of guessing how much an elephant that we put on stage weighs. There are some problems like that that are really amenable but then there are other areas where crowd wisdom just isn't all that useful. The natural question is, well, where the contours of that, where does it cross over from being useful and not useful? We've explored that a little bit.

We had for several years a project called Geo4Nonpro, where we tried to create mini crowds. As it turns out, the crowd that self-selects to go pin things on a website is not exactly a crowd-crowd. I don't have any really pat answers other than to say that
crowds I think are really good at estimating things where the kind of information that's being accessed is generally available. I think crowds are less good than when you show them a building and ask them what's going on in the building.

Robinson Snowden: I agree. I wanted to turn to the dark side of OSINT because I think we make this assumption going in that it's all rainbows and unicorns and there couldn't be really anything bad about open source. I want to challenge that a little. There have been a couple questions here about how actors react to open source and whether they will hide things differently or whether they will react in some way that is actually undermines US policy interests or something. James, do you have any thoughts on that?

Murphy: Sure. How do I put this? I pause a lot when I have to talk at the unclassified level. State and non-state actors I think I mentioned this before or maybe I didn't and I forgot I mention it. A lot of them have incentives to hide things from us. As more and more open-source collection tools and means are available and more open-source information comes out there, their ability to hide those things goes down. Also, their ability to understand how their ability to hide things is going down goes up, so they get smarter at maybe hiding things that they realize now people can determine through open-source. That is the same problem that classified collection means face as well. That's one of the reasons why we classify an intelligence that we collect from some of our sources because we understand that if that information gets out, our adversaries will start asking themselves how did they know that, and they will go back and figure out, "Oh, okay, that's probably how they figured it out," and they'll stop doing that which is bad for us. They're trying to do that with open-sources as well.

The flip side of that argument though is that now they know that they can get information out through open-sources in particular ways and they can exploit that as well. They can exploit that for disinformation campaigns, for example, or flash something shiny over here that people will go focus on and tweet about and talk about a lot and distract them from the thing going on over here that they may not be able to hide as well but that now no one's looking at because they're all distracted over here.

Again, that's the same problem we have with the classified intelligence means, all information is information whenever we publish and/or publicize information whether it's classified information or open-source information, we are telling something about the way that we acquired that information. A savvy adversary can then take that and then go back and figure out how to keep better secrets and/or figure out how to basically screw with us by showing us some stuff that maybe they realize isn't that big of a deal or that will give us a complete and total long idea about what they're trying to do.

If you've ever read a spy novel, you know what I'm talking about, like turn in double agent, have them go back to CIA, and say, "Oh, yes, we're working on this," when they're not. With open-source, unfortunately, it's easier to do that because there are so many ways of collecting open-source and then posting it, it's just so easy to exploit that for disinformation purposes.
Sanner: Jeffrey, do you ever worry about when you out something new, like the Chinese nuclear field or any number of things that were for the first time that maybe you or your institute put out there about the capabilities of an adversary, do you ever think about and how do you sort through in your head what the consequences of that are? How do you play with that?

Lewis: We really lean into that. I sleep very well at night and I'm unbothered by these questions.

Sanner: That's why you're here.

[laughter]

Lewis: It's true. One reason I'm unbothered is because the United States of America has adversaries but we're academics so we don't. We study everyone's programs. When the US government isn't transparent, we snoop on it just like we snoop on the North Koreans. We're really interested just in getting at the truth. Now it does happen that governments that are less transparent than the United States government, like the North Koreans, do read what we write and they respond by trying to hide things. That's the fun in it.

For the longest time, they got tired of us geolocating Kim Jong-un and they started putting him in a tent. My colleague, Dave Schmirler, kept geolocating Kim despite the fact that they were only photographing him in this tent. What I take away from that is there is naturally going to be that cat-and-mouse game. I'm not bothered by the existence of that game.

Actually, there's an upside to it because when you are dealing with a country that is making efforts to hide specific information or when you are dealing with a country that is producing false information, if you can achieve a level of analytic superiority that you are catching them doing those two things, you have now learned far more about them than you had previously because you know not just a thing that they don't want you to know but you know that they don't want you to know it, or you know what they want you to think in a way that they would be uncomfortable with.

To me that's just the nature of this endeavor and if you are using a lot of different data sources, it's easy to spoof one data source, it's hard to spoof three or four so if you confuse multiple sources of data-- At least in our experience it has been, we'll often discover countries being less than honest in the way that they present information and that discovery will be much more interesting than the actual information itself because it goes to their world view and their outlook and their planning.

Sanner: One of the questions here is related to this about how AI might make this even harder with the idea of deep fakes or just putting out information that you can make it really hard to figure out that it is not correct. Is there anything that's going on-- Before I turn to Mareena to talk about the negatives from your perspective I just want to do the jump ball here on Chantelle's question about how this sophisticated misinformation using technology will impact open-source analysis and our understanding.
Lewis: Well, I'll just jump in. On the open side, we spend a lot of time and [chuckles] a lot of donor money worrying and acquiring the analytic and software tools in order to deal with digitally altered images and videos. That's a really intense arms race. Most of the deep fakes that we see aren't really very good.

Sanner: No, exactly, so far. They're going to get better.

Lewis: Yes. They keep getting better. That is an area that we're aware of and we're preparing for it, but it's pretty hard to know. One thing I would say though is, to go back to that idea of new tools, we are really focused on the fact that it is easy to make digitally altered photographs and videos. The Soviets did that for a long freaking time and having looked at how you deal with analog photos and digital photos, I think the digital stuff might not be as hard as some of the really high-quality analog fakes in the past.

Sanner: Interesting.

Lewis: It's just a problem that we've always had and, again, if it didn't exist where would the fun in it be? [chuckles]

Sanner: Right.

Robinson Snowden: Can I add a thing on that?

Sanner: Yes, please.

Robinson Snowden: It's interesting. I totally agree with you, Jeffrey, about this inevitable arms race between the technology to spoof data advancing and the technology to try to detect those spoofs advancing and so on and so forth. To me, what that triggered for me was this is why we need crisis communication channels and things like this. As the technology continues to be in question, or not the technology but the data, the information that we are looking at, there's increasing questions because the technology is progressing in this way, that's why we want to have these channels with our adversaries, with our partners to be able to, in real-time, if you see a video that says that we are going to do X, if I had a conversation with you last week about your doctrine and that is totally separate and aside from what I'm seeing in this video, I can call you up and say, "Okay. Hey, I saw this video did you see this on Twitter. That doesn't sound like what you told me last week in the doctrine exchange that we had."

It sounds pretty low level but this is serious. We are trying to have these conversations with our Chinese counterparts about establishing risk reduction mechanisms, establishing channels of communication so that in the event that there is a non-state actor that creates a video that is very believable, that is saying something that is alarming and against what we understand, that we have a way to reach out and say, "Okay, can you clarify?" We have that pre-existing understanding because we've done these doctrine exchanges or we've done these transparency exercises so that we understand each other's perspectives and the way that we plan to move so if there is a third-party that we can't control that interjects themselves into the conversation, there's a way for us to actually get to the truth. That, to me, it feels like a natural relationship.
Sanner: As an extension of that, Sarah Al-Saeed asked this question about how open-source, I guess, either legitimate or not legitimate, impacts public opinion and even legislative processes. If you have any comments on that, Mareena.

Robinson Snowden: The legislative process is an interesting question. When we were talking about the risks of open-source, I think one of the things that we have to acknowledge is the fact that both the technology and the analytical capability is not uniformly distributed across the globe. There’s certain players that are well represented in the conversation and others that are not. Part of it is a resource question, part of it, I think, is a political system question. How free is a society to engage in this type of open-source analysis? Does the government see it as harmless questions that are being asked by academics or is this espionage? These are constraints on the way that this field is being developed and where we see the voices and where we don’t.

I think that that’s going to shape how folks within societies appreciate or don’t appreciate this source of information, how they’re able to participate. Also, from where I sit focused on arms control and risk reduction, and confidence-building measures, I think, as well, if you are a government and you’re going into a conversation about setting up a confidence and security building, building measures around maybe monitoring a border, or monitoring true movement, or something like this, if you don’t see yourself as capable in monitoring, if you don’t have the resources, if you don’t have the analytical capacity in an open-source way, then maybe that may discourage you from actually entering into the conversation in and of itself.

Now, I still don’t think that open-source will be the way that competence-building measures will be verified, but it will be one of the ways. It will be a supplement to other more formal approaches, but I think all of these issues around who participates in this space, why they’re able or not able to participate both from a resource and a political perspective are important to the conversation.

Sanner: I’m going to put James on the spot because I’ve been on the spot on this before, walking into a room and having a legislator or a policymaker wave around some new open-source material. What’s the role of the intel community in terms of maybe understandings that our customers as intel analysts how they use open-source?

Murphy: That’s, I think been a challenge--

Sanner: It never happened.

[laughter]

Murphy: Yes, it’s never happened to me. No, but I think that’s a challenge that goes back decades probably. As long as there have been newspapers and intelligence analysts, there’s always been difficult conversations with customers especially when you don’t know what they’re talking about.

Sanner: I hate when that happens. [laughs]
Murphy: Which happens more often than I'd like because, again, there's just so much stuff out there and I literally have had it where I've left CIA, gone to the hill, by the time I get there, some report has come out and a member of Congress is asking me or somebody else on my briefing team about it and we're usually looking at each other going like, "What are they talking about?"

The reality is policymakers get their information from a lot of different sources, and we do compete. The intelligence community compete with open-source providers of information. A lot of times, sometimes those open-sources are better. As you know we're constrained a lot in the things that we can say and the way that we can say them. Oftentimes, we're constrained in the time that it takes us to say something. We're trying to get better at that and we've always been trying to get better at it. Policymakers often get their information from other sources.

Fortunately, I think that we are getting better at also looking at those same sources and trying to understand what they're getting and trying to not duplicate what they're getting from those other sources. Just like we were talking earlier about shifting collection assets away from stuff that we can get from open-sources, I try really hard not to do the things that the Washington Post or New York Times can do. I'm trying to provide assessments and analysis that policymakers can't get in the open-sources. Part of that is the classified information that I have access to that's different than what other people can, and part of it is the tradecraft that we were talking about before and the synergy of putting everything together and understanding.

At CIA, I've been at CIA now for 22, 23 years. We are constantly talking about ways to improve, how we interact with policymakers because we understand that policymakers don't have a lot of time to devote to getting information. We're competing with other providers and we have to be maybe not necessarily better than the other providers, but we have to provide them something that they're not going to get.

Sanner: Unique and also, I think, relevant.

Murphy: Well, relevant. Yes.

Sanner: I think sometimes the relevance is a little easier for the intel community because they know what the questions are more directly. It depends on the access. I guess in my own experience too, there was a lot of either validation or explaining why this might not be right.

Murphy: Yes. We get asked a lot to respond to, "Hey, I saw this article in The New York Times. Explain to me why this is different than your assessment and why I should keep listening to you."

Sanner: Which I think is a great question, and-

Murphy: True.

Sanner: -one that I didn't always welcome, especially, if I wasn't ready for it, but it's certainly important. There's a question in here that Joseph Rogers poses about ethics, OSINT ethics. I'm going to do a jump ball on that on what does OSINT ethics
mean to you all? It says here, civil society OSINT handles sensitive information. What steps should be taken to create shared ethics for civil society OSINT practitioners? Should government or imagery providers play a part in shaping OSINT ethics? I don't know. Maybe, Jeffrey, you're in the best place here to talk about that. What does that mean?

**Lewis:** Just like I really think that we have new tools, but things aren't really different. I think this reduces to a previously solved problem. We have a very rich history of discussions about behaving ethically in a variety of related fields. Journalists confront this problem every day. How do you treat information where someone's life might be at risk? If I want to do a study that involves human subjects, I have to go before a review board. It's not that I don't think that there are ethical concerns because there are always ethical concerns when you are dealing with sensitive information, it's just that I think, culturally, we have really rich answers to those things. Just like we avail ourselves of traditional research methods, we can avail ourselves of very traditional advice about how to behave like responsible human beings.

**Sanner:** What role do you think you and your institute play in doing that? Are we doing enough? You're one voice, how should we think about that more broadly as a community?

**Lewis:** Well, there are definitely groups. The Stanley Foundation has done a series of reports on these issues. People go to meetings. No, it's something that is in the forefront of our minds but as a practical matter, it rarely comes up. The only times it really comes up for me are when I'm dealing with information that some person has put on a social media site and I might think, "Well, drawing attention to this information might put this person in some danger." That happens pretty rarely and it's usually pretty obvious that whatever research you're doing, it's not worth getting somebody killed for a footnote.

**Robinson Snowden:** I do want to highlight, and I appreciate you bringing up the Stanley Center's work because they have done some great writing on how to build a framework of thinking about this. I think we can't take for granted-- I think for you, Jeffrey, as the expert in the field on this, it's obvious and I don't really think about them, but for the novice, to know that there are frameworks for them to think about this, I think it's important in socializing them, to your point, about having meetings and making sure that this is at the forefront of the community's conversation that when we're doing this work for the newbies in the room, this is how we think about these tension points, these pain points.

I'm fortunate enough to work with a deeply talented and skilled senior advisor at AVC, Melissa Ullom, formerly known as Melissa Hanham, who was your colleague, who was a pioneer on this concept of open-source ethics and wrote some of the early work on trying to build those frameworks. I highly recommend you all check out her work. She has some really great thoughts there in terms of how do you weigh harm and impact, particularly when you're dealing with social media data. It's different with commercial satellite imagery data. There's not a person so much attached to it. I just wanted to plug her work because it's very impactful on this topic.
Sanner: Thank you for that. I guess the last question, I have a five-minute warning here even though I think we have 10 minutes. Keep sending questions. I don't know. It's been up there for another five minutes too so who knows?

Sanner: Well, the time changed.

Lewis: You never tell the speakers the truth.

Robinson Snowden: Disinformation. [laughs]

Sanner: I do. I wanted to ask this question about the ideas that have been put out there about an intel community Open-Source Center and whether you think, if having any views about what it would mean to set up a whole other entity that would just focus on open-source. This would, of course, be James' personal views not a reflection of any policy of the intel community. What do you think are the pros and cons of that from an intel officer perspective? Have you thought about that? I'm sorry if you haven't.

Murphy: No, I have not, so thank you.

Sanner: [laughs]

Murphy: Are you talking about an open-source analysis center?

Sanner: Yes. Like a whole center whose whole job is only to do open-source analysis and collection.

Murphy: We do have elements in the IC that focus on open-source collection, obviously. In fact, we've been collecting open-source intelligence since World War II. Part of what they do I guess you would call it open-source assessments because they can do that kind of analysis. I'm not familiar with how in-depth or involved it is.

Sanner: There are some proposals now that have gone to the Office of the Director of National Intelligence and Congress has asked for consideration of this. There is an actual thing under consideration about setting up a whole new thing, a big thing.

Murphy: I'll plead the fifth. I don't want to get in trouble with my bosses. [laughs]

Sanner: Okay. I won't press you further, James. Do either of you have any ideas about that? Jeffrey how would you think about having--

Lewis: I think it would be amazing. The US government has, it used to be available to us all, a very robust translation service.

Robinson Snowden: I know. I miss FBIS so much.

Lewis: FBIS was wonderful and so given the resources that the US government has to bring to bear and the professionalism-- It's funny I like to be all jets and sharks with intelligence analysts because we're competitive, we want to be better than you, but most of the time, however you reach your conclusions on the inside when they show up in the press, we have pretty similar conclusions on the outside. Just the idea that you could have that professionalism and those resources dedicated to
growing the community that I'm a part of, I think, would be wonderful. We don't have enough money to translate every article. I manually watch North Korean TV. That's exhausting.

**Sanner:** For so many reasons.

**Lewis:** I think the strength of using open-source information, again, it's not just the information, it's the fact that you have an open community of peer review and so to the extent that there are more people working on the open side we get stronger because everything we're doing is openly described and people can criticize it. The more critics we have, the better off we are.

**Sanner:** That's interesting.

**Robinson Snowden:** The one question I would have to an idea like that being inside of government and understanding more and more about swimlanes and things like that, I take your point, James, that that function already exists within the traditional government. I see the community that we already look at open-source information and do analysis on that, my question would be what would be the objective of this centralized, not exclusive but more centralized open-source analysis center? Who would be the players in that?

From the way that, Jeffrey, you're talking about it it seems like is this a community-based organization, or are there traditional IC analysts that just work now at this center? They've all moved from these more traditional intelligence organizations into this. I think, like all ideas, it could be great but there's further development.

**Sanner:** Right. Development details.

**Robinson Snowden:** Yes, there's further details to ask and answer I would think.

**Sanner:** I want to close maybe with a question to you, Mareena, about just looking out at the audience, these are people who work in the open-source world, how could what they do be of more use to you and the US government? Do you have any swing thoughts about how they put their work together, where they put it, how they share it, what kind of work, anything you want to say or think about here to help this crowd understand how their role could be useful to the US government?

**Robinson Snowden:** Sure. First of all, thank you for the question, and thank you again for being on this panel. I think we as the AVC Bureau, we try to stay as informed as possible. To James' point, everyone is pressed for time but try to stay as informed as possible about y'all's analysis and open-source analysis in general, I think the synergy between the types of questions that we are asking, keeping an awareness of that, the work that we're doing. We try and we're trying even harder now to continue to increase our profile in terms of the directions that we're going as it relates to multilateral engagements, as it relates to bilateral engagements.

As I said this norm development arena is very important to us. It's an emerging space for us. We're taking first steps here and there will be a role. I think there's potentially a role for open-source to be very helpful in that but just continuing to keep the lines of communication open in terms of what our priorities are, whether it's in the
nuclear space, the chem, or the bio space as we continue to stay aware of what you all are doing on the outside and how you're incorporating all of these different data types.

We have a wonderful V Fund, verification fund, that we look for new ideas applying for that as we put out calls for research proposals or different technical analyses engage with us. We work with a lot of NGOs and academic communities so we're very open to ideas and feedback. Just continuing to keep that line of communication open, I think, would be a natural first step for this relationship.

Sanner: What I'm hearing from you, really, is to focus on whatever you do thinking about the relevance of it in terms of what the policymakers are worried about, what they're thinking about, and using their networks and contacts and looking and not just writing about what they're interested in?

Robinson Snowden: Absolutely.

Sanner: Just one other thing one of the differences between the intel community, we don't always get to write about what we're interested in. We have to have a customer and an idea of who's asking that question. Is there anything, James, from your perspective about what people in this audience could do to help the intel community be better?

Murphy: Checking our assessments, publishing things that make us go back and look at what we've published. As you mentioned before, since the Iraq war, in particular, we focused on increasing our tradecraft, and part of that is going back and challenging our assessments. Did we really get that right? Ar we right about our current assessment? A lot of times we look at open-source publications to check our assessments and we'll look at the information that's out there and say, "Hey, wait a minute how does that jive with what we've already published?" It's basically keeping us on our toes and there's nothing wrong with that.

Sanner: No, it's great.

Murphy: Yes, it makes us better at our job or we all get fired and somebody better comes in.

Sanner: [chuckles] I think that concludes our segment today. I just want to thank everybody for hanging in there until five o'clock. I know it's the end of the day. It's after lunch. It's three o'clock on so people are a little sleepy but thanks for all the great questions. We're now going to have a short 15-minute break for the next session. Convenes at 5:15 in Regency A for the next session, a keynote conversation on the future of arms control.

With that, I just want to thank the three of you for having a great conversation about this important topic and I wish everybody well. Thank you so much.

Robinson Snowden: Thank you.

[applause]

[01:08:59] [END OF AUDIO]