Episode 5: Dr. Jim Kroll

**KL:** Katie Linder
JK: Jim Kroll

**KL:** You’re listening to *Research in Action*: episode five.

[intro music]

# Segment 1:

**KL:** Welcome to *Research in Action*, a weekly podcast where you can hear about topics and issues related to research in higher education from experts across a range of disciplines. I’m your host, Dr. Katie Linder, director of research at Oregon State University Ecampus.

On this episode of the *Research in Action* podcast, I am joined by Jim Kroll, the Director of Research Integrity and Administrative Investigations for the National Science Foundation’s Office of the Inspector General, where he has worked since 2001. In this role, Jim is primarily responsible for leading the investigation and resolution of all allegations that, if substantiated, would result in administrative action rather than civil or criminal prosecution. These include such things as allegations of research misconduct under NSF proposals and awards; certain types of employee misconduct; and violations of NSF regulations, policy or directives. Prior to working for the OIG, Jim served 21 years as a meteorological officer with the U.S. Air Force. Jim completed his undergraduate studies at Rutgers University where he received his B.S. in Meteorology. He later attended North Carolina State University where he received his M.S. and his Ph.D., also in Atmospheric Sciences.

Thanks so much for joining me today, Jim.

**JK:** Thank you for having me Katie.

**KL:** So I’m wondering if we can just start, for folks who may not be familiar and who may not be aware that the National Science Foundation has an Office of the Inspector General. We heard a little bit about it in your bio, but can you tell us a little about just what is the Office of the Inspector General or the OIG?

**JK**: Sure, every federal agency has an Inspector General Office and the main function is to serve as an independent arm within that federal agency to try to promote economy, efficiency, effectiveness in those agency’s programs. But OIGs also has a role in preventing and detecting fraud, waste, and abuse in agency programs and operations, and the latter is usually where the investigative arm of an OIG is focused. Most OIGs have a couple of different sections to them. There’s usually an investigation section, there’s usually an audit section, some of your larger OIG’s will also have an inspections section; NSF does not have one of those.

**KL**: So it sounds like in the role that you’re playing, you focus on allegations, that again if substantiated, result in administrative action. Are there other folks within your office that focus on kind of more civil or criminal prosecution?

**JK**: There are. We have three main groups in the investigative section of NSF OIG. One is the civil criminal, who are a group of, they’re referred to as 1811; that’s the code that describes criminal investigators. They look primarily at again matters that would potentially be prosecuted either civilly or criminally; often involving larger amounts of money. And then you have the investigative scientists, the group that I head up, that’s looking more at research integrity issues. Not just research misconduct, but there are some other issues that fall under what I like to refer to as the broader umbrella of research integrity. We also dabble in some other areas from time to time including occasionally looking at personnel investigations inside the agency. And then there’s a third group, our crack attorneys, who work with both sides to help facilitate the cases. And they’re as critical as any of the investigators in trying to resolve the issues that come into our office.

**KL**: So of all these teams, about how many folks are working in NSF’s OIG office?

**JK**: Well NSF OIG as a whole probably about I think it’s somewhere between 60 and 65 folks. On the investigative side, we probably comprise about 40% of that.

**KL**: So for your role specifically in this office, what are some of the kind of things that you’re focusing on in terms of looking at different allegations that might come through the door?

**JK**: Yeah, the lion’s share of what we look at are allegations of research misconduct, which the federal government defines as a falsification, data fabrication, or plagiarism whether it be in the form of verbatim copying or intellectual theft. But there are a host of other issues that we dabble with over time, including sometimes data management issues. Lots of times data management issues can be married up with some of these data falsification and fabrication cases. We occasionally look at issues related to human subjects research or animal subjects research. False statements sometimes that are contained within proposals, data sharing, biohazards, inaccuracies in CVs or bio-sketches that are included in the proposals; things of that nature. That’s some of the topics that when I was talking about that broad umbrella of research integrity, those are some of the topics that fall under that umbrella.

**KL**: That seems like a pretty broad range of things to cover.

**JK:** Yeah, it’s a potpourri.

**KL:** Well one of the things I’m wondering is, when you’re looking at these different issues, you know I’ve certainly seen some of these things come up in the news, they get reported sometimes in The Chronicle or Inside Higher Ed about someone who has an allegation of research misconduct that is substantiated and we’ll hear more about that. How much is this really happening? I mean I think we kind of hear some of the big stories, but we certainly don’t hear about everything. I’m sure this definitely keeps you busy, but how much are you really seeing this happen?

**JK**: Well we’ve definitely seen a rise over the last decade or so. I started here in 2001 and we had about, we were probably running about 25 cases at that point, but most of them were minor issues. And then in probably 2004, 2005 time frame after we had hired a few new people, we started to see an uptick in the number of allegations. To the point now where at any given time we have over 100 cases open at any given time. And not only is it the number that we have open, but the percentage that have where the allegation is significant or substantive. As I mentioned back in 2001 we had 25 cases open and really only 1 of them was substantively serious. And now with 100 cases open at least half if not more have a substantive nature to the allegation.

**KL**: That’s really incredible. Do you have any sense of what’s lead to that rise?

**JK**: I think it’s a variety of issues. I think that there has become a greater awareness due to some high-profile cases over the last decade. I actually want to say that some of it may be coming from NSF’s RCR mandate for students. I think that’s also raised awareness at the university level and with students themselves about if they see something wrong they now know that they have to report and where they need to report it to.

**KL**: I see. So when you say RCR you mean the Responsible Conduct of Research guidelines?

**JK**: Yes, that’s correct. I mean some of it too I think is just technology. I mean it’s so much easier to cheat now, to take a mouse and drag over a piece of text and cut and paste it somewhere else or using Photoshop to modify figures to maybe make the results look better. So I think that’s a contributor to it as well, but that’s a two-edged sword. Technology helps people cheat, but it also helps us find things.

**KL**: Absolutely. Well it sounds like you’re definitely busy. I’m wondering what do you think is the most interesting thing about your work as you’re kind of investigating some of these allegations?

**JK**: There’s a variety of things, I think. Every time I think I’ve seen it all come in the door, something comes through the door and I say, “Wow, I never would have thought of doing that.” I mean in terms of the research integrity issues most of that stuff tends to be a little consistent in terms of what people do and why they do it. I think some of the stuff that I’ve seen on the other side of the shop, the criminal side of the shop, in terms of monies and how they get misused or sometimes they call it conversion for personal benefit. It amazes me sometimes what people will do with the money.

**KL**: And those are some of the more fraud related cases that your office is dealing with?

**JK**: That is correct.

**KL**: Well we are going to take a brief break. When we come back we’re going to talk about some of the procedures, ones Jim’s made aware of possible research misconduct, and also some examples that he can give us from the work that his office has done. So back in a moment.

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# Segment 2:

**KL**: Jim obviously you’re very busy with all of these cases that you have coming through the door. Many of us probably don’t know, what is the general procedure once you’re made aware of a possible research misconduct? And maybe we could just start with how are you made aware of these things?

**JK**: Well allegations come through the door through a variety of sources. Some of them come right from universities. They’ve already conducted an inquiry because they themselves got an allegation and they’ve established some substance. And once they have an inquiry that they need to move to the investigation phase, the regulation requires them to contact us at that point. But a very large number of our allegations come to us through the peer-review process, which is at time surprising what people recognize. Lots of time they’ll see their own text being copied; they’ll be reading something, a proposal, and say “wait a minute. I recognize that, I wrote that three years ago.”

**KL:** Oh wow.

**JK:** But what has really impressed me is sometimes people will say, “Hey, I recognize this text from a book that Smith and Jones wrote ten years ago.” And, you know, I sit there and I think to myself, “How do you remember that this text comes out of that book?” But we’ve seen that from time to time. But, yeah, the two places I would say the lion’s share of the allegations come from either from the universities themselves or the peer-reviewers. Occasionally we have some folks that are outside the peer-review process and they’ll find things that they think are worthy of raising an allegation as well.

So once the allegation comes in the door then we initiate an inquiry. If it’s a plagiarism matter it’s easy for us to do an analysis. We have the software like a lot of other folks use software that’s out there commercially available to analyze proposals and try to identify if there are sources of copied text. And once we establish that there appears to be some substance to it, we will write to the individual and ask them, “What say you? Here’s the evidence” and we wait for them to respond. And now for some reason their response winds up explaining the situation adequately that we dismiss the allegation, then the matter is closed and no one else is wiser. It’s very important to us that we maintain confidentiality as strongly as we can.

It’s not as easy in data fabrication cases because we don’t have access to the data. And so when an allegation of data fabrication comes in we have to look at whether or not we think it’s credible. If we get an allegation that says Dr. Smith fabricates all of his data, signed anonymous. Well that’s probably not going anywhere because there’s no specificity to it. But not too awful long ago we had an allegation that came in the door where it said, “Here’s an article, if you look at Table 2 that data, there’s no data to justify that.” That had enough specificity that we believed, even though the person had send it to us anonymously, there was enough specificity that we felt like we should at least move forward. And we referred an inquiry to the institution to say, “Hey take a look at this.” But it’s the institution who can then execute their procedures to sequester data off of computers et cetera, et cetera to make sure that no one can tamper with the evidence.

**KL**: So it sounds like in a lot of ways the institutions that you’re working with are real partners in this process.

**JK**: Very much so. I mean that’s the process is set up. We try to establish substance and then we turn it over to the institution for them to run their process. Because one of the things that we rely heavily on is expert’s knowledge of the community standards. Because community standards can vary from discipline to discipline in some cases, and by getting that opinion from the experts at the institution that helps us in establishing our case with NSF to potentially take action if we think it’s appropriate.

**KL**: So what are some of the kinds of administrative actions that might be taken if an allegation is substantiated by your unit?

**JK:** Yeah it usually starts with a letter of reprimand that comes from, the Deputy Director adjudicates all of the research misconduct cases. And so usually the first level is a letter of reprimand from the Deputy Director. Then usually associated with that will be some types of certifications or assurances. Certifications is where the individual when they submit another proposal or an annual report to the agency, something like that, they have to put in writing that they certify that they understand the research misconduct rules and that what they’re submitting does not contain research misconduct. Assurances goes one step further because it makes either a department chair or a dean make an assurance that they’re reviewed it as well and the materials do not contain any research misconduct, the materials that would have research misconduct associated with them.

Another action would be to have them take some sort of Responsible Conduct of Research training. And then usually the largest, if you will, hammer, the largest tool in the kit is debarment. And that’s where for some period of time, usually somewhere between 1 to 3 years, an individual cannot receive federal funds.

**KL:** Are you aware of in these cases where you are giving some kind of administrative action that institutions are also giving some kind of administrative action as well?

**JK:** Inevitably they do and when we interact with a university we make it very clear that whatever actions they take, they should be taking to protect the interests of the university. NSF will take action, if appropriate, to protect the interest of the federal government. And let me give you an example why those two actions may be necessary. If an institution takes action against an individual that’s all well and good, but it only applies if that individual stays at that university. If he or she moves to another university, which we see in a fair number of the cases, then those administrative actions that the university took do not follow that individual.

**KL:** I see.

**JK:** So NSF really needs to take action to protect the federal government should that individual move on somewhere else.

**KL:** So I’m wondering what kinds of patterns or trends are you starting to see for research misconduct. Is there anything that’s happening more dramatically than other kinds?

**JK:** Well certainly over the last 5 years we’ve seen a substantive increase in the number of data fabrication cases associated with students. For a long time plagiarism was a very, very large percentage of our portfolio. Data fabrication now represents about 30% of our portfolio, which is, that’s a rate that it’s never been at, at least not in my tenure here. And again, I don’t know whether that’s connected to the RCR training and there’s a greater awareness of it, or whether students are just more prone now to doing this for whatever reason. But that’s definitely one trend we’ve seen.

A second interesting trend is, and this is not quite as poignant as the student fabrication, but we have seen a couple cases in the last couple of years of people who are falsifying their IRB approvals.

**KL:** Oh, really?

**JK:** The institutional review board approvals, yes. In fact we’re working on one case right now which is pretty significant where it appears to have happened in multiple grants. That’s a new issue that we have not had to deal with prior.

**KL:** That’s very interesting.

**JK:** And, you know, the crazy thing is that, you know, most of the research that NSF funds it will often either be exempt or it will not have major, it’s not major oversight by the IRB. It’s nominal in terms of the research oversight that’s necessary because we don’t, I mean we don’t fund clinical trials or anything like that. It’s mostly survey-type research where the IRB issues come into play. And so why you would need to fake those is beyond me because individuals shouldn’t have had any problem getting an approval through an IRB.

**KL:** That is very interesting to see kind of the newer ways that people are finding to have research misconduct. It’s also just kind of, it takes me back a little bit to be completely honest to think about the different ways people are kind of intentionally trying to get around some of these policies that are really meant to insure their research is done in an ethical way.

**JK:** And you know when it comes to that issue of the students and data fabrication there are, you know, sometimes you can tell it’s the laziness of the student. But sometimes when you start digging into the story, there’s also this back story about, you know, perhaps the PI having an idea of exactly how the research is supposed to pan out. And when the student isn’t getting the answer that the PI thinks he or she should get, it’s “Well go back and try it again. Go back and try it again.” We’ve seen at least a couple times where students have said to us, “You know, I just wanted to get done with this one piece so I could move on and eventually finish.” Now that doesn’t justify the actions that the student took, but it does address another issue out there on mentorship and to what extent PIs need to oversee their students. Make sure that they’re not forcing them into a position where they feel like they have no choice but to fabricate the data so they get the answer that they believe the PI wants.

**KL:** Well I think that, as you’ve mentioned, Responsible Conduct of Research is such a key part of this. We’re going to take another brief break and when we come back we’re going to spend a little more time talking about Responsible Conduct of Research and the different NSF mandates around it and some of Jim’s recommendations for making sure that it’s being included in mentoring relationships in an appropriate way. So, back in a moment.

[music]

# Segment 3:

**KL:** Jim, one of the things that I know you feel strongly about is Responsible Conduct of Research, or RCR, training. Can you tell us a little bit about what NSF mandates for this kind of training?

**JK:** Yeah, NSF as part of the America COMPETES Act several years ago was directed to come up with a requirement for RCR training and I guess it was in January of 2010 where they established that all students and post-docs who were funded by NSF grant money had to receive some level of Responsible Conduct of Research training. But the agency sort of left it at that. They basically were saying to the institutions, “We’ll let you figure out what’s necessary in that realm.”

We knew that when that mandate came out. Well let me step back for a second and say that part of way that was written it also gave the Office of Inspector General the option to look at the plans for RCR training that each institution had developed. And so we knew at some point we were going to come back and start looking at some of the plans that institutions had developed. And in fact, that’s what we’ve been in the process of over the last nine months to a year, has been looking at a random sample of about 50 institutions. Looking at their plans, interviewing high level folks within the institutions, usually either the provost or the president and also the research integrity officer or the VP for research, whichever was more appropriate. And then we also sat down with a group of students who were funded by NSF and then had to take the training to try to get their perspective on it.

Pretty much most of the institutions have taken a, what we call a compliance-based response; meaning they pretty much, all they require is students to take some form of online training, almost exclusively what’s known as CITI. There are a few schools that were using other online-based training. But in very few instances did universities require that anybody, any of the students, go beyond that basic online training, which we’ve always felt might not be adequate. And from interviews with the students, many of them have said, “Yes the CITI provides you with a good baseline knowledge,” but that they’ve felt like in many ways they were not able to apply it directly to their personal situations. And that they would have liked to have had some sort of interactive sessions, either mentoring sessions one-on-one with their PIs, or some sort of workshop or lecture where they could have interactions between other students and faculty members to discuss some of the issues. Particularly those that are more pertinent to the discipline that they are in.

**KL:** Well and one of the things that you had mentioned earlier was that sometimes students are the ones that are reporting research misconduct because they’re kind of in the situation and can see what’s going on, maybe with a faculty member. I’m wondering to what degree does current Responsible Conduct of Research training talk about kind of those power relationships and what you should do if someone who know that is in power is doing some kind of research misconduct. I would imagine that for many students they don’t know how to respond.

**JK:** Yeah, I’m not sure, I have to admit I have not taken the more recent version of the CITI training. But I’m not sure it really addresses that issue all that much. And that’s a very unique issue. Students clearly are one of the more vulnerable groups: a) because of that mentor-trainee relationship and b) because they’re, I mean they have an interest in getting done in a timely fashion. They want to move onto the workforce, but they’re also to some extent beholden to the individual that’s helping to fund them. So it’s a very unique relationship there.

There are two at-risk groups that I have always felt almost from the get-go when I started working here. One is graduate students; the other is young faculty because they’re competing for a very limited pool of resources. And of course, the last I heard, you know, grant funding can have an impact on one’s ability to get tenure. I think that’s still true anyway. And so the desire to get funded is very, very strong and sometimes that can lead people to, you know, bending the truth a little bit. In fact there was an interesting article that I just stumbled across today that was talking about UK and Australian researchers and how in interviewing some of these researchers they say that they’re always stretching the truth in their grant proposals about what the impacts of their research will be. I thought it was a very interesting read.

**KL:** It was. I read that also myself this morning with interest. We can link to that in the show notes. I believe it was in The Chronicle of Higher Education. It was very interesting talking about actually a very particular kind of part of the grant application where you talk about kind of the larger impacts; what you think will happen because of the research. And the overall thought for many of those interviewed was they kind of just made it up and were often fabricating what they thought would be the impacts of the research.

Jim, I’m wondering what recommendations you have for Responsible Conduct of Research training. How can people go beyond the minimum requirements?

**JK:** Well I think, I really do think it comes down to the whole issue of mentoring the students. The professors at the universities taking the time to mentor the students that work for them. And I think there are a large percentage of university professors who actually do that. They’re conscious that that is an important function of their role as a professor. That mentorship becomes important. And as I go around and I talk at various meetings around the US I always have people come up to me and say, “Oh yeah, I have a laboratory meeting every other week. And I sit down and I throw out an ethical dilemma and I ask them how they would deal with it.” And I want to hear those kinds of stories; it’s music to my ears. It really is, because I think that again the CITI training that we talked about a little bit earlier, it’s very good in what it attempts to do, but I still think that human factor, that interaction and having PIs say, “Yeah this isn’t just important to me from the sense of you go out and check the block to take that online training. This is important to me and I’m going to sit down and I’m going to talk to you about it. I’m going to explain to you why.” Because everyone’s research becomes the building blocks for the next generation of researchers, and so if you don’t build a solid foundation you’re actually having an impact on future people.

**KL:** That’s an excellent point. I’m wondering, Jim, given all of your experience working with these cases over the past years, what is it you think brings people to believe they can get away with it, especially for maybe more senior faculty members who know exactly what it is they’re doing?

**JK:** Wow, there’s a $64,000 question. You know, I don’t know if they, I’m not sure whether it’s they just think they’re bigger than the system or whether what they’re doing is so small that it won’t get, you know, caught by the big system itself. It could be some arrogance out there. It could be a variety of things. I’m just sure that people think, you know, that no one’s going to be looking at their little research project and eventually taking a look at why what they did might have been wrong.

I think for the graduate students a lot of them, some of them we see, as I said before, it’s true laziness. They just don’t want to do the work. But then there are other cases where, you know, they may have a need to get done and it’s just the expedient thing to do to get the research “finished” so that they can move on to graduating and getting a job; things of that nature.

**KL:** Well I want to thank you so much Jim for taking the time to share with us, so both myself and our listeners can know more about the Office of the Inspector General at the National Science Foundation. So thanks so much for your time.

**JK:** Oh it was my pleasure. Thank you.

**KL:** And thanks so much to our listeners who joined us for this week’s episode of *Research in Action*. I’m Katie Linder and we’ll be back next week with a new episode.

Show notes with information regarding topics discussed in each episode, as well as the transcript for each episode, can be found at the *Research in Action* website at [ecampus.oregonstate.edu/podcast](http://www.ecampus.oregonstate.edu/podcast%22%20%5Ct%20%22_blank).

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# Bonus Clip:

**KL:** In this bonus clip for episode five of *Research in Action* Dr. Jim Kroll offers some examples of research misconduct cases from his work. Take a listen.

Jim, I’m wondering if you have any interesting examples of recent cases that you can share of some of the research misconduct allegations that you have investigated.

**JK:** Oh yeah, there’s a million stories out there. I have a few favorites that I like to use over the years that really do show how small a sub-discipline of research can be. One example in particular stands out. There was a researcher in Georgia who had been a reviewer of a proposal for a European science agency and in reviewing the proposal, of course whenever you peer review a proposal you’re supposed to destroy it when you’re done. He held onto it and in fact he cut and pasted two pages of that European proposal into his proposal into NSF.

**KL:** Oh wow!

**JK:** Now in this case the interesting piece of it was it wasn’t just verbatim plagiarism. The piece that he cut actually had a unique intellectual idea that had never really been brought up or discussed in the literature. And of course he figured he could get away with it because he was taking it from a European proposal and dumping it into an NSF proposal. But as luck would have it the NSF program officer said, “Oh, I know some experts in this area over in Europe.”

**KL:** Oh my gosh.

**JK:** And it turned out to be the authors of the proposal that he had reviewed. And they contacted us and said, “Hey we’ve got an issue here.” And so we contacted the European funding agency and said, “We need an official copy of the proposal.” The complainants had offered us their copy of it, but that’s not an official copy and so we couldn’t use it for evidence. So we contacted the European agency and they said, “Well we’re not sure whether the authors will allow us to release it.” And we said, “Well we’re pretty sure they will, but go ahead and ask them.”

**KL:** Oh my gosh, wow.

**JK:** And of course they got the permission, so we got the official proposal and sure enough he had cut the two pages that contained that unique idea. And NSF ended up debarring that individual for a couple of years.

**KL:** Academia is an incredibly small world.

**JK:** Very, very much so. Whenever I go out and talk I always call it the Disney Principle, it’s a small, small world.

**KL:** Yes, absolutely. That’s such an excellent example of sort of the niche areas within a discipline.

**JK:** And then another one of my favorite ones was actually, it actually wound up being more of a fraud case, but it started as plagiarism. So we had a, the situation was there was a graduate student who had finished his Master’s Degree. He wanted to continue doing the research, but he didn’t want to continue to work on his Ph.D. so the professor said, “Well I’ve got this small business in my wife’s name. We’ll put in a small business research proposal to NSF and you can continue to do the research as the principal investigator.”

So they submitted the proposal and it got funded. And that’s all above board, there’s nothing wrong with any of that. Except that about the time that NSF chose to fund it, the graduate student’s wife started getting homesick and asked to go back to Texas, which was their home state. And so he departed and so now the professor had a small business grant without anyone to do the researcher. And so they put in the name of a new PI, which was actually his wife. This particular research was in I think I want to say like bone cement and the wife was a psychologist. So, you know, there was a disconnect there. But in the end the professor, at the end of the six months of the grant, the professor cuts fifteen pages from the Master’s student’s thesis and submits it as the final report.

**KL:** Oh my gosh.

**JK:** And then he then submits what’s called a phase two proposal and he wins the phase two. So at that point the professor goes to his dean or his department chair and says, “Hey I’m going to need to do some of this research in the university facilities.” And the department chair said, “Well that’s great. This is a phase two. What happened to the phase one?” And the professor’s doing, you know, the moonwalk back-step thing. So the professor or excuse me the department chair actually gets ahold of a copy of the final report that had been submitted for the phase one and he recognizes the text because he was also on that graduate student’s Master’s thesis committee.

**KL:** That’s a pretty good department chair doing all that follow-up.

**JK:** Yeah, he was very good. And so long and short of it was that the professor wound up writing a $200,000 refund to NSF. I think they got him to plead to one false statement and I think he had a three year suspended sentence. But that’s one of those cases where what started as a plagiarism case very rapidly became a fraud case.

**KL:** Wow.

**JK:** And we see that from time to time. Internally we kind of call them hybrids because they’re not straight fraud, they’re not research misconduct. They’re a little bit of both.

**KL:** I have to ask, Jim, after doing this for so long does it every just depress you to see these cases come through?

**JK:** No, not really. Not that I smile every time an allegation comes in. As I said I think earlier in the show I said, you know, every once in a while I think, “Well I’ve seen it all.” And inevitably something comes through the door and I go, “Wow! Just didn’t expect that one.”

**KL:** Couldn’t have imagined that one.

**JK:** No, no. I haven’t gotten jaded yet and you know I only have five years until I can retire. So hopefully I can stay unjaded for another five years.

**KL:** Well thank you so much for sharing these stories and your experience. This has been very interesting.

**JK:** You’re quite welcome.

**KL:** You just heard a bonus clip for episode five of *Research in Action* with Dr, Jim Kroll sharing some examples of research misconduct cases from his work. Thanks for listening.

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