Feeling the Burden

Ethical Challenges and Practices in Open Source Analysis and Journalism

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Ethical Journalism Network

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FOR PEACE AND SECURITY

"We really felt the burden of working with something new. This could be an amazingly powerful tool, or we can ruin it now. Because if it's not credible, if we're irresponsible, if we make too many mistakes early on, we will lose this as a tool. Even if we still think it's valuable, we will lose the confidence of anybody who might be compelled by it."

"It's something really intense to do and something really worrisome, something you cannot sleep off because you're like, wow, am I endangering someone? If you are in that heat of the moment, you're just putting it out on Twitter and not thinking about it so much, you're like, oh shit, what did I do?"

Ethical dilemmas with open source analysis are common. Analysts and journalists working with open source information have stories of feeling uneasy about publishing something. They weigh possibly risking harm to themselves, their employer, other individuals, or even international security. After publishing, they worry whether they did the right thing. These stories are shared quietly or hesitantly—compared to stories of journalistic or analytic feats—but ethical challenges are part of the day-to-day experience. Those analysts and journalists also acknowledge they could use more training, guidance, support, and focused discussion on their ethical practices.

This paper aims to help elevate those stories and perspectives. It offers observations from a series of 28 structured interviews with analysts and journalists who use open source and geospatial analysis to inform their work on international security and nonproliferation policy.[1]

The goal of the paper is to make it easier for individuals, organizations, and community stakeholders to join discussions on enhancing their ethical practices with open source analysis. The paper isn't a critique of existing practices. Nor does it prescribe an ethical framework. Instead, it is an attempt to learn with practitioners and help identify potential bottom-up solutions to the common ethical challenges they face.

Ethical Challenges in a Dynamic Ecosystem

"The types of data that we're using and the types of stories that we're telling and the types of partners that we're engaging are a lot of times new. That maybe can set us up to encounter ethical challenges that we might not have previously, and so we need to be prepared in thinking about those processes in advance."

These challenges aren't necessarily new. Journalists, nonprofit organizations, and individual analysts have been using satellite imagery for decades to break news and help inform public discourse on issues of international security. In 1986, ABC News aired Landsat and SPOT images of the Chernobyl nuclear disaster within a week of the accident—one of the earliest uses of satellite imagery in a breaking news story.[2] Before Google Earth launched in 2001, intrepid analysts at nonprofit organizations were already using satellite imagery to uncover major developments, including on Iran's then-secretive uranium enrichment program.[3] In these cases, journalists and analysts faced complex decisions about the consequences of publishing the information faster than or over the requests of officials.

Today, open source analysts and journalists play prominent roles in public discourse. Analysts are part of a diffuse, diverse, innovative, capable, and widely connected community of practice.[4] They craft intelligence products, break news, add evidence to reporting, provide analysis to law enforcement, and pierce attempts at secrecy. Increasingly, analysts collaborate with journalists or serve as expert sources for reporting. As *The Economist* wrote, "The intelligence world is thus being democratised, a development which is challenging governments, reshaping diplomacy and chipping away at the very idea of secrecy."[5]

Convergence of Practices and Roles with Open Source

Changes in the information environment are happening quickly, even as concepts with open source evolve. At an essential level, open source information "encompasses publicly available information that any member of the public can observe, purchase or request without requiring special legal status or unauthorized access."[6] Examples of such information include commercial satellite imagery, maritime traffic or air traffic control data, business and property records, and information shared on social media. Similar to work within intelligence cycles, open source analysts collect, process, exploit, and disseminate information to consumers and/or the public.[7] In this way, open source analysis seems like a familiar intelligence methodology. But the culture of open source defies those boundaries. The networked community of actors working with open source information draws in diverse participants, including academics, journalists, hobbyists, think tank experts, human rights activists, and interested citizens. The community has normative values that encourage transparency, iteration, tinkering, and participation. The community draws in participants often motivated by play, reputation, and a sense of belonging.[8] Those characteristics are advantageous in today's information ecosystem, as participatory and networked communities can parse massive volumes of information and propagate findings at speed and scale.

Other sectors have attempted to adapt and adopt those characteristics. There is a convergence of practices shared by journalists, intelligence professionals, nongovernmental experts, and other interested citizens. In turn, this has broken down barriers between those communities, facilitated interaction across them, and added competition among actors seeking to inform the public policy conversation on international security. Since 2014, Bellingcat—a self-described collective of researchers, investigators, and citizen journalists—rose to prominence using open source tools to bring accountability for events like chemical weapons use in Syria, the shootdown of Malaysia Airlines Flight 17, and the poisoning of Alexei Navalny. Major news organizations—including the Associated Press, BBC, and *New York Times*, among many—have created teams using similar open source approaches and digital tools to augment their investigative journalism.[9] The US intelligence community has slowly assimilated open source intelligence

(OSINT) into the enterprise. Prominent former officials have urged the intelligence community to embrace OSINT as a discipline, noting, "The growing quality, relevance, and timeliness of OSINT is now fundamental to all-source analysis. OSINT should be conceived as a foundational INT for strategic intelligence, on par with information collected from classified means."[10]

These developments are also changing relationships between analysts and journalists. It is still common today for journalists to reach out to individual experts for background information, sourcing, and quotes. Analysts also pitch journalists on newsworthy analyses. Participatory norms in open source information, however, are creating new forms of collaboration. Many journalists follow open source analysts on Twitter as a starting point for reporting and as a means for talking with sources. Journalistic outlets may partner with open source analysts in reporting on a story and supporting it with visual evidence. Journalists can get tips from government sources and then cue trusted contacts in the open source community to assess a development and check a government's claims. Some outlets rely on in-house teams for open source analysis. While those teams may collaborate with other organizations or informal networks, they often prefer to work independently so they can be more transparent with methodology, are insulated from outside analysts with questionable motivations, and can better manage ethical decisions.

The community of open source analysts tracking the spread of nuclear weapons and technology—a domain famed for governmental secrecy—illustrates the roles that nongovernmental experts can play. As the quality and affordability of satellite imagery have increased—along with the explosion of data on social media and in public databases—there have been similar increases in analytic sophistication and speed by open source analysts in the nuclear nonproliferation community.[11] Analysts today are able to combine technical and policy expertise, open source information, and imagery analysis to break news with their assessments of major international developments. The volume and type of data available to these analysts—through companies like Planet and Maxar—is growing steadily, including high-resolution, high-cadence, and synthetic aperture radar imagery, among many other forms of imagery data.[12] Analysts have varied levels of professional training in imagery analysis. Some had earlier careers in the intelligence community or the military. Some take classes or seminars to learn processes and techniques behind imagery and open source analysis. Many more have learned through practice, which contributes to a proud culture of self-taught analysts.

In spring 2021, teams of analysts followed up on public hints that China was increasing its intercontinental ballistic missile (ICBM) forces. Within three months, maps created by a team at the James Marin Center for Nonproliferation Studies of a new Chinese ICBM field were published in the *Washington Post*.[13] Analysts at the Federation of American Scientists and the Air University mapped two more ICBM fields soon after.[14] The reports played a familiar role in the information ecosystem. Analysts at nongovernmental organizations (NGOs), as Pia Ulrich and Chris Bidwell eloquently

summarize, "use compelling imagery to put forward plausible analysis and interpretations about world events. In turn, these analyses and perspectives are easily broadcast via the internet and can reach ever-growing audiences at negligible cost. This new capability results in competing narratives with regard to developing security issues that must be sifted through and adjudicated by policy-makers worldwide."[15] Such competing narratives can advance public understanding and help hold governments to account. "Back in the day, if the government told you something, you had to believe it. That's how we got the Iraq War," said Jeffrey Lewis in an article for the *Washington Post*. "Our animating principle is that having a robust public debate about nuclear and missile technology in other countries is going to lead to better policies."[16]

Ethics, Professional Communities, and Open Source

That kind of influence carries with it ethical obligations. Ethics provide standards of behavior for what humans ought to do when faced with decisions about right and wrong. Those kinds of decisions are part of daily life. We regularly encounter ethical dilemmas where we must choose between courses of action each of which might transgress a moral principle. While people usually try to do the right thing, putting ethics into practice requires routine, conscious, and deliberative effort from individuals and communities as a whole. The practice of ethical decision making involves being aware of those dilemmas, gathering facts about a decision, evaluating options against different ethical approaches, deciding, and reflecting on the outcome.[17] Approaches to ethics vary, including those that seek to do the most good, respect the rights of others, promote fairness and justice, or contribute to a common good.[18]

Ethics are critically important for some professional communities—medicine, engineering, law, etc.—that hold power over others, because misuse of those privileged positions can cause harm.[19] Those communities have ethical norms and codes that guide their conduct, facilitate accountability, help retain public trust, and steer those communities' actions toward moral good.

Given the convergence of actors and practices using open source information, one might expect a convergence of ethical practices among those same stakeholders. Journalism has a centuries-old ethics tradition.[20] Ethical principles in journalism, like those maintained by the Society of Professional Journalists, encourage all people in all media to "Seek truth and report it," "minimize harm," "act independently," and "be accountable and transparent."[21] In practice, they help advise journalists on how to manage ethical dilemmas, like balancing the safety and privacy of sources against the public's need for information. Intelligence professionals also face ethical dilemmas, particularly in intelligence collection and dissemination. In ways familiar to journalists, they balance the safety of human sources against the intelligence missions of their governments. They encounter dilemmas about rights to privacy during intelligence collection. They weigh needs for secrecy with sources and methods against the value of disseminating intelligence. The intelligence community is often characterized as amoral, an image validated by actions like the CIA's torture of

detainees. Yet there is a current—among intelligence professionals and from some writers—trying to elevate individual standards of conduct, develop professional codes of ethics, and graft principles of *jus in bello* onto intelligence activities.[22]

For the open source community, development of ethical practices has significantly lagged behind their analytic abilities and the influence that their work carries. In 2019, Open Nuclear Network and the Stanley Center for Peace and Security hosted nonproliferation experts, open source analysts, and journalists to discuss ethical practices. Participants recognized common challenges in dealing with ethical dilemmas but acknowledged that individuals and organizations in the open source community lack resources and training on ethical practices.[23] That discussion reverberated in the nonproliferation community, with experts helping characterize the challenges and offer potential solutions for the community to help develop its ethical standards.[24] Such solutions take time and focused effort. Stakeholders in the human rights and international justice community spent years of intensive work to develop the Berkeley Protocol on Digital Open Source Investigations so that the community could articulate and discuss guidelines that aim to enhance the ethics of its open source analysis. The protocol also facilitates the use of OSINT evidence in international criminal investigations.[25] Open source analysts working in nonproliferation and international security are at earlier stages and only beginning their conversations on the ethical challenges of their work.

Everybody Has a Story

"Do you have it right? Does having it right help or hurt the situation?"

Ask an analyst or journalist about a time when they were uncomfortable during decisions on whether to publish something based on open source information. Everybody has a story.

For this paper we interviewed 20 analysts and 8 journalists, asking each for examples of times they felt uncertain whether to publish something in their work with geospatial and open source analysis. Below are excerpts from several interviews. Some of these stories are used with interviewee's approval. Others have been paraphrased, revoiced, or partially fictionalized as necessary to remove identifying details. In these stories, there is a sense that individuals were often on their own without much guidance to navigate their ethical dilemmas. Seeing the stories together, there is a picture of common challenges within the community. It is a reminder that ethical dilemmas with this work are common and not abstract.

Diplomacy, Crises, and Conflict

Several analysts shared stories of times they worried about whether something they published could inadvertently make diplomacy more difficult or contribute to escalatory pressures during crises.

I'd been tracking Iran's nuclear program for a while. Satellite imagery showed what seemed like a significant, undeclared expansion of its nuclear activities.

If made public, it was the kind of story that could complicate sensitive talks with Iran. On the other hand, the information was already out there in the open source. It's my job to help explain the situation to the public and to policymakers.

I was confident in the analysis. But I worried that publishing it could add to international tensions. So we checked in with official contacts. They clearly wanted us to hold off. I assumed that meant there was some kind of negotiation underway, likely to get access to the site for international inspectors. Public pressure could disrupt that.

We went ahead and published. In the end, inspectors got access to the site.

There was this North Korean missile base. Hardly secret. The base had been there a while. I wrote an update on the site, based on some recent imagery. The report ended up getting some media coverage, reframed, and put in context with ongoing diplomatic efforts. This was during some sensitive months between the US, South Korea, and North Korea.

The media coverage of the report ballooned. The story got big enough that the US and South Korean governments commented on the missile developments.

I thought it was useful analysis. Nothing flashy. But it took on a life of its own after we published.

Remember after the US assassinated Qassam Soleimani, and Iran responded with missile attacks on American bases in Iraq? The administration said, you know, troops weren't really under threat. The attacks missed. Some people got a headache or something.

I looked at imagery after the attacks. Seemed like the Iranians had hit what they said they would. I paused before posting about it. Because could pointing this out worsen the crisis, if it gets caught up in a public narrative and encourages the US president to escalate the conflict?

Open source work is important for evaluating real-world crises and not allowing governments to get away with misleading claims. But in this case, it kinda felt like being accurate, being quick, being transparent, and being truthful still could lead to bad consequences.

Unintended Consequences

Analysts and journalists often stumble upon information that, if published, could inadvertently aid nefarious actors. Or, as a consequence of something they published, there could be collateral damage to international systems that uphold a common good.

Recognizing those situations can get difficult.

I was using satellite imagery to track a terrorist organization in Africa. I identified some activity but also inadvertently discovered a US and allied military operation. I shared it with a contact, who asked me to not publish because it'd compromise the operation.

More than happy to do that. Not a problem. That's why we do reviews like that.

The last thing I want to do is end up helping the North Koreans troubleshoot their missiles. And I definitely worry about that often.

Like, if I'm looking at photos of a missile. And I were to notice something clearly wrong with the design or performance parameters. And then post something online saying, "Well, that's your problem right there. Fix that, and you got a better missile."

We obtained cockpit recordings of Russian and Syrian pilots on bombing sorties. Using some open source and geospatial mapping, documenting evidence and cross-corroborating data, we could validate the tapes. And show Russian involvement in strikes on hospitals in Syria.

We reported it. They bombed one of the hospitals again. We reported it, again. Our story was held up to the Russian ambassador in a UN Security Council meeting. Soon after, Russia withdrew from an additional protocol to the Geneva Conventions and, later, the UN deconfliction system.

Obviously, they're aware now that there's skilled groups like us who can call them out for war crimes using evidence that they can't deflect like they used to.

I was looking at videos of missiles coming out of North Korean state news. They often censor their footage before uploading, butsometimes you can see something come into the shot that shouldn't be there.

I pointed out something that, for a single frame, was briefly uncensored. Pretty sure that got the censor in deep trouble.

Privacy

Journalists have obligations to preserve the confidence and protect the safety of their sources. But it's increasingly difficult to do that today, as open source information makes it easier to identify individuals. The challenge is also growing more complex as analysts and journalists both need to consider the safety and security of sources, subjects, and bystanders.

We have to be extremely careful when using bystander video in our reporting.

Immediately after an event—say an explosion or some act of violence—it's fairly common to find firsthand video of the event posted on social media. It can be immensely valuable for verifying a story and adding visuals. But by showing video evidence and how we verify a story, it can endanger the person who uploaded the video.

We were doing a story about a missile strike in a country in the Middle East. We found video of the strike and got in touch with the person who took the video. We wanted to include the video in our reporting. But based on the video, it wouldn't be hard to figure out which building, apartment, or window our contact was standing in when filming. That could get the person arrested or bring harm to a family.

In this case, we didn't publish the video with our reporting.

But you have to anticipate this stuff. You can ask your source, "Is this okay? Can we do this?" You can ask the same questions internally. But it doesn't change the reality that a wrong choice could put someone in danger.

We were researching a sanctions-evasion case and looked at several ships that we suspected were engaged in illicit trade. Using corporate records, we were able to identify a particular company involved and its sole shareholder.

We did our due diligence before publishing a paper on the case. We were confident in the analysis, enough to name individuals in the report. But in hindsight, you still ask if it was appropriate. There is so much risk for collateral damage on people who could otherwise be innocent. Did we take all necessary precautions before crossing that line?

It really forced us to think more comprehensively about risk, how we approach risk, and how we disseminate our analyses.

Interaction between Analysts and Journalists

Open source analysts often serve as expert sources for journalists and work carefully to ensure the perspective they provide is accurate. They will work with journalists to make sure the analysis is understood in context. Somewhere in the exchange between analysts and journalists, things can get misconstrued. Analysts and journalists also admit that they don't tend to coordinate on shared responsibilities if ethical dilemmas arise.

You have to be really careful with what you're saying and not.

There was a recent report about an explosion at a nuclear facility in Iran. Some people in the nonproliferation community used geospatial data to validate the location. Those analysts did nothing wrong. It was fine.

But a reporter picked up the story of the explosion and then just sprinkled in, like, "Oh, by the way," an international inspector was detained last year with an assertion that they detected nitrate residue on the person's hands.

That reporting was horribly irresponsible. All the facts were correct but presented in a way that creates the false impression that an international inspector had planted a bomb in a nuclear facility. That's how misinformation starts, and it could erode trust in the essential work that inspectors do.

Coping with Ethical Dilemmas

"It's a relatively emerging field. But we haven't figured out the answers. And so what we're trying to do I guess in a lot of ways is raise the problems and then start thinking them through."

Analysts and journalists working with open source information have adopted largely informal ways to navigate ethical dilemmas in their work. They are increasingly aware of the challenges and coping as best they can.

Guidelines and Resources

Journalists are fortunate to have ethical norms that are taught in journalism schools, adapted into guidelines for organizations, and codified in professional codes of ethics. While some journalists have better ethical training or more resources provided by their employers, interviewees in journalism seemed more comfortable discussing ethical practices and were better equipped to manage the ethics of their work.

Asked if they used any particular ethical framework to guide their work, analysts overwhelmingly responded "no." Most quickly noted that there isn't a framework or set of guidelines that is well suited for their work. Some organizations developed their own ethical guidelines or adapted them from elsewhere.[26] Others observed the Berkeley Protocol where applicable. For journalists, the ethical resources available to them scaled with the size of the outlet. Interviewees from major daily papers have the privilege of guidelines and staff focused on ethics, while freelancers were on their own.

Analytic training is available, but not readily on ethics. Analysts and journalists described taking technical training and workshops on data analysis and new platforms, sensors, or forms of data. They mentioned in-house training for junior staff, with instruction on analytic processes. Some journalists described more-specific training on editorial practices, source management, and defamation. Increasingly, organizations are offering training on vicarious trauma to managers and staff whose jobs require them to repeatedly view graphic or violent material for investigations. Mostly, however, analysts came from backgrounds in the intelligence community or were self-taught. For analysts and journalists, there wasn't much focused training on the ethics of their work with open source information.

Interviewees showed strong interest in taking training on ethics, including analysts specifically interested in learning journalism ethics. There was considerable interest in ethical frameworks that interviewees could adopt for their work. Some expressed caution that there is a risk that if any structure or system of guidelines becomes too formal, it could become a system of gatekeepers and conflict with the participatory ethos of the open source community.

Review Processes

The majority of interviewees described internal and external review processes they undertake before publishing. Journalists have routine editorial processes for their reporting, which vary between outlets. Most of the analysts we spoke with worked for organizations with internal editorial review processes. These processes—usually including managers, colleagues, in-house experts, legal counsel, or development officers—involve reviewing the material for accuracy and to strengthen its quality. Some of these processes were formal and others more ad hoc. But reviews can be time- and resource-intensive.

External review is often essential. When using open source analysis to track nonproliferation and international security issues, the tool set is limited, and the field is highly specialized. It is rare for organizations to have enough in-house expertise to validate a piece of analysis. So analysts often ask peers—typically those whose analytic practices they trust—to review the material. Some organizations will bring in outside experts with specific regional or technical expertise if an analysis warrants it. Journalists act similarly and refer to networks of trusted experts to get multiple sources for a story.

These processes rarely include an ethics focus. Interviewees described how ethics would sometimes come up during review, particularly on privacy concerns. Ethical concerns were often managed during the research and writing process, instead of waiting for internal review. For the most part, reviews are more about accuracy and legal questions instead of ethical concerns. The process of ethical review—taking the time to raise and justify an action with others—is a critical step in frameworks for ethical decision making.[27] The relative absence of that step in existing review processes is a missed opportunity for improving ethical practices.

Substituting Accuracy for Ethics

At times, when interviewees faced questions about their ethical practices, they responded with answers describing accuracy and transparency in their analytic or journalistic practices. When they encountered uncomfortable decisions, they redoubled efforts to strengthen sourcing for, improve confidence in, and explain the process behind a finding or story. They described rigorous review processes that, even if ethics were not a focal point, showed due diligence and ensured their work was accurate, clear, and defensible. Accuracy and transparency were described as safeguards against ethical issues after publication.

And for good reason. Interviewees consistently pointed out that accuracy and transparency are necessary for trust and confidence in analysis and reporting. They are at the core of codes of journalism ethics.[28] Analysts, tracking with intelligence analysis practice and standards, treat accuracy, clarity, and explainability as paramount.[29] They see transparency as a main strength of working in open source.

Some caution is warranted. When dealing with a complicated question, people tend to answer an easier one instead. This subconscious shortcut is known as attribute substitution.[30] Ethical decision making asks how people ought to behave so that actions achieve outcomes that, for example, minimize harm, respect moral rights, or advance a common good.[31] The pursuit of accuracy is an important means for reaching ethical outcomes. But, as the Society of Professional Journalists Code of Ethics states, there is an obligation to "balance the public's need for information against potential harm or discomfort."

Systemic Breakdowns

"In a military or government bureaucracy, like an intelligence agency, the way those decisions are handled has already been set up. … There's no comparable system, really, once you step outside of that government construct. … People are either trying to apply older models such as a traditional journalistic process—and I don't think that's a bad model—or they try to appropriate something like the intelligence cycle."

Ethical decision-making practices seem to break down fastest between organizations and in the face of competition. Interviewees lamented how the pressure to publish facilitates errors, ethical oversights, and miscommunication. Analyses taken out of context can feed misinformation flows. When collaborating with another party, it can be too easy for both parties to assume that the other will manage any ethical concerns. Among interviewees, these challenges seemed most pronounced in the interactions between analysts and journalists. Poor communication and coordination on ethical practices underlie these challenges. The problem is most severe with the ethics of disclosing signatures and methods, where stakeholders in an ethical dilemma may or may not include intelligence agencies.

Speed and Pressure

The pressure to publish—being first to break a story and keeping a steady rate of publications—creates considerable stress, interviewees said.

"It used to be that analysts would have days, weeks, or months to analyze an image. Now an incident can happen in the morning, you get an image within hours, and you probably have press that wants a comment within minutes," said one analyst. That time pressure "adds a layer of concern about how conclusions are drawn and how the analysis goes forward."

News travels rapidly in today's information ecosystem, and competition for breaking stories is intense. Speed compresses production cycles for analysts and journalists. When that happens, analytical and editorial processes can get shorted and review procedures neglected. This increases the likelihood of errors and leaves little room for analysts and journalists to consider the

ethics of their work. In turn, this can diminish the quality of analyses and reporting, or risk ethical harm.

Many interviewees acknowledged this pressure. It comes from wanting to break the story, have the first analysis, or impress bosses and funders. Several interviewees described a sense of duty to keep pace, saying, "Someone is going to find that site or comment on it. Should it be me or them?" Some worried that if they didn't publish quickly, an analyst with less expertise or a journalist with thinner sourcing could break the story with flawed information. And others acknowledged dislike of these pressures, and very consciously do not try to publish first or publish most, aiming instead for quality and depth.

Misrepresentation and Misinformation

To the extent that individual analysts and journalists have routine processes with ethics, those processes seem left behind by accelerated news cycles.

Journalists face challenges in reporting on open source information. For those interviewed, doing raw or technical analysis is beyond a reporter's capabilities. So they will pick up a story, or get a tip from governmental sources, and then reach out to multiple nongovernmental experts for corroborating or competing analyses. They understand the emotive power of imagery and credibility of open source analysis. They also try to avoid sensationalism and are sensitive to being misled—particularly for journalists whose formative experiences include the run-up to the Iraq War.

Many interviewees describe seeing careful analyses taken out of context, misrepresented, or mistranslated. The experience can be frustrating for analysts who serve as sources for journalists. Analysts feel trepidation about giving comments. A story is beyond their control, the journalist might just want a quote, and the full story might end up speculative and feed misinformation or disinformation flows. There can be a healthy collaboration between analysts and trusted journalists. With other journalists, analysts may self-censor.

It may be the case that this is a communication problem. Analysts and journalists have shared interests in not being misled, not wanting a story to cause harm, and not wanting to feed misinformation. But there's a sense that analysts and journalists don't fully appreciate the others' processes or have enough experience with them to raise ethical concerns during the rush to publish. Perhaps there's a mutual, unchecked assumption that the other party has managed any ethical considerations. Without that kind of communication and coordination, even analysts and reporters attuned to the ethics of their work could neglect something during their interactions.

Revealing Signatures

One challenge in the democratization of intelligence is protecting signatures and techniques. The intelligence community has incentives to preserve for as long as possible information on how it is collecting and analyzing information on its targets so that the targets don't get better at concealing their activities. These signatures—or observable and distinct characteristics of an intelligence target—and the techniques with which they are analyzed are invaluable and closely held. Conversely, the open source community has incentives to publish quickly, widely, and transparently—including explaining techniques and signatures in order to build public confidence in an analysis.

Interviewees with and without prior careers in intelligence expressed concern about the ethics and practice of managing signatures. By divulging a signature on a target—for example, a sanctions-evasion network—an open source analyst could unknowingly disrupt an intelligence operation against a target or inadvertently assist it in avoiding detection. Analysts and journalists described efforts they took to check with intelligence sources before publishing something that uses a potentially sensitive method. But that level of effort seemed uncommon. And, because of secrecy and confidentiality requirements, intelligence agencies have difficulty communicating with nongovernmental analysts. Several interviewees saw this as a major challenge and encouraged stakeholders in the intelligence and open source communities to engage in discussions on the ethics of signature management.

Deferring to Third Parties

Some analysts serve a client—an NGO, an international agency, or other intelligence consumers. In those cases, the decision on whether or what to publish is largely up to the client. Several interviewees described doing their best to ensure accuracy and lay out any concerns before giving a product to a client. They assumed the client would raise any questions before deciding on publication. These interviewees did not describe conversations with clients on ethics, how to coordinate on them, or times a client raised ethical concerns.

A Very Unhappy Settlement

"There's always this very uncomfortable tension between the need to publish things on an ongoing basis for funding, for attention, to get peers aware of it. And, on the other hand, the need to ensure that you have done your due diligence on the full analytic process and you've checked and verified everything to the fullest extent. And there is usually a very unhappy settlement between the two."

There is growing recognition among stakeholders about the need for enhancing ethical practices when using open source information. Throughout the interviews, analysts and journalists tracking nonproliferation and international security policy showed awareness of ethical challenges, described actions they took to improve their own practices, and acknowledged a need for resources on ethical decision making. The conversation still felt very new.

This report, and the interviews that informed it, are a capture of a community developing its own practices. Stories that interviewees shared should show other stakeholders in this community how common the ethical challenges are when working with open source information. The coping strategies that some interviewees have taken up—including adopting ethical guidelines or strengthening review and editorial processes—show how they are trying to approach ethical dilemmas. Even as stakeholders in this community enhance their own ethical practices, there are systemic problems in coordinating on ethics between organizations—especially between analysts and clients, between analysts and journalists, or when government entities have a stake.

Ethics are normative, and open discourse is a valuable way to develop them. Through candid discussion, stakeholders can better understand, develop solutions to, and help each other with the ethical challenges they face. The recommendations below aim to help advance and focus those conversations among stakeholders.

Recommendations for Practitioners

- Analysts and journalists need to talk with each other about their respective analytic, journalistic, and ethical processes so that when they collaborate, there's better communication around managing shared ethical concerns. A networking program led by practitioners could help facilitate these conversations. In turn, this kind of communication could improve trust among practitioners in ways that alleviate journalists' frustrations about being misled and analysts' frustrations about being misrepresented. It could help insulate analytic and ethical integrity against the pressures of the news cycle. It could also help practitioners identify common challenges and new approaches.

- Analysts and journalists need to talk with their peers about difficult ethical decisions from their work. This can help cultivate trust networks to which individuals can appeal for advice or review. It can normalize discussion of ethics and make it easier for new stakeholders to consider their own practices.

- Analysts and journalists should consider using case-study scenarios to exercise ethical decision making. This can help familiarize individuals with ethics in practice or help established practitioners better anticipate and respond to ethical dilemmas. It can also help participants clarify differences between questions of accuracy and questions on ethics.

– Analysts should ensure they think comprehensively about the potential ethical implications of their work in a complex and rapidly evolving information environment. Interviewees seemed more attuned to some ethical issues, like privacy, than others. In trainings and exercises, analysts should practice anticipating, reasoning through, and balancing tradeoffs among the full spectrum of ethical implications of their work with open source information—including implications for individuals, organizations, society, and international security.

– Analysts need to talk with their peers about solutions they are adopting and resources they need to improve their ethical practices. These conversations are a necessary starting point for developing shared practices. Given the nascent stage of ethical discussions in the open source community and the limited financial support for ethical training, peer support could help create and spread potential solutions.

Recommendations for Organizations

– Organizations with open source analysts on staff should provide those analysts with training on journalism ethics. There is significant overlap in the ethical challenges that analysts and journalists face. Established resources and solutions from the journalism community are immediately useful for the analytical community.

– Funders supporting projects that use open source analysis should ask for more transparency from applicants on how they will manage ethical practices with their project. They should also offer to provide ethics resources, support, or training to grantees who need it.

– Organizations, and individual practitioners, should record and document examples of their ethical decision making in practice. This could help encourage routinization of ethical practices. It could also provide reference cases for practitioners.

– Managers need to be attentive to the risks of vicarious trauma. This includes considering upfront the ethics of a project that might cause vicarious trauma. Managers should provide training to staff to identify symptoms of vicarious trauma within themselves and within colleagues and ensure access to counselling for staff put at risk.

Recommendations for Policymakers

– Stakeholders in government, particularly intelligence agencies, need to join discussions with stakeholders in the open source community on the shared ethical challenges of managing disclosure of signatures and techniques.

– Government officials need to develop lines of communication with the open source community so outside analysts have trusted points of contact who can warn them of any sensitivities with inadvertently disclosing signatures and techniques.

– Conversations between policymakers and the open source community can raise awareness of the national and international security challenges that might arise as a result of unethical and unprofessional work practices when working with OSINT data. A common understanding of such challenges can help to inform a more collaborative response to ethical dilemmas and solutions.

These recommendations recognize the early stages that stakeholders are in with enhancing their ethical practices. They are a starting point for a community that is more likely to respond to bottom-up, participatory solutions on ethics. They encourage the involvement of more stakeholders, including those that can provide ethical resources. They recognize the complex and evolving dynamics between journalists and analysts working with open source information. And these conversations will be a next step in moving from feeling the ethical burdens to managing the responsibilities of them.

Appendix 1:
Survey Methodology

The survey was conducted using a semistructured interview format over a Zoom audio connection. Twenty-eight people were interviewed: 20 analysts who work with geospatial and open source data directly and 8 journalists who use geospatial analysis in their reporting. The analysts represented a range of roles, functions, and levels of professional experience in the nonproliferation analysis community.

Interviews took place in June and July 2020 and were recorded and professionally transcribed for analysis. Participants were each interviewed once for approximately 45 minutes.

The interview protocol for analysts and journalists consisted of 12 core questions, with the opportunity for the interviewer to ask follow-up questions and dig deeper into the respondent's answers at her discretion. The full interview protocols for analysts and journalists are in appendices 2 and 3 respectively. For both groups, the protocol followed the same basic structure:

– **Presurvey:** Respondents were asked how long they've been working in this field using geospatial or open source data. Analysts were asked how often they interact with journalists in their work, and journalists were asked how often they interact with analysts.

– **Warm-up:** Respondents were asked for examples of their recent work in nonproliferation or international security, including one where they were concerned about the potential impact of their work on international security. They were also asked for other examples of ethical dilemmas in their work and how they navigate those situations.

– **Process:** The interviewer asked all respondents a series of questions to better understand the ethical processes they typically use in their work. Respondents were asked about any ethical training they have received in their careers and whether they refer to any codes of conduct to inform their ethical decision making. They were also asked when and how ethical considerations inform their decisions about whether to publish their findings.

– **Collaboration:** Respondents were asked about how colleagues and supervisors fit into their ethical decision-making process.

– **Conclusion:** Respondents were asked what ethics lessons they have learned from their work with geospatial data.

Appendix 2:
Interview Protocol—Analysts

Section 1: Warm-Up
– Could you give me an example of recent work that you have done using geospatial and/or open source data to analyze nonproliferation or international security policy?

– Thinking about this example, were there any particular instances in the process of developing your analysis where you felt uncertain if publishing certain information was the right thing to do?

– If not in this case, have there been other instances where you faced ethical dilemmas?

– What kinds of ethical dilemmas do you face in your work? Which are the most concerning? How do you navigate those kinds of dilemmas?

– Could you describe an example where you might have been concerned about the impact to national or international security from your reporting?

Section 2: Process
– What training have you undertaken that has proven useful in this area? Are there any knowledge gaps?

– Could you describe how and when you consider the ethical implications of your work?

– Have you ever used social media to publish or share geospatial or open source analysis? If so, do you think about ethical implications differently when publishing analysis on social media versus through media outlets?

– What codes of conduct, if any, do you consider/follow through the course of your work?

– How do the ethical implications of your work with geospatial data and/or open source information influence whether or how you publish an analysis?

Section 3: Editors and Collaborators
– What role, if any, do your colleagues or senior management play in ensuring ethical principles such as accuracy and impartiality are considered? Do they get involved at any stage?

– Could you give me an example where you collaborated with a journalist? How were ethical issues managed between collaborators?

Conclusion
– What ethics lessons have you learned from working with geospatial and open source data?

Appendix 3:
Interview Protocol—Journalists

Section 1: Warm-Up
– Can we start with you giving me an overview of how you have been working with geospatial and/or open source data, with an example to illustrate?

– Thinking about this example, were there any particular instances in the process of developing this piece when you felt uncertain if publishing certain information was the right thing to do?

– If not in this case, have there been other instances where you faced ethical dilemmas?

– What kinds of ethical dilemmas do you face in your work when using geospatial and/or open source data? Which are the most concerning? How do you navigate those kinds of dilemmas?

– Could you describe an example where you might have been concerned about the impact to national or international security from your reporting when using geospatial and/or open source data?

Section 2: Process
– What training have you undertaken that has proven useful in this area? Are there any knowledge gaps?

– Could you describe how and when you consider the ethical implications of your work when using geospatial or open source information?

– Have you ever used social media to report or share geospatial or open source analysis? Do you think about ethical implications differently when using social media versus your media outlet?

– What codes of conduct, if any, do you consider/follow through the course of your work?

– How do the ethical implications of your work with geospatial data and/or open source information influence whether or how you publish a story?

Section 3: Editors and Collaborators
– What role, if any, do your editors/senior management play in ensuring ethical principles such as accuracy and impartiality are considered? Do they get involved at any stage?

– Could you give me an example of a collaboration between you and open source/data analysts? How were ethical issues managed between collaborators?

Conclusion
– What ethics lessons have you learned from working with geospatial and open source data?

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This report summarizes the findings from a series of interviews the Stanley Center for Peace and Security held with analysts and journalists working with open source information. It should not be assumed that every interviewee subscribes to all of its recommendations, observations, and conclusions.

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