

28. Houghton, Stout & O'Brochta: Spies Like Them – Project Management in Intelligence

0:00:01 Kendall Lott: Project management and intelligence. We're cool enough for the spy world, right? Missions or projects, I figured, and I found a story about that. But who knew that the Central Intelligence Agency was one of the earliest proponents and users of project management? Or that the disciplines related to project management are used in developing analysis? Or that sexy intelligence gathering gadgetry owes a lot to the combination of project management principles, systems thinking and systems engineering? In this podcast, I talked with three knowledgeable sources of the world of US intelligence, where the unknowns are infinite, timelines immediate and the risks untold.

0:00:38 Speaker 2: From the Washington DC Chapter of the Project Management Institute, this is PM Point of View, the podcast that looks at project management from all the angles. Here's your host, Kendall Lott.

0:00:49 KL: Dr. Vince Houghton is historian and curator at the International Spy Museum in Washington, DC, as well as the host of Spy Cast, a weekly podcast covering all things espionage. He specializes in military and intelligence history, with specific expertise on late World War II and early Cold War eras. I'd heard about a particular espionage mission that took place during the second World War and was told that Dr. Houghton was the man with the intel.

0:01:14 Dr. Vince Houghton: Little base of World War II history, of course we developed the atomic bomb, but it wasn't because we were magically better at physics than everybody else. Once fission was discovered in 1938, everyone else in the world realized that you could build a really big bomb out of this. The Americans were the ones that finally do it in the end, mainly because of resources. And the real fear was, of course, that the Germans would develop the bomb before we did. The Germans were the place where all this science was done, right? Think of Einstein, think of Enrico Fermi was an Italian physicist, who worked closely with the Germans. Werner Heisenberg. This is where all the American scientists who worked on the Manhattan Project got their PhDs in Germany, during the 1930s, under the people who actually stayed behind to work with the Nazis on these technology projects, Wernher von Braun, a good example. So the Americans were terrified that the Germans would build the bomb before we did, I mean, imagine Hitler with a bomb. And so, the Americans were faced with not only the desire, the need to develop their own bomb, but also to keep abreast with what the Germans were up to.

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0:02:16 KL: The part you're focusing on is actually the intelligence that is related to the atomic program itself.

0:02:22 DH: So the story is that Leslie Groves, who was the head of the Manhattan Project, he was tasked midway through the war with being also in charge of developing a program for doing American foreign intelligence, focused on the German atomic bomb program. So if he didn't have enough on his plate already, building our own bomb, he was asked to be in charge of all information coming in about the German atomic bomb program. And so, not only did he have to juggle multiple

tasks, but arguably the most important of the intelligence needs of World War II was on his plate as well.

0:03:00 KL: They didn't even know what they were looking for, I would imagine. Or did they?

0:03:02 DH: Well, it was a big problem. They knew a little bit about it, but the big issue was that this technology was developing the exact same time as he was developing the intelligence mission to go out and look for it. We're inventing physics as we go. So it wasn't like this is 100 years worth of knowledge about technological intelligence that they could just go hunt down and count tanks or count planes. This is what we call scientific intelligence, so things are happening very quickly. They're happening to the point where a scientist would go to Groves and say, "Hey, we've developed a new way of creating plutonium," which is not a naturally existing element, it's something you create in an atomic reactor and that would help our foreign intelligence mission. Because if we can create it this way, all of a sudden we're looking for the Germans to potentially creating it that way also. So this is almost a day-to-day evolution, where he has to constantly be changing what we're looking for.

0:03:53 DH: Now, at first we try to do this mission somewhat ad hoc, where scientists themselves said, "Alright, look, let's do some intelligence work on our own." Of course these scientists had no idea what they were doing. They came up with these wild ideas of going and kidnapping Werner Heisenberg from Germany and these were nerdy scientists. These are people that have no covert action capabilities. The problem was the people who knew what they were doing, the intelligence agencies, knew nothing about atomic physics. So you could send the James Bond of the OSS over there and he would have no idea what he's looking for, he wouldn't know the science that's being done, he wouldn't know who to kidnap or interdict, he wouldn't know what documents to steal.

0:04:30 KL: It's looking for a needle in a haystack, but you're not sure where you're looking for a needle and what does a needle look like.

0:04:35 DH: Right, so you need the perfect combination of a James Bond with a physics PhD, which just doesn't exist. So it really comes down to Groves, he's an engineer, he's not a nuclear physicist, and he's not an intelligence professional. But he's kinda the closest thing to the best of both worlds. He understands intelligence 'cause he's been working the counterintelligence angle for the Manhattan Project now for a little over a year, and he understands some of the basics of nuclear science, 'cause he's been around the program for so long, by this point. So George Marshall, who is the Army Chief of Staff, went to Groves and said, "Look, I need you to do this. I need you to... I know you have a lot on your plate right now. But you're the only one that can do this, you're the only one that can take on this mission."

0:05:15 DH: The issue, at this point, was that Groves had just been promoted to a one-star general. He was a colonel before, he agreed to do the Manhattan Project itself if they made him a general, because he realized the scientists weren't going to respect some colonel, that the star was going to make all the difference, and the people who were heading the other intelligence agencies all outranked Leslie Groves. And Marshall was saying, "I want you to be in charge of all atomic intelligence. Anything coming in through army intelligence run by a two-star general, or naval intelligence run by a two-star admiral, or through the OSS run by a former two-star general, William Donovan, who was the most decorated soldier in American history. All of them are gonna report to you on nuclear intelligence."

0:05:54 KL: Oh, this is a project manager's nightmare, you're doing the project that the stakeholder cares about, but you're sitting in an organization of ranking people.

0:06:01 DH: Right, yeah, so he's basically being told, "You have all the responsibility. You don't have the rank to pull this off, but somehow we're gonna kinda go around hundreds of years of military doctrine and military courtesies and say you're going to tell a two-star general what to do." Now the only way that worked is that Marshall personally called the other two two-star generals and said, "I don't care that this guy is a brand new brigadier, you're gonna give him everything he needs." And because Marshall was Marshall, they agreed. Groves himself went to Donovan and had a sit-down conversation and go, "Look, I need your help on this, you're a big strategic... "

0:06:38 KL: Donovan was OSS?

0:06:38 DH: Right, Donovan was the head of OSS. He was...

0:06:41 KL: Which is?

0:06:42 DH: Office of Strategic Services, it was the precursor to the CIA.

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0:06:50 DH: It turned out that Groves, even though he was out-ranked dramatically by Donovan, the fact that he went to Donovan's office and sat down with Donovan and talked to him about the need for working together and passing on this information, was the key to everything. Because he would find out later on from one of Donovan's aides that not a single general officer from any of the other intelligence agencies had come to talk to Donovan in person.

0:07:12 KL: That is elegant stakeholder management.

0:07:15 DH: Yep.

0:07:15 KL: That was finding the right player that could be the person that can support you best.

0:07:18 DH: At that point through the rest of the war, anything Groves asked Donovan for, he got.

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0:07:27 DH: To give you an idea of the scope of this project, no one knew it was gonna work. We didn't even know it was gonna work until July 16th, 1945 in Alamogordo, New Mexico when the treaty test took place. So in 1942 when Groves was given this project, this was ambitious, this was, "You're gonna build something that we don't even know the science for yet. We haven't even invented the tools to make what you're gonna build. And then on top of that, you're in charge of finding out what the Nazis are up to." The Manhattan Project was given to him in 1942 and they said, "You need to build this before the war ends, before the Germans beat us to it. The Germans are already working on this, they're better than us at it, you need to beat them to it in a couple of years. Good luck."

0:08:05 KL: And the arc of the story is finding out about the German advances in this? And how they had to go through that. He has to kind of define how this will even begin or be planned, I assume it's logistics. Plus kind of defining what constitutes what they're looking for. So what's his plan, how does this...

0:08:20 DH: He had really a five-point plan, really kind of lay it down. It's from all the reading that I've done about him, whether it's primary source documents, his books, he actually gave a great chapter in a 1960s-era management book for an MBA class. And from all that reading I've kind of narrowed down his five-point plan for creating this new agency.

0:08:40 KL: Well, let's learn how to create an agency.

0:08:42 DH: So the first thing he did was consolidation of command. We've already talked about that a little bit kind of going to these other leaders and saying, "All nuclear intelligence comes to me". But beyond that he also streamlined his own command and control structure. He was never a person to have a lot of people around him, he didn't like big, huge organizations, he only had some very trusted subordinates that he gave power to. To be kind, he was a hands-on manager. To be unkind, he was a micro-manager. He has hands in everything.

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0:09:18 DH: Step two was creating the command and control for what would eventually become known as the Alsos mission. Groves realized that we couldn't do collection and analysis from Washington DC or from the United States. We had to get on the ground, in Europe, right behind the advancing military forces, sometimes actually even places they hadn't advanced yet, using covert action, to go inside enemy lines, to capture scientists, to investigate laboratories, to capture documents before they were destroyed, before they were given to someone who may not have our best interests in mind. A lot of the French scientists were communists, like card-carrying communists. And if they got their hands on this stuff, it may have gone directly to the Soviets. So the idea was we needed a mission to go in, right behind the advancing American and Allied forces to exploit this intelligence as quickly as possible. So setting up this mission called Alsos was a key component of this process and really the idea is create a clearing house for this intelligence, a place where all the information will come back to, where the scientists could pore over it, it's the analytical part of the intelligence process.

0:10:27 KL: In theater, though?

0:10:27 DH: Right, in theater, you didn't wanna wait for it to get back to the United States, this is a time when science was happening so rapidly that if you're waiting a couple months, or even less, a couple of weeks, the information could pass you by.

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0:10:44 DH: Step three was liaison with the British. The British had been in the war a lot longer than we had. They had been working on the German atomic bomb program a lot longer than we had, and so a man named Tony Calvert, who was a captain, he'd got several different offices, one inside the American Military Office, inside London, one inside the American Embassy in London, one actually inside the British High Command, where he would work the intelligence angle

alongside the British. For Groves this was exploiting what the British knew.

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0:11:18 DH: Step four is doing everything you possibly could to slow German progress. So we didn't know exactly what they were up to, but we had a pretty decent idea of what they would need to do to build an atomic bomb. They needed a fuel source, they needed uranium, they needed heavy water, this is water with an extra hydrogen atom, and the heavy water development of the Germans was pretty easy to find. When they took over Norway, they took over the most effective heavy water plant in the world, and so he put on a mission to bomb the living shit out of the heavy water plant. Which he does, sends over 100 V17s to flatten the entire area. He also goes after German scientific research laboratories, factories, the Kaiser Wilhelm Institute, which essentially, wrap up MIT, Harvard, and Cal Tech all in the one place, and that's Kaiser Wilhelm Institute. And there's several major institutes around Berlin. We bombed these into the Stone Age.

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0:12:19 DH: And the final step was counterintelligence. The final step was preventing the Germans from finding out what we were doing when it came to the atomic bomb. So the idea was, "Let's do what we can to hide our interest." So this wasn't something where we could just go all over Europe saying, "Did you build a bomb? Are you building a bomb? Are you building a bomb?" 'Cause the Germans would find out very quickly what we were doing. Even when Groves bombed the heavy water plant, he also bombed several other sites inside Norway that had nothing to do with atomic physics, so the Germans wouldn't know we were targeting the heavy water plant. Same with the research institutes. We bombed other places, as well.

0:12:52 DH: The Alsos mission, which was sent to Europe with the explicit purpose of finding out what the Germans were doing with the atomic bomb, also had people attached to it as camouflage, people who were interested in aerospace engineering, people interested in chemistry and biology and the other sciences, so it'd just look like it was a scientific intelligence mission and not a mission explicitly directed toward atomic physics. So ways to kind of camouflage our purpose.

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0:13:20 DH: So that was Groves' five-step process. He did all of this before even sending off this mission to Europe. So that's why, again, he doesn't lay this out step by step in his management book, but through everything he's written, everything he's talked about, he did these five things before he even said, "Alright, now we're ready."

0:13:37 KL: How long is this project? How long does the mission take?

0:13:39 DH: So the mission takes about a year. Late 1943 is when the mission launches, and the mission at that point only can launch to Italy, because that's the only place that we got at this point. So the mission launches in Italy with the idea of searching for Italian scientists who at some point worked with Enrico Fermi, who is now working in the United States on the Manhattan Project, but also Italian scientists who may have worked with the Germans at some point during the war. This first part of the mission is incredibly unsuccessful. They don't really get anywhere and find anybody who matters. So Alsos, Italy is pulled back. It's a bit reorganized and then sent back into Europe,

into France, when we finally get our foothold into France in June of 1944.

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0:14:26 KL: Did they have a plan for how much money he should have used?

0:14:28 DH: So there's no exact dollar amount for this. One of the interesting things about intelligence history...

0:14:32 KL: I'm trying to see if they hurled more and more resources at it.

0:14:34 DH: They did. Yeah, absolutely. There's a great quote... There's no evidence to back this up, but it was said that we spent more on the scientific intelligence mission to discover what the Germans were doing, building a bomb, than the Germans did building a bomb. Here's the problem with intelligence. Sometimes it's very easy to prove a positive. Yes, they've got a bomb. There it is. We found it. Very difficult to prove a negative. So all they're finding is information that says the Germans don't have a bomb. That's great, but you can't prove that 100%. So we're not gonna really find anything out until we get into Germany proper.

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0:15:11 DH: We get to a place called Strasbourg, and this is where the big eureka moment happens. This is where the Alsos mission discovers a treasure trove of documents that detail how far the Germans have gotten on the bomb and it's not very far.

0:15:24 KL: End game? Done?

0:15:26 DH: Most of the scientists and policy-makers back at home are convinced that this means the Germans are not building an atomic bomb by the end of the war. This is December of '44. The war's about to end. There was a conversation about, do we bring Alsos home? And then we said, "You know what? The Germans are not the problem anymore. The Soviets are the problem." So right now the Soviets are bearing down on Berlin. We don't want the Soviets to get their hands on the German laboratories, the German scientists, all this information that the Germans were working on, because we thought the Soviets were nowhere near thinking about a bomb at this point. So, we needed to make sure we'd get all these guys before they do.

0:16:01 DH: So Alsos was tasked now... It wasn't a question anymore about, "What do they know?" Now it's, "Where are they?" Now it's a detective mission, now it's, "Can we find out where these guys are?" And so, it really kind of plays out over the next couple of months of every new laboratory or scientist they were able to find that led them to somebody else, and it led them to somebody else or it led them to somebody else.

0:16:21 KL: Our five plans here have kind of shifted now. We've knocked through most of that. Now we've shifted to a form of interdiction, essentially.

0:16:27 DH: Yeah, but the plans are somewhat similar. The idea is now we slowing progress for the Germans anymore. We're trying to slow progress for the Soviets.

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0:16:38 KL: So, what's the end of the story from the American perspective then?

0:16:41 DH: This actually goes on to three days before the war ends. Talk about coming in under the wire, where Werner Heisenberg, the most important German scientist, is captured May 2nd, 1945. We bring all these German scientists to a British manor called Farm Hall, and if you've seen Downton Abbey, you have a basic idea of what this looks like. This is an old British countryside manor, and we put them inside there and its very luxurious surroundings. These are the most prominent scientists in the world. What they don't know is that we bugged the entire building from top to bottom. We have listening devices in every room. And so, they think they're free to talk. So, they talk all the research that they've done and all the stuff they worked on, and when they find out about Hiroshima and Nagasaki at the end of the war, they're flabbergasted. They can't believe the Americans built it. Like, how did they figure this out?

0:17:28 DH: And so, we had nothing to learn from the Germans, but the key was keeping them out of the hands of the Soviets, because at that point, it didn't matter that they knew nothing. It didn't matter that we had them giving us information. It mattered that they weren't giving information to the Soviets. This is kind of the final piece of the puzzle. We knew through the buggings what they were willing to do and what they weren't willing to do. And so, everybody would go, "Okay, Werner, we'll give you this amount of money and we're gonna rebuild the Kaiser Wilhelm Institute. We're gonna make you in charge of it, and you'll be happy, right?" And he's like, "Oh, yeah, yeah, yeah." And that's the way we were able to keep them out of the hands of the Soviets.

0:18:00 DH: So really it wasn't, "Can you help us?" it's, "Can we stop you from helping them?"

0:18:03 KL: Does my project morph?

0:18:04 DH: No. The project, they tried to morph the project. So Groves, Donovan, actually, the head of OSS, others, even Marshall, argued that Alsos should continue. It should be almost a permanent mission to do scientific intelligence now against the Soviets or against anybody else that could potentially be developing advanced weapons. At that point, we shut everything down. So Alsos was shut down, so there is an end game to this. The mission was ended and it became history.

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0:18:37 KL: We know that in the US, the OSS led to the development of the CIA, and that the intelligence apparatus of each nation has blossomed through the Cold War and on. However, from a PM's perspective, it seems right that the Alsos mission was ended. As PMs, we know better than to take a project, a specific mission in the intelligence jargon, and just keep it going. Projects don't make good programs. To learn more about the Spy Museum or to listen to Dr. Houghton's Spy Cast, go to the spy museum website, spymuseum.org.

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0:19:18 KL: Dr. Mark Stout is an expert in security and intelligence. He spent 13 years as an intelligence analyst, first with the State Department's Bureau of Intelligence and Research, and later with the CIA. He is currently an intelligence historian and directs graduate programs in global

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security and national security at Johns Hopkins school of Arts & Sciences in Washington, DC. It was there that we met to discuss the process, the project of putting together documents known as the National Intelligence Estimate. I want to emphasize that all of the examples Mark uses here are strictly fictional.

0:19:51 Dr. Mark Stout: The US intelligence community has many, many thousands of people and spends many, many billions of dollars acquiring information, whether it's through CIA running agents, running spies abroad, whether it's through the collection of open source materials, satellite imagery, NSA intercepting signals, a gazillion other things. And that turns into a gigantic pile of data, so huge and involving such complex and nuanced issues that if it were fed directly to our policy consumer, who is the President, or our military commander, who's the Secretary of State, they wouldn't have time to look at it, and if they did they frankly wouldn't know what they were seeing. So you have to have this body of analysts whose job is to digest all of this, and one of their two flagship products, the other being the President's Daily Brief, the other flagship product is the National Intelligence Estimate, where analysts across the entire community who work a given topic whatever the subject of the NIE is, on that particular occasion come together and they say, "Okay, this is our collective view," and it is put out under the imprimatur of the Director of National Intelligence and goes to our senior policymakers.

0:21:02 KL: So, there's our project for consideration. Taking a mountain of the information from 17 intelligence organizations, and producing one meaningful consumable product measured for accuracy and validity on a deadline.

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0:21:16 KL: We've heard a lot about making the connections between disparate information. Is this about finding patterns and things like that, or is this a level up above that?

0:21:24 DS: It's typically sort of higher level analysis. The products where you're facing a particular terrorist, or you're looking at the development of a particular new Chinese fighter plane, that's not the kind of topic that tends to feature or at least not be sort of the point of an NIE. An NIE might be, and I'm making all of these up, but more like Iranian security policy for the next five years, or directions of the Chinese economy, or the terrorist threat to the homeland for the subsequent decade. Any given NIE has a defined start and a stop point. And these days the way it typically works, is that a senior policy consumer, the National Security Advisor, the Secretary of State, the Commander of US Central Command, will call up, in essence, the Director of National Intelligence and say, "I want a national intelligence estimate on X." Then a process gets started, and then at the end, the entire intelligence community has had its say, has hopefully come to some form of agreement, and that National Intelligence Estimate on that particular topic is completed.

0:22:37 DS: So let's say that the request has come in for an estimate on the future of the Chinese economy. So the Director of National Intelligence will then turn to his what's called National Intelligence Officer, and as of 2013 they were about 12 or 15 different NIOs, National Intelligence Officers. Some had regional responsibilities, so Iran, East Asia, Africa, etcetera. Some had functional responsibilities, so counter terrorism, military issues, science and technology, cyber, etcetera. So the Director of National Intelligence will turn to his NIO, National Intelligence Officer for East Asia, and say, "Prepare me such a thing." That NIO then will sit down, he'll have a couple of deputies, will talk with other colleagues, there's an NIO for economics, he'll probably chat with

and put together what's called a Terms of Reference. This is a real short document, typically a page or two maybe, that basically says, "Okay, we were given this broad topic of the future of the Chinese economy. What are really the important questions that fall under that? And the important topics we're gonna have to address specifically within that?" So it's something, I wouldn't go with 'outline', but make sure you answer these questions.

0:23:47 DS: And also the terms of reference will define the left and right boundaries of the estimates. So we're only talking about this time period, or we are, for whatever technical reason, we're excluding this part of the economy which is fundamentally different and we treat elsewhere. Or, this is only about the civilian economy, not about the defense industry, or whatever it is. So, whatever the topic bounds of the subject are, those are gonna go in the Terms of Reference.

0:24:15 KL: So your Terms of Reference is something like a charter in our world, in the sense that it begins to say, "Okay, we were given this one-line problem statement. We're now gonna develop the scope of this."

0:24:23 DS: Exactly. That's exactly right.

0:24:24 KL: And we have a sense of when it's gonna be done. So they talk the issue out and decide what they'll be looking at, which parts of the problem we need to get more information about.

0:24:31 DS: Yes. And in addition, so that Terms of Reference isn't just prepared by the National Intelligence Officer, it's actually then sent out for coordination among all the intelligence agencies in the government. And usually, there's not a lot of debate about the TOR, but potentially some agency could still put up their hand and say, "You're asking the wrong questions." Or, "You're leaving out this fundamental thing." But mostly that goes pretty smoothly. "Yeah, TOR, great, looks good, let's move on."

0:24:52 KL: In our world, it's called, "Get the requirements right before you start working the issue." [chuckle]

0:24:56 DS: Always a good idea, yeah.

0:24:58 KL: Okay, go ahead.

0:24:58 DS: Then the National Intelligence Officer selects one or more lead drafters. So this is a particular analyst, or if it's a big project, maybe a team of two or three. Could be from CIA, could be from the Defense Intelligence Agency. The National Intelligence Officer, who in this case is the one for East Asia, is part of the National Intelligence Council, but they're choosing analysts from potentially any of the 16 or 17 intelligence agencies to be the lead drafters here.

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0:25:29 KL: Now, how about schedule?

0:25:32 DS: Well, that will depend.

0:25:32 KL: Does the business owner get to say, "And I want it by Tuesday?"

0:25:34 DS: Yeah, the customer, the requester, can say, "I want it by Tuesday," or whenever. And usually there is some form of, "I would like to have it by X." Typically, these things unfold over a period of several weeks to a few months. When they're extremely problematic, they can potentially, this is anomalous but it happens, they can go on for more than a year.

0:26:00 KL: Does somebody plan that timing, though, or it just happens, they do it until they don't.

0:26:02 DS: Well, they plan the timing in the sense of you try and fit everything into the schedule to deliver when the customer said he or she really needed it. In some cases, this has been literally just a very, very few days. So the estimate that was done about the capabilities and the state of the Iraqi military, before Desert Storm, I don't actually remember, but it was something on the order of four days from start, Terms of Reference to finished, signed product, delivered.

0:26:33 KL: So, the process...

0:26:33 DS: That's extremely unusual. But when you put a gazillion people on it and you work pretty much literally 24 hours a day, you can do it. More normally, it's weeks or a few months.

0:26:43 KL: Classic project management. If you're going to bring the schedule in tight, you gotta throw more resources on it.

0:26:47 DS: Absolutely, right. Yeah.

0:26:48 KL: And even then, it's not always clear that that can work. So, your critical path here in the series of events that must take place apparently can be shortened. You can really put things right next...

0:26:57 DS: You can shorten it, you can't really take pieces out of it. But you can mush it. You can condense it.

0:27:08 KL: Being the Lead Drafter means you're writing. Are you also coordinating everyone else's input?

0:27:11 DS: No, not per se. You actually, at that point, you are not representing your agency. You're now representing the National Intelligence Officer. And so the Drafter goes off and does his or her thing. And that may involve, possibly, also having to talk with collectors. Because if this, the people at NSA who are intercepting signals, or the people at NGA who are looking at satellite imagery, or whoever. Because if the Terms of Reference ask you to answer a question or speak to an issue and you suddenly realize, "We don't really have the data to provide a good answer," you may need to go off to the collectors and say, "Get me data. Steal me data. Buy me data," whatever it is, "That will help me answer that question."

0:27:54 DS: So there may be a sort of side loop there. But eventually, the drafter finishes a draft. And I should say that if you look back, particularly in the first, I don't know, 30 or so years, estimates could sometimes be monumentally long, which for us means 50, 100, some of them even a couple of hundred pages. These days...

0:28:14 KL: Is this the summary information? It's a couple of hundred in...

0:28:16 DS: Yeah, this is the boiled down National Intelligence Assessment about the big picture question, right?

0:28:20 KL: Right.

0:28:21 DS: These days, sort of six to maybe 15 pages, much more normal. Because we finally realized that policy makers are busy folks. They're not going to read... They probably won't even read a six-page thing, though their staffers might. Nobody's gonna read a hundred-page thing. The draft is sent to the National Intelligence Officer who requested it. And hopefully, he says, "Yeah, I think this looks good." He or she then circulates it among all the other NIOs. So, all of his or her peers. So, it'll go to the NIO for Africa and it'll go to the NIO for the Western Hemisphere, and counter terrorism and counter intelligence and they may or may not have things to say about this. That entire National Intelligence Council comes to agreement. Again, usually a fairly painless step. And then, the real fun starts. Then this draft is sent out to all of the 17 intelligence agencies in the country, and they are asked to come up with agency level comments, proposed amendments, that sort of thing.

0:29:21 KL: So, you include any additional information. That you're missing all of this information, that type of thing?

0:29:24 DS: Yes, yes. And then, all of those agency reps will meet together in a meeting, under the chairmanship of the National Intelligence Officer in question and they will start on page 1, sentence 1. "Anybody got any comments?"

0:29:38 KL: Wow.

0:29:38 DS: This is real geeky, expert stuff and everybody in the room has a first order approximation. There are always some minor exceptions to this, but everybody in the room has all the same security clearances. They all have clearances up to here. So, this is about letting it all hang out in terms of the collection, the raw evidence that we have.

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0:30:04 DS: Ultimately, they come to an agreement on what they think the draft should look like. At that point then, a couple of things happen. One, this is a relatively recent development. That draft, as it sits there, is sent off to collection specialists, who basically look at the way sources have been characterized and used and are there to raise any red flags, like, "Wait a minute. You should know that tomorrow we're putting out a notice that this clandestine source, we've decided, is a fabricator. You probably don't wanna use that. You don't know that yet. But we're about... " you know. Right.

0:30:37 KL: Kinda checking the mechanisms of the data that people are working with.

0:30:39 DS: Yes. Exactly. The draft then, when it's through that, is then sent back to agencies. They have a final chance then to look at it internally, and they can say, either, "Yeah. Good to go," or they say, "You know what? There's some issues here, we just really can't agree to that." So one of two

things is gonna happen there. Either there'll be yet another meeting of all the agency reps to fight over that, or that'll be rejected, in which case that agency then will prepare a dissent. In earlier days, it was a footnote. Literally, a footnote. These days, more often, it's like a block of text that gets put into the main body.

0:31:17 KL: Oh, and it goes right into the brief, though?

0:31:18 DS: Yeah. And then finally, the heads of all the analytic components of all these different agencies get together for a meeting. The National Intelligence Board is called, and this estimate will be one of the items on the agenda. They do all kinds of things, but dealing with National Intelligence Estimates is one of them. The draft estimate will get tabled. How does everybody vote? Most agencies say yes. And this agency, and that agency say, "We have a dissent we'd like to offer." They'll try and argue people onto it. They will fail, because the senior people have their marching orders, right?

0:31:53 KL: So all this is also on the record, though, at this point?

0:31:54 DS: But this is on the record. If those proposed alternate views don't get accepted, they are inserted into the document as a dissent. Since the 2003 debacle, in which there turned out to be no weapons of mass destruction, or WMD, in Iraq, despite the fact that a bunch of National Intelligence Estimates, and other analytic products had said there was. Afterwards, everybody and his dog did reviews of, what the heck went wrong? One of the things that was discovered was, that at least on some of the key points relating to WMD in Estimates, some agencies had disagreed on certain key points that were important. However, those dissents had not made into the Executive Summary. And now, one of the reforms is, when there's a dissent, it will be noted in the Executive Summary.

[music]

0:32:45 KL: Does the drafter own quality at the end?

0:32:48 DS: No. At the end, this is an intelligence community product, right? The drafter is not named, nor are the agency representatives. This is a product of the intelligence community, and of the 17 agencies in it. End of story.

0:33:02 KL: How do you know when quality happens? And who's monitoring that?

0:33:05 DS: We touched on one aspect of that, where the collection specialists QC that stuff. But also, one thing that has become a more and more common thing over time, is that on some Estimates, these are the late drafts are sent to outside reviewers.

[music]

0:33:30 KL: Let's talk about risk for a second. You kind of hit on some, infamously in 2003, when there's a risk that the substance is wrong. Or it allows...

[overlapping conversation]

0:33:40 DS: In intelligence, there is always a risk that you're gonna get it wrong. There's a real serious risk. In fact, the more interesting question is, how wrong are you? In all seriousness, right? Not only is the future unpredictable, but even the present, you always have huge knowledge gaps. You just can't steal all the secrets you wanna steal. A certain portion of your information that you acquire is wrong. Could be wrong, because some foreign government is trying to deceive you. Could be wrong, because somewhere along the processing chain, where irrelevant stuff gets winnowed out, and stuff gets translated, and summarized, and all that, mistakes were made. There were misinterpretations crept in. Could be wrong, because when the information was acquired, it was correct. But in that time it took to get it to the analysts, the situation has changed. We are gonna be wrong, always. It's just a question of are like, 5% wrong, or are we 95% wrong?

0:34:37 KL: I'm with you on that. Given that, is there a method that is used to estimate the potential wrongness of certain types of data, or certain analysis that happens?

0:34:48 DS: Yeah. The language of estimated probability is one of these enduring issues in National Intelligence Estimates, and indeed in intelligence analysis, written analysis, period. There's very little hard justification for saying, "I'm x percent likely to be right, versus y percent". But, when you're talking about things like the Chinese economy, or what is Russian President Putin going to do, or will, or will not Al Qaeda attempt to strike the homeland next year? There's no numbers in sight. There's no formulas in sight, and you can't justify saying it's 60% versus 80%.

0:35:23 DS: One of the things that the intelligence community has moved away from is the question of prediction, because... I like to quote Yoda on this: "Always in motion is the future." And that's very true. These days, much more often, NIEs and other intelligence products will say things like, "Understanding the underlying structure of a problem", or maybe "Scenario analysis. Well, we see three plausible ways this might work out. If in the next six months, you see x and y, that's suggests it's gonna be this scenario. And if you see a and b, it suggests it's gonna be this other scenario."

[music]

0:36:04 KL: Well, I was thinking when we first described the risk analysis here, was about the nature and the validity of the information you were getting. And I was imagining there is a case where it's... When we see information generated in this way, in this manner, by these people or whatever, whatever the characteristics are, we have found that 10 out of 11 times, it's accurate. It has been found later to be true. Oh. We have found that the only two out of 10 times, this tends to be true. So it's not so much about the predictability side of it, but rather the validity of the contents you're working to build this product.

0:36:34 DS: Yeah. And that's one of the things that the collection experts, when they do their review of this, will help with. But yeah, there are a bunch of mechanisms and things that are understood in the intelligence community about this. So for instance, when analysts are using information that's acquired by the clandestine service. So case officers overseas, they find people who have access to secrets, and they figure out how to make them betray those secrets.

0:37:01 KL: Right.

0:37:01 DS: Okay, so we get this stuff from these spies. The reports about what the spies have told

us, that come to analysts, like I was, will have on them some sort of source description, will give some sense of how much access does this source have to the topic that he or she is...

0:37:20 KL: The mechanism is characterized.

0:37:21 DS: Yes. And also just generally, how reliable has this person been? With other things like signals intelligence or open source, there is less of that. But you do often have difficulties with translations, which can get very picky, sometimes. And also, of course, with open source information, just 'cause it's on the internet doesn't mean it's true. Similar thing with signals intelligence. So making this up completely, if we intercept a telephone call from Russian President Vladimir Putin to the Russian Defense Minister, and they're talking about blah, blah, blah, blah, blah... With a little care, we can be quite confident that we know exactly the words they said.

0:38:06 KL: Right.

0:38:07 DS: But if they're misinformed, or misspeak or whatever, how would we know? So this is one of the things actually you face, for instance, with authoritarian and totalitarian countries sometimes, is that people lie upward. 'Cause it's really dangerous to give bad news up the chain, so the guys at the top may be utterly disconnected. Frequently, National Intelligence Estimates are not actually something that policy makers rely on for understanding. From a purely parochial insight, the intelligence community point of view, there's a lot of value in doing National Intelligence Estimates, even if the policy maker doesn't give a damn. And that is, that it's a venue for the intelligence community to really get together, and in a really serious way as a community to stand around the table and say, "Okay, what do we think?"

[music]

0:39:04 KL: What is different from before the process starts on a given topic to when it's done? That there was a need for something to come into existence that did not exist, and we are now different for it. And we invest resources for that and we expect an outcome from that.

0:39:19 DS: National Intelligence Estimates can have a number of effects. Sometimes, Estimates produce results that are either not expected or at least not expected by everyone in the customer community. So for instance, the Estimates about, "Okay, Iran does have a nuclear weapons program. Oop, a few years later new data. Iran seems to have discontinued its nuclear weapon's program." Right? Well, you can imagine, that's likely to have all sorts of effects throughout the national security and the military world. The other important effect is inside the intelligence community. It provides a baseline, if you will, for analysts themselves.

0:40:02 KL: We're providing something that is inherently so risky, in terms of its value. What's the cost of being wrong?

0:40:10 DS: Yeah, the cost of being wrong in the intelligence business can be very high. However, trying to understand the world and its dynamics and developments, however imperfectly, leaves you safer than not trying at all.

0:40:30 KL: A communications product from a communications project, across an entire community. It is a product of a committee with essentially a project coordinator, wrapped in a series

of validation steps including outside non-stakeholders, all tucked inside a process that focuses intensely on lessons learned. It's a bureaucratic process, yes, but as peons, I think it's one we can learn from.

0:40:58 KL: Besides being a project management professional, and an Agile-certified practitioner, Michael O'Brochta is an experienced consultant, line manager, author, speaker and trainer. And he is chair of PMI's Ethics Member Advisory Group. Before founding Zozer, Incorporated, his consulting agency, he spent 30-plus years as a senior project manager at the Central Intelligence Agency. You know all the cool gadgets you see in the spy movies, like special guns, cars, and listening devices? Michael was one of the leaders in managing the projects that produced those things. For real. And that's, of course, why I wanted to talk to him. I reached Michael via Skype at his office in Roanoke, Virginia. In what role were you operating with project management in the Central Intelligence Agency?

0:41:41 Michael O'Brochta: There's a huge element in the CIA dedicated to projects that result in the gadgets that the spies and intelligence collection folks need. And so for the first part of my career, I was in that part of the CIA; in some small way, an audience could think of Michael O'Brochta as Q.

0:42:01 KL: In the movies, the idea of Q, he's this massive inventor. You're coming at it from this is the discipline being applied, or were you on the creative and invention side?

0:42:09 MO: We got to be on both sides. The CIA, when it's at its best, hires people and then motivates people to be highly innovative. Who knew when I joined that agency in 1974 that they were already benefiting from mature project management practices? So we benefited from both. We had this huge, huge focus on innovation. And then we had this huge mature history of managing projects with disciplined processes. But the Spy Museum in Washington, DC is the project that addresses a piece of history that took place in the late 1980s. This piece of history was associated with the decision the United States made to have a new embassy built in the city of Moscow in the Soviet Union.

0:43:02 KL: I remember.

0:43:06 MO: And this decision also involved having a new embassy built in Washington, DC for the Soviet Union. So it was a tit for tat agreement. Early in the process, the State Department got to wondering. We wondered if it's gonna be bugged. After all, the Soviets are building it for us with their labor and their construction materials. And they contacted the CIA and said, "What do you think you can do to help us assess whether this building that's currently under construction is being bugged?" And there were special devices developed at the CIA, of course, using these mature project management practices. And then these devices were deployed in Moscow on the construction site by teams led by CIA employees to do these inspections. And over time, 100 teams went over the course of a couple years.

0:44:07 KL: So what we have here is you were tasked with a product development problem using mature project management practices. You in fact did develop products that helped discover products that the Soviets were using in their construction of our embassy.

0:44:21 MO: Absolutely. And that allowed the State Department of the United States to make a

decision about what to do about it. In this case, they decided to build three more floors on top of the building using American labor and American materials.

0:44:37 KL: So they were able to make an actual management executive level decision to change the scope of the design, ultimately.

[music]

0:44:48 MO: Projects, not unlike the one I've just described, have a fair degree of complexity to them and a fair degree of technical risk. So that was the driving need for project management maturity at the CIA. And they responded, as I say, early on to develop their own internal project management processes and practices, and then internally trained their people.

0:45:14 KL: You were talking about developing products, not so much replicating what's been done before in the sense of another IT roll out and implementation of something, but rather you're kind of out on the edge of even reasonableness of the actual product itself. Presumably then you also have repeating types of things like this, repeating processes.

0:45:33 MO: We do. So, there's a broad mix of project types in the CIA. But the portion of that mix that was more technology-based, more complexity and more risk, that's the portion that drove the initial development of the CIA's project management practices and processes. We recognized the need for some discipline. We wanted our successes to be more predictable and less due to individual heroics. I think the biggest contributor to our early successes in this arena was the fact that the process was exceptionally detailed, between 100 and 200 standard milestones in the process. Every milestone well documented and defined. Dozens and dozens and dozens of standard deliverables in the process, every one of those well defined. And we benefited enormously at that time from some work that was being done jointly at the CIA and NASA. NASA had a not dissimilar mix of projects that they were trying to succeed with.

0:46:50 KL: So, I find this really interesting because in the face of actually having to develop products that you don't actually know if they'll work. So, the spec is hard.

0:47:00 MO: The spec is hard because there's a high level of risk that you won't be able to achieve.

0:47:03 KL: So, in the face of that, you guys actually doubled down on management overhead, aggressive documentation, lots of documentation. Often people see those as opposites. This is a juxtaposition that I don't often hear. More overhead, more structure, because riskier.

0:47:19 MO: Exactly. We could not afford the cost of failure, so we were absolutely willing to introduce the cost of overhead, because that cost of overhead of these processes was much more acceptable to us than the cost of failure.

0:47:36 KL: Straight off trade-offs.

0:47:40 MO: I'd like to give a shout-out for one of the people who was absolutely at the head of the game for making this happen. A fellow by the name of Hal Mooz was running a small boutique project management and systems engineering consulting company. Hal had come out of the aerospace industry and he'd put together models and frameworks for mastering these complex

projects, and he documented them at the time in one of the best-selling project management books money could buy.

0:48:18 KL: What was it called?

0:48:18 MO: Visualizing Project Management, by Hal Mooz. That book continues to be a benchmark, I think, for those in the industries that understand that all projects are systems projects and need that discipline.

0:48:39 KL: So you have this multi-hundred step project management process. How did it continue to get refined? It's almost like there were meta operators here. Was there someone who was checking that these processes were the ones that were really being helpful, pruning processes? Adding to them? Was there a PMO or a PM consulting process inside the organization?

0:49:00 MO: So over time, there became a core group of people who were highly skilled at using these disciplined processes for the more complex, higher-risk projects. But then the question comes up, what about all the other projects? There are an awful lot of other projects that aren't quite as risky or high technology. Those projects were trying to use this same framework and they were struggling. The people associated with those projects over time trended toward following process without understanding the underlying reasons for the process. If you don't know how to tailor it or prune it, then it becomes nothing more than a burden.

0:49:44 MO: So we offered to do a study for the Agency, and so we did come to the conclusion that you know what, a large body of people at the CIA that were struggling to use these well-matured processes needed some help. And so we built a program to educate those folks on the foundational concepts associated with all types of project management, not just the process we had. And fortunately for us we made this decision at the same time that PMI was ratcheting up in importance and visibility. And so, we built an Agency-wide, competency-based, multi-level certification program that was compliant with the guide to the project management body knowledge from PMI, but also totally customized to the nature of Agency products.

0:50:42 KL: In what ways is that framework different than the basis that the guide to the project management body of knowledge lays out for us?

0:50:52 MO: It's quite different in a couple important ways. At the CIA, we considered all projects to be systems projects. All projects can benefit from a field of knowledge called systems thinking, and all projects can then benefit from a discipline called systems engineering. And so now we have the discipline of project management and the discipline of systems engineering being combined and dove-tailed. And I can assure you that the processes that the CIA uses, and others too, have integrated both of these, project management and systems engineering processes.

0:51:33 KL: That's why you liked the Mooz model so much, because that's very much what he was developing.

0:51:37 MO: It is exactly why we liked that model so much. So in the systems engineering world, there's huge attention paid to the interconnectivity of things, the systems nature of all problems. And in the systems engineering world, there's huge attention paid to the inputs and outputs and interfaces between the elements of a system. And we found this hugely beneficial.

0:52:09 KL: Why is it a systems problem when you're developing technology for handling spy craft?

0:52:15 MO: We see it that way because the solutions we generally succeed with are solutions that are involving multiple disciplines at the same time, multiple technologies, so not just IT or not just audio, or not just radio frequency, or not just chemistry. Usually our solutions are a mix of all of those things, and not just information collection. It's also information transmission or real-time analysis or storage. And so we have all these elements of a system that need to succeed together.

0:53:00 MO: In today's world, we'll comment on the IT industry, there's the same paradigm going on. In their world there are so many different elements of the successful IT systems that need to work together that they too, I think, would benefit from a model that introduces some systems engineering. Speaking globally, it turns out that stakeholders can be managed well using systems engineering.

0:53:32 KL: Tell me about that.

0:53:33 MO: How many different stakeholders must we respond to now on projects? In the old days we had a customer and things were simple. Now the customer is one of a long list of stakeholders. Well, that's a systems problem, Kendall.

0:53:49 KL: Is it about the ability to navigate the political environment to the larger market, perhaps through an organizational environment?

0:53:54 MO: I cannot find a project these days that has any fewer than a dozen stakeholders and two or three dozen components to a system, even the "simple projects."

[music]

0:54:09 KL: We really seem to be moving to, all projects probably are systems thinking problems as well. Should organizations be looking at their type of products and services to discern what type of project management principles they really need to tailor for themselves?

0:54:24 MO: I would claim that we all would benefit from looking at this systems thinking when you're working in project management.

[music]

0:54:36 KL: Back when you were in the Central Intelligence Agency, what was the main kind of reasons that projects failed?

0:54:44 MO: From my observations, the failures there were not unlike the failures elsewhere. It was a requirements-base there.

[laughter]

0:54:51 KL: We always come back to that, don't we?

0:54:53 MO: Requirements would come from the field, "the field" is how you refer to people who do work overseas. So the field had requirements. Well, the field was awfully busy trying to address those requirements, and didn't always have the time or wherewithal to communicate with headquarters, the project manager, to fully flesh out requirements. Maybe some of the requirements were not known to the degree they needed to be known, or maybe they changed pretty frequently. The field, in the CIA terms, pretty dynamic place. The requirements are unstable, so how well did we keep up with the changing nature?

[music]

0:55:42 KL: I hear two things there. Requirements may be shifting very rapidly, and frankly the ability to have that communication, your classic communicate with your customer, is highly restrictive. You can't call a meeting in Central Europe for everyone to come and talk about what their new radio needs are. You have shifting requirements, and you frankly don't get to ask a lot of questions repeatedly. How do you handle that?

0:56:08 MO: I think there are interesting project management techniques that have evolved that do address that, and today we're frequently referring to those as "agile."

0:56:19 KL: You think that really addresses that type of thing?

0:56:21 MO: So it's that extreme attention to shifting requirements with the agile processes. It's actually a pillar of what makes agile work so well. That was also a pillar in these processes the CIA had. Now, we didn't call them agile, but the processes there were extremely iterative. The successful projects would loop through the requirements and the solution process multiple, multiple times before declaring the product was ready to be shielded.

0:56:52 KL: The point about agile is that agile requires regular customer interface. I was imagining in the environment that you were describing, the act of a lot of communication itself was problematic.

0:57:04 MO: I would support your observation. So in agile, constant feedback and communication with the customer is essential, in fact agile advocates for them to be a sitting member along with everyone else.

0:57:16 KL: Yeah, good luck with that, right?

0:57:17 MO: So at the CIA and elsewhere, that was a known problem that needed to be solved, so the huge numbers of people that sit at headquarters, who cycle in and out of the field, who are absolutely current with whatever the field needs are, they don't happen to be sitting in the field at the moment, they're rotating through headquarters, so those are the people that we would work directly with. And as a consequence, we felt like we were pretty much in tune with whatever the needs of the field were.

[music]

0:57:53 KL: I really do see the need to tailor or adjust project management techniques for the types

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of projects your organization's doing, because what you just relied on there in my mind was, my organization already has an institutional process of bringing people in and out. So that's a characteristic of the organization, and you were able to then use that. It also implies that people understand their roles very well, because it's very much not personality-based, but rather groups of people see the same problem. So in a certain context, those professionals are interchangeable.

0:58:28 MO: Tailoring is not necessarily for beginners. The judgment necessary and the experience necessary to tailor adequately doesn't come overnight. Even Attila the Hun knew enough to tailor and to do his project processes in the proper sequence, that's pillage, then burn, 'cause it doesn't work the other way around.

0:58:52 KL: Yes, dependencies always will get you in the end.

0:58:55 MO: That's right.

0:58:58 KL: Wow, so there's some intel for us PMs, from Nazis and A-bombs, scientific intelligence gathering to intelligence analysis, designed to drive policy decisions, and project management activities defined and refined to make the spy products of dreams and movies real. It's all with a PM discipline. Special thanks to today's guests, Vince Houghton, Mark Stout, and Michael O'Brochta, and to my friend Frank Dominguez of Experts Guides, who introduced me to them.

0:59:27 S2: Our theme music was composed by Molly Flannery, used with permission. Additional original music by Gary Fieldman, Rich Greenblatt and Lionel Lyles. Post-production performed at Empowered Strategies and technical and web support provided by Potomac Management Resources.

0:59:42 KL: PMPs who have listened through this complete podcast may submit a PDU claim, one PDU, in the Talent Triangle Technical Project Management, with the Project Management Institute's CCR System. Go to CCRS, select Education and then Online or Digital Medium, an inter-provider code C046, The Washington DC Chapter, and the title PMPOV 0028 Spies Like Them, Project Management In Intelligence. Make sure to select 1PDU under the technical category at the bottom. I'm your host, Kendall Lott, and until next time keep it in scope and get it done.

1:00:18 S2: This podcast is a Final Milestone production, distributed by PMIWDC.