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Process Analytics in Political Science: How, Why & Where Next

by

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Abstract: For over 25 years, political scientists have debated whether and how to put the social world into motion. As a discipline, we have developed philosophical concepts (agent and structure), understandings of causation (causal effects) and methods (regression analysis; causal identification strategies) that give us valuable snapshots of the social world. The problem – or better said, challenge – is that same social world is always in motion. If true, then our job as social scientists should also be to make motion pictures.

This essay contextualizes then assesses the ever-growing number of methods through which we now access and measure processes. I argue that pluralism at the level of meta-theory opens new conceptual doors and brings to the fore additional methods and designs – what I will call ‘process analytics’ – for understanding a social world that is not just there, but also and always coming into being.

The argument proceeds in four steps. First, I sketch how political science – in both its positivist/critical-realist and interpretive flavors – has added processual understandings of the social world to its conceptual and methodological toolkits. Second, I argue that attention to relational ontologies has made possible and legitimated this processual turn. The pluralist meta-theoretical space I describe allows for a critical exploration – in the paper’s third section – of the *multiple tools* available to capture process. These include multi-sited methods from anthropology; following methods from anthropology and geography; practice tracing from sociology; and the standard-Bayesian process tracing that dominates contemporary political science. When it comes to theorizing and measuring process, it turns out that process tracing is far from the only game (method) in town.

In the conclusion, I argue that the current gold standard in political science for advancing the knowledge frontier – experimental design plus causal identification – is not so much incorrect as incomplete. If we take our collective, disciplinary foot off the meta-theoretical accelerator, then new designs and methods, coupled with a richer and deeper understanding of process and cause, appear. Such process analytics will give political scientists a ‘gold-plus standard’ for measuring and accessing an increasingly turbulent, coming-into-being social world.

I. Introduction

The purpose of this essay is to bust open disciplinary silos, in my case, for how political science thinks about process methods. My reasons for doing so are both professional and personal. On the latter, I should begin by laying out my stakes in the game – positionality, in the jargon. Checkel is an international-relations (IR) theorist, originally trained as a Sovietologist. I came to questions of method (and design) later in my career – but not because of a passion for these topics. Rather, I was drawn to them out of frustration that political science and IR had many excellent ideas on method and design, but these were walled off and siloed from each other, mainly due to meta-theoretical incomprehension and narrowness. As a result, I see the way forward to new and better knowledge – including on method – as through a rigorous pluralism, one that gets us out of our disciplinary and subfield silos.

This silo-busting story – for the discipline and for Checkel as a scholar – began over 30 years ago. For IR theorists, a key real-world stimulus was the unexpected, peaceful end of the Cold War in 1990-91. Our main theories had come failed to anticipate these historical events (Lebow and Risse-Kappen, 1995). The structural arguments embedded in those theories had missed the complex processual story behind the demise of the Soviet Union (Checkel, 1997).

In meta-theoretical terms, too much of our theorizing and the philosophical priors supporting it offered static snapshots of a social world that was always in motion – or, to use a more ontological language, always coming-into-being. As a discipline, we had developed many starting points (subject-object distinction), concepts (causal effects) and methods (regression analysis; causal identification strategies) that gave us excellent snapshots. The problem – or better said, challenge – is that same social world is always in flux. If true, then our job as social scientists should also be to create motion pictures.

If the object of study is a motion picture – things in motion – then, in terms of method, we need techniques that capture and measure process. This essay contextualizes then assesses the ever-growing number of processual methods through which we try to understand those motion pictures. I argue that pluralism at the level of meta-theory opens new conceptual doors and brings to the fore additional methods and designs – what I call process analytics – for measuring a social world that is not just there, but also and always coming into being.

I proceed in four steps, first sketching how political science – in both positivist/critical-realist and interpretive variants – has added processual understandings of the social world to its conceptual and methodological toolkits. Second, I argue that it has been a turn to relational ontologies that has made possible – in a philosophical sense – this processual turn. My contextualization creates a pluralist meta-theoretical space, one that allows for a critical exploration – in the paper’s third section – of the multiple tools available to capture process. These include multi-sited methods from anthropology; following methods from geography and anthropology; practice tracing from sociology; and the interpretive-standard-Bayesian process tracing that dominates contemporary political science.

In the paper’s conclusion, I argue that the current gold standard in political science for advancing the knowledge frontier – experimental design plus causal identification – is not so much incorrect as incomplete. If we take our collective, disciplinary foot off the meta-theoretical accelerator, then new designs and methods, coupled to a richer and deeper understanding of process, appear. This process analytics will give political scientists a ‘gold-plus standard’ for measuring and accessing an increasingly turbulent, coming-into-being social world.

II. The Turn to Process – Snapshots *and* Motion Pictures

The key word in my section title is the italicized *and*, as the turn to process – those motion pictures – has given us a more plural political science. But how did we get here? There are mainstream and interpretive stories to tell (Checkel, 2023; ND).

The positivist/critical-realist (‘mainstream’) turn to process was spurred in part by the publication of Keohane, King and Verba’s *Designing Social Inquiry* (2021). This ambitious volume reduced qualitative political science to theorized variables, measured via a frequentist logic, searching for causal effects, with no conceptual-theoretical-methodological space for process (Johnson 2006). In later years, this missing processual space was filled by a small meta-theoretical move – positivism to scientific/critical-realism – and a more substantial conceptual rethink: cause would now encompass both causal effects and causal mechanisms (George and Bennett, 2005; Hedstroem and Ylikoski, 2010; Mahoney, 2010; Imai, Keele, Tingley, Yamamoto, 2011; Bennett, 2013).

For causal mechanisms, the underlying logic was decidedly not frequentist, and probably Bayesian (Fairfield and Charman, 2022). Something happening once via a mechanism can establish a causal relation. In philosophy of science terms, cause is no longer ontologically flat: Mechanisms carry causal force and potential (Kurki, 2008: chapter 1). Integrating mechanisms with causal effects gives us a more plural political science, whereby we theorize and measure both snapshots (comparative statics) and motion pictures (dynamics, causal mechanisms).

The interpretive story to tell, while different along many dimensions, arrives at a similar conclusion on the need to combine snapshots and dynamics. However, in this case, the impetus to conceptual innovation was not exogenous, but endogenous. By the early 2000s there was growing concern that the ‘linguistic turn’ had focused too much on words – discourse – to explain the social world.

Starting with Iver Neumann's (2002) article 'Returning Practice to the Linguistic Turn,' there was a recognition that discourses were too structural and scholars were accessing them in a (limiting) text-based manner. Used in this way, they could not serve as an entrée to a distinctly interpretive theory of action. These limitations suggest a turn to agency – not the atomized, de-socialized agents of positivism or critical realism, but, instead, the embedded, relational, always-in-motion 'agency' of practice theory. On this modified interpretive reading, social outcomes now result from structural conditions of possibility (discourse, habitus) plus a logic of practice or ways of doing things (Adler and Pouliot, 2011; Adler-Nissen and Drieschova, 2019; Bueger and Gadinger, 2018). Using a different vocabulary, this is an interpretive argument for combining snapshots (discourse, habitus) and motion pictures (practice).

Practice theory has evolved considerably over the past 15 years, with at first nuanced debates among scholars and, more recently, disagreement over foundational issues – the need for a theory of action or the ontological primacy of practices, say (Kratochwil, 2022; Drieschova, Bueger and Hopf, 2022). As these disagreements have become more apparent, I should make clear that my analysis draws chiefly upon the practice theory associated with the work of Emanuel Adler and Vincent Pouliot, and their efforts to develop a distinctly interpretive theory of action.

Practices gain force when they are shared collectively, in so-called communities of practice. How do practices move from the individual to this collective level? The answer is mechanisms of social learning and socialization, concepts taken from earlier constructivist work (Adler, 2019: chapter 4). Practices are thus doing double duty in putting the social world in motion: for individuals, practices are processes Mark I, ways of doing things; to transfer practices to the collective level, we invoke mechanisms, or processes Mark II (Checkel, 2025).

For practice theorists, the logic of action is never frequentist and only rarely causal (Pouliot, 2015). But having a logic of practice/practicality qua theory of action – with the latter inspired by American pragmatism – serves one vital function: It adds the motion picture to the practice account of the social world (Pouliot, 2008; Adler, 2019: chapter 4). To paraphrase my argument in the previous section, by integrating structure with embedded-relational agency, practice scholars give us a more plural interpretive political science, whereby we theorize and measure both snapshots (discourses) and motion pictures (dynamics, practices, mechanisms).

In sum, contemporary political science has developed several quite different process-based understandings of the social world. With these facts in hand, two issues remain: (1) why did such a broad menu develop; and (2) how can we do more to advance these processual understandings. In the following sections, I treat these in turn.

III. The Turn to Process – Why?

Methods are tools for accessing and measuring the social world; this statement is not controversial. Less obvious or appreciated is that methods need to match our conceptualization – our ontology for – that social world (Hall, 2003). The good news for political science is that developments in the philosophy of social science, specifically, in ontology, have created a meta-theoretical space for these process-based conceptions of the world, both positivist/critical realist and interpretive. Ontologies are the conceptions we hold about the stuff that makes up the social world; they concern claims about the nature of being and existence (Epstein, 2024).

The challenge, philosophically, has been to move these conceptions from static (being) to dynamic/processual (becoming). But how? The answer – one gaining increasing momentum over the past quarter century – has been a turn to relational ontologies, often referred to as relationalism.

Within political science and drawing upon the work of Charles Tilly and ontological debates within sociology (Emirbayer, 1997), Jackson and Nexon (1999: 291-92) argue that ‘configurations of ties’ give rise to entities, and that these ties are not static, but ‘ongoing processes.’ The analytic focus is on recurrent sociocultural interaction, and not fixed entities (substantialism). It is but a small step from this ontological positioning – ‘processual relationalism’ they call it – to the motion picture metaphor discussed above. Relationalism has by now made many inroads in political science, especially among practice theorists (Adler-Nissen, 2015), students of social network analysis (Selg, 2016) and some proponents of causal mechanisms (Tilly, 2001). Meta-theoretically, it sets the stage for building concepts and methods that capture and embody process – causal mechanisms, social practices, process/practice tracing, following methods, for example.

A more radical relationalism puts the social world into motion by building our understanding of it on a quantum-mechanical ontology. The argument here is that all our social-science thinking until now – by both positivists and interpretivists – has been based on classical/Newtonian physics (substantialism). This has led us to theorize agents and structures as separate entities, to conceptualize cause as force acting at a distance, and to view process in a temporal sense. In a quantum-mechanical social world, agency is ineluctably relational and conceptualized as a wave function; cause is replaced by entanglement; and something can be here and on the other side of the universe at the same time (Wendt, 2015; Der Derian and Wendt, 2022; Erskine, Guzzini and Welch, 2022). Since a central focus of this essay is process, I should note that the latter basically renders the concept meaningless.

While Wendt models and understands the social world as quantum mechanical – you *are* a wave function – others adopt quantum mechanics as a metaphor to rethink core social-science concepts such as uncertainty and generalization (Katzenstein, 2022). For Katzenstein and collaborators, a turn to quantum mechanics allows us to capture ‘a process-oriented view

of the world,' where processes are 'coordinated group[s] of changes in the complexions of reality, an organized family of occurrences that are systematically linked to one another either causally or functionally' (Katzenstein, 2022: chapter 1, at pp.19-20; see also Rescher, 1996). While some might disagree with the endpoint – causal or functional change – this conceptualization of process perfectly captures its dynamic and temporal nature.

However viewed – in its moderate or radical versions – relationalism provides us with an ontological language that legitimates and makes possible a processual, motion-picture understanding of the social world. But with everything now in motion, how do we measure and access all these moving parts? The answer is processual methods.

IV. Capturing a Multiplicity of Processes in the Social World

Recall that relationalism places the focus on interactions, processes and flows – all measuring the social world in motion, as it were. The purpose of this focus may be to tell causal stories, but it can also be concept development, situating and recovering meaning, or following objects. These multiple purposes require – and legitimate – a broad array of methods. In the following, I will start with the process method that political scientists know best – process tracing. I will critically review its development, suggesting that we are beginning to hit a wall in terms of what the method can do for us. Yet, thanks to relationalism, there are other processual methods – interpretive process tracing, following techniques – that we can and should use. Themes throughout are that students of process methods need to pay more attention to data-collection techniques and ethics.

Process Tracing Methods. Note that I have used a plural in the section heading. Indeed, we now have well developed guides on how to conduct standard process tracing, where the data analysis is typically informal (Beach and Pedersen, 2013, 2019; Bennett and Checkel, 2015) and – more recently – Bayesian process tracing (Bennett, 2015; Fairfield and Charman, 2017; 2022), where the analysis is formalized through the application of Bayesian

logic.¹ This work allows us to measure the observable implications of causal mechanisms, the ‘cogs and wheels’ putting the social world into motion (Hedstroem and Ylikoski. 2010; Saetre, ND). These texts, and many of their authors, play leading roles in the pedagogy of the method, offering courses and modules at the Institute for Qualitative and Multi-Method Research, ECPR’s summer and winter methods schools, and the summer programs at the Inter-university Consortium for Political and Social Research (ICPSR).

These mainstream process methods excel at telling causal stories – more formally, tracing causal processes – in increasingly rigorous ways. Many would argue that the application of Bayesian reasoning marks a real step-change in the method’s use (Book Symposium, 2023), and I agree. It allows qualitative researchers to nail the causal story in a way that many scholars thought impossible in the messy social world.

So, what is the problem? Above, I suggested that these process tracing methods were starting to ‘hit a wall.’ The difficulties are of two types: (1) meta-theoretical; and (2) methodological, or the nuts-and-bolts work of process tracing. On the former, the earlier promise of a meta-theoretically plural process tracing has been lost in the various efforts to formalize it. Bennett and Checkel (2015) were explicit about this pluralism, even commissioning one chapter by an interpretive scholar (Pouliot, 2015).

Indeed, Bayesian process tracers, by assigning probabilities and percentages to theoretical priors and pieces of evidence – numbers that are testing ‘hypotheses’ and not causal mechanisms – are moving away from the method’s mechanistic critical/scientific-realist core and closer to neo-positivism.² Such moves are hard to justify, especially at a time when much of social science is moving in the opposite direction – to relational ontologies.

¹ On the formalization of process tracing, see also Humphreys and Jacobs (2023).

² My claim here is contested, with Fairfield and Charman (2023: 67-68) recently arguing that Bayesian logic ‘is compatible with whatever philosophy one wishes to adopt.’ Obviously, I disagree, but others do as well (Bouchat, 2023; Soifer, 2023).

This is an additional opportunity cost of using the method, one not yet considered in critiques of Bayesian process tracing (Zaks, 2021; Soifer, 2023).

In ontological terms, formalizing process tracing simultaneously makes it more ‘substantialist.’ We are decomposing complex causal processes into a series of discrete snapshots, which take us further away from the relational motion pictures we should be conceptualizing and measuring. For sure, the original, informal process tracing literature engaged in similar ontological gymnastics – by assigning fixed observable implications to causal mechanisms (Bennett and Checkel, 2015: chapter 1). However, the problem – the mismatch between ontology and method – has been made worse by the move to Bayesianism.³

Another way in which process tracing is hitting the wall in terms of meta-theory is its near-complete silence on the method’s ethics, a silence that cannot be excused on any grounds. There are three excellent ‘how to’ guides on process tracing: Beach and Pedersen (2013, 2019); Bennett and Checkel (2015); and Fairfield and Charman (2022). None of these devote a chapter or even a section of a chapter to research ethics.

In process tracing’s less scientific days, I would tell students that it gets you down in the trenches and really close to what you are studying. This is true, and the ‘what’ being studied is often policymakers, activists, civil-war insurgents, and the like – human subjects, in ethics talk. How do we think about the ethics of our interactions with such individuals? From a consequentialist, de-ontological, feminist, or post-colonial perspective? It is certainly not impossible to address such issues, and other qualitative methods texts do so (Fujii, 2017; Procter and Spector, 2024). Moreover, there is a rich and growing applied ethics literature upon which process tracers could draw to think through the theory and practice of their own ethics (Wood, 2006; Parkinson and Wood, 2015; Fujii, 2017; Monroe, 2018; Cronin-Furman

³ A similar ontological critique likely holds for other efforts to formalize process tracing, such as the use of set theory (Barrenechea and Mahoney, 2019; Mahoney, 2021: chapters 3-7) or causal models (Humphreys and Jacobs, 2023).

and Lake, 2018; Delamont and Atkinson, 2018; Krause, 2021; Kapiszewski and Wood, 2022).

My second hitting-the-wall concern about process tracing is that it too often ignores what is arguably the method's core: getting high-quality data on causal mechanisms. This neglected core is the nuts-and-bolts work of the method, or what I would call within-process-tracing methods. Proponents of process tracing need to devote more attention to the techniques required for well-executed data collection – the method's 'front end'. When teaching the method, I am struck that most students think it starts when we measure the observable implications of a causal mechanism or – for Bayesians – when we calculate priors on a piece of evidence. But the data for measuring those mechanisms comes from somewhere: typically, from interviews, fieldwork and ethnography / political ethnography, archives, surveys, and discourse analysis (Checkel, 2021).

Thanks to the revolution in qualitative methods since the early 2000s, we have a wealth of practical literature devoted to these various within-process-tracing techniques (Hansen, 2006; Trachtenberg, 2006; Schatz, 2009; Mosley, 2013; Fowler, 2013; Kapiszewski, MacLean and Read, 2015; Hopf and Allan, 2016; Fujii, 2010; Fujii, 2017; Cyr and Goodman, 2024; Procter and Spector, 2024). Teaching these methods must become a part of our process-tracing pedagogy.

Consider the benefits of such a pedagogic move. Many scholars cite Elisabeth Wood's (2003) book on the Salvadoran civil war as a process-tracing exemplar (Lyall 2015, 189-191). It is a model because of the richness and quality of her data, gleaned from interviews, political ethnography and her ethnographic map-making workshops. Her process tracing works because she devotes an entire chapter and a part of her conclusions to operationalizing her within-process-tracing methods, discussing how she will use them to draw inferences on insurgent preferences, threats to the validity of those inferences, and the

like (Wood 2003, chapter 2; pp.243-46). The data she has gathered is of a very high quality; it sets the stage and provides the raw material for her (informal) data analysis and process tracing.

Process tracers thus need to get right the balance between front-end methods training and data collection, and back-end application of Bayesian logic and data analysis. Zaks (2021, 72) nicely captures this balancing act.

In the context of qualitative research, scholars have a lot more access to training in the analysis of data than they do in the research processes that get them the data in the first place. But the process of research and the processes we are researching are inextricable. Researchers would likely yield greater benefits from intensive training in ethnographic, interview, and sampling techniques; understanding the politics and biases associated with archival work; or even just additional and specialized language training needed to conduct research on a specific topic.

For process tracing as method, this should translate to an equal or greater amount of training on within-process-tracing methods as on data analysis.

Interpretive Process Tracing & Following Methods. For political scientists, the past and present of processual methods has been defined by the development and application of process tracing. In this section I will draw upon the relational turn in ontology to suggest a future where we keep all the good parts of process tracing but supplement them with processual methods rooted in other meta-theories (interpretive process tracing) or disciplines (following techniques).

Interpretive scholars have advanced a number of processual methodologies, with differing understandings of cause and temporal scopes (Guzzini, 2011, 2012; Robinson, 2017; Norman, 2015, 2016, 2021) – when compared to standard or Bayesian process tracing. My focus here will be on what has come to be called practice tracing – as it demonstrates clearly the processual-method payoff of a move to relational ontologies.

Social practices have their origin in sociology and Bourdieu's work on habitus (Bourdieu, 1977). Over the past 15 years, a growing number of international-relations

scholars have ‘put habitus into motion’ by theorizing and empirically documenting the role of social practices in making our world, a world that is always coming into being. This practice theory has developed so fast that it now has status as one of contemporary political science’s ‘turns’ (Drieschova, Bueger and Hopf, 2022).

Practices are ‘inarticulate, practical knowledge that makes what is to be done appear “self-evident” or commonsensical’ (Pouliot, 2008: 258; see also Neumann, 2002). Practices are explicitly built on a relational ontology that mediates between structure and agency (Adler and Pouliot, 2011, 2015). Meta-theoretically, they thus capture process not as a causal mechanism but as a social practice.

Scholars of social practices have devoted considerable effort to developing a set of processual methods for accessing and seeing practices. In contrast to standard and Bayesian process tracing, they have also developed (and debated) ‘within-practice-tracing’ techniques. What, then, is practice tracing? If practices are ‘inarticulate, practical knowledge’ and ‘ways of doing things,’ then to trace a practice is to follow it through time and space.

To see what this entails, consider the work of Vincent Pouliot, who has done the most to develop practice tracing. He starts – perhaps surprisingly – from process tracing, albeit the informal type. Indeed, Pouliot takes the ten process-tracing ‘best practices’ advanced by Bennett and Checkel (2015: chapter1) but modifies them to be compatible with his interpretive ethos and relational ontology (Pouliot, 2015; see also Pouliot, 2007; 2008). His resulting practice tracing shows how practices create meaning (interpretism), and how that meaning is created through the interaction of agency and structure (relationalism).

From where does the data come to capture practices – or, in my phrasing, what are the within-practice-tracing methods? Early on (2010-15), the emphasis was on ethnography and other immersive fieldwork as the standard techniques for seeing practices; this is what Christian Bueger (2014) called ‘praxiography.’ After all, if practices are ways of doing

things, what better way to capture them than through ethnography's participant observation – being a fly on the wall, so to speak.

While not disagreeing, Pouliot argued that interpretive interviews could replace ethnography, when necessary – for example, when one's research topic would not allow for participant observation (Pouliot, 2010; 2016: Appendix). Other scholars working on social practices build upon Pouliot but argue for additional within-practice-tracing methods. Cornut and Zamaroczy (2021), for example, add an interpretive form of document analysis to this mix, albeit one that is premised on a prior phase of immersive fieldwork. This scholarship is promising and exciting, as it marks the beginning of a relationally grounded interpretive form of process tracing, one that is conceptually clear, empirically operationalized, and takes both data collection and data analysis seriously (see also Sending and Neumann, 2011).

At the same time, practice tracers need to address four challenges. First, it is not clear how either interviews or document analysis can measure social practices. Recall that such practices are 'inarticulate, practical knowledge' – basically, stuff that is implicit and in the deep background. Ethnography, with its commitment to immersion, is best placed to access such background knowledge; it is not clear how asking questions or reading documents can do the same. With interviews, the researcher is always interfering with and indeed likely changing the interviewee (Fujii, 2017). Accessing implicit background knowledge through all this distortion seems next to impossible.

Second, whatever additional methods they decide upon, practice tracers need to operationalize them. Consider ethnography, which is the 'go to' method for practice tracers (Pouliot 2010). When done well, ethnography addresses – before going to the field – two issues that bedevil it: access and ethics. Thinking about the former requires operational plans for dealing with gatekeepers (Gusterson, 1996; 2008), while getting the ethics right involves much more than ticking the boxes on documents submitted to your institution's ethics review

board (Delamont and Atkinson 2018). Practice tracers have been largely silent on both issues.⁴

Third, much like the early process-tracing literature, practice tracers need to avoid the ‘buzzword’ problem. One of the reasons that Bennett and Checkel (2015) wrote their process tracing book was that they were tired of coming across scholarly accounts of the method that amounted to saying, ‘this article uses process tracing.’ Yet, one recent practice tracing account does nearly the same. Published in a leading IR journal – *International Organization* – that normally prides itself on rigorous method execution, this article tells a fascinating practice theory story of why states persist in creating weak international institutions. However, the central method – “practice tracing” (quotes from article) – is elaborated and operationalized in three sentences, which tell the reader very little (Mantilla, 2023: 569, *passim*).

Fourth, practice tracers currently disagree about the ultimate goal of the method. Some argue that it can be utilized to tell causal stories (Pouliot, 2015; Mantilla, 2023; Checkel, 2025). In this case, the method bears a family resemblance to process tracing, albeit with a very different understanding of cause (local, contextualized) that is generated not by mechanisms but through practices. However, others sever the tie to causal analysis, arguing the method – in true interpretive fashion – is best at recovering meaning and reasons for action (Cornut and Zamaroczy, 2021), or should be renamed and used to follow things (Bertram, ND).⁵

This ‘renaming’ exercise brings me to the last of the new – for political science – processual techniques to be discussed: following methods. Following techniques emerged in the 1990s – at first in anthropology and geography – as a critique of sedentarism, or the

⁴ Adler-Nissen and Drieschova (2019) excel at operationalizing their ethnography and ethics. However, it is not clear if their main method is practice tracing or following methods. See below.

⁵ Thanks to Nora Söderberg and Frederik Windfeld for discussion on these differences.

rootedness of people in distinct places; instead, the research focus should be following things, people or technologies across multiple sites. (Marcus, 1995; Söderberg, ND). In anthropology, this culminated in a move to multi-sited ethnography. Political scientists have also recently begun to question the (design) mantra of comparing discrete cases through controlled comparison, arguing that in a world marked by complex interactions and flows, our design and method focus should precisely be on the latter (Simmons and Rush Smith, 2021). In ontological terms, this is a strong endorsement of relationalism and its implications for rethinking method and design (see also Both, Nicole-Berva and Saetre, ND).

Following methods are processual in the sense that you are tracking something over space and time, and its interactions with other entities. However, process is now understood differently than in process-tracing methods. It is decisively not a causal process, nor is it linear, progressing through a series of steps; it can also be stopped or blocked. In a relational world, process is dynamic and unfolding, and is not driven by any overarching causal or functional logic.

Scholars have used following techniques to trace numerous processes. Among these are the emergence of new technologies that reshape contemporary diplomacy (Adler-Nissen and Drieschova, 2019); disaster (im)mobilities in Bangladesh – what Söderberg (ND), in a nice turn of phrase, calls following-by-staying; and the movement of concepts across sites, following how they evolve and change (Nicole-Berva, ND). In addition, Kunz (2023) has traced the figure of the expatriate from the mid-twentieth-century era of decolonisation to the present day, using this following to dissect and interrogate, critically, the category ‘expatriate’.

As these following methods are still nascent in political science, there are some ambiguities and tensions to address. First, it is not clear how one operationalizes and uses the method. We lack a following method textbook or guide, and – as already noted – it is absent

from political science's current teaching and pedagogy on process techniques. Second, what is the scope of the method? Can anything be followed? Put differently, what cannot be followed? I can imagine ethical reasons why some things ought not to be followed – human smugglers in the Mediterranean, say. Are there practical reasons that make it impossible to follow certain kinds of things? Why might you want to follow a stark material object – say, a Russian tank in the Donbas region of Ukraine? What would be the analytic payoff?

Third, how do we integrate following techniques with history and the past? Following methods often rely on ethnography and participant observation (Adler-Nissen and Drieschova, 2019, for example), which operate only in the here and now. Fourth, when have you followed 'enough'? What is the stopping rule?

Finally, there are unresolved tensions between following methods and practice tracing. Are they the same thing? Practice tracers are following something – social practices – across time and space. It is true that some practice tracing follows things to reconstruct (local) causal stories, but this need not be the case. And with the latter, the connection and overlap with following methods seems clear. Here, I especially have in mind the excellent article by Adler-Nissen and Drieschova (2019), where they explore how word processing software and mobile devices are changing the nature of diplomacy. What is their method? In the main text, they state that it is quite similar to Pouliot's practice tracing. Yet, in the online appendix that accompanies the article, their discussion of the method – and its ethnographic core – reads as a textbook operationalization of how to follow things, technology in this case (Adler-Nissen and Drieschova, 2019: 536; [Online Appendix](#)).

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In sum, these scholars – both the interpretive researchers and their practice tracing and the proponents of following methods – have given us a more plural process-oriented political science, whereby we theorize and measure process in multiple ways. By operationalizing

relationalism and its implications for method and design, they are pushing political science to think outside the box meta-theoretically. Recognizing this fact, the opening phrase in the title of this paper is thus not ‘Process Tracing’ but ‘Process Analytics.’

Implications for Ethics. Process tracers – both informal/standard and Bayesian – practice tracers, and proponents of following methods are in close contact with what they study. Many of these same scholars also work ethnographically or utilize other immersive field methods. This means that ethical considerations should be front and center. Yet, with the exception of following methods, this is typically not the case.

The good news for students of process analytics is that relationalism broadens both the theory and practice of the ethics undergirding the use of any method in political science. Theoretically and meta-theoretically, it moves us well beyond the (tired) dichotomy of a Kantian/de-ontological versus consequentialist approach to ethics. Among the additional perspectives, we now find interpretive (Lichterman, 2017), feminist (Lindemann, 2019), participatory/post-colonial (Butti, 2024; Zulver, *et al.*, 2024) and quantum mechanical / relational ethics (Zanotti, 2022). As for ethical practice, relationalism puts the focus squarely on ethics as a continual, constantly updating process. Ethics become reflexive, as opposed to the one-stop shopping of the institutional review boards (IRBs) that shape much ethical thinking in North America. Like IRBs, the consequentialist ethical reasoning that most political scientists employ to justify field experiments is similarly non-processual and un-reflexive (Desposato, 2020; Phillips, 2021).

These latter, static understandings of ethical practice are now increasingly challenged. In an important article, Kapiszewski and Wood argue for the importance of ‘reflexivity for the ethical conduct of research, including the ethical sharing of evidence and information on its generation and analysis. By reflexivity, we mean sustained reflection on how the researcher and her positionality affect evidence generation, on the implications of ethical

principles in the research setting, and on the consequences of both for research practices and the research process.’ Furthermore, the primacy of ethics ‘means that researchers must engage in reflexivity in all stages of a research project’ (Kapiszewski and Wood, 2022: 950, 960; see also Eck, *et al.*, 2024).

This is a dynamic view of ethical practice – a motion-picture conception, in my terminology – one far removed from the realm of one-stop IRBs. This relational-reflexive-processual approach to ethics, it should be noted, is now also central to the publication process at the *American Political Science Review (APSR)*. Beginning in 2019-2020 and building upon the American Political Science Association’s revised ‘Principles and Guidance for Human Subjects Research’ (American Political Science Association, 2020), *APSR* has required that scholars reflect upon and discursively explain why their research was ethical, both when submitting an article and in any eventual publication (Notes from the Editors, 2020; Hayward, Kadera and Novkov, 2021; *APSR* Submission Guidelines, 2024; see also Knott, 2019).⁶

My bottom line is that students of process analytics are behind the curve when it comes to the ethics of their processual methods. Relationism is changing both the theory and practice of that ‘curve,’ which means it is an exciting and productive moment for these scholars to think more about the ethics of measuring a social world always in motion.

V. Conclusion – Toward Multiple Standards

Political science is in the midst of an ontological revolution, from a substantialism it has long embraced to a dynamic, relational conception of the social world and the entities that populate it. This relational thinking is most advanced in IR (McCourt, 2016; Qin, 2018; Katzenstein, 2022; Kavalski, 2023; Call for Proposals, 2023) and a part of comparative politics (Simmons and Rush Smith, 2021; Sil and Simmons, ND: 68), but is now beginning to

⁶ In June 2024, new editors took over at the journal. As of this writing (August 2024), it is thus too early to tell if the processual thinking on ethics will endure across editorial teams.

appear in discipline-wide fields discussions over ethics. That's the good news. The bad news is an old story: As a discipline, we typically do not discuss meta-theory. This time, we need the conversation. If we take relationalism seriously, it has far-reaching implications for our methods and ethics – our research on them; how we use them; and our pedagogy. Yet, the disciplinary discussion has barely begun.

Indeed, we are perhaps heading in the other direction – strengthening our collective bet on substantialism. Over the past decade, political scientists have advanced a number of ideas for improving their research and strengthening the validity of their causal claims: pre-registration / pre-analysis plans (McDermott, 2022); experimental designs (Dunning, 2015; Mahoney and Thelen, 2015: chapter 1); qualitative transparency (Jacobs and Buthe, 2021); developing a rigorous standard process tracing (Beach and Pederson, 2013, 2019; Bennett and Checkel, 2015); and, most recently, applying Bayesian logic to the causal claims we make in qualitative research (Fairfield and Charman, 2022).

For many, causal identification strategies integrated with experimental designs (Mize and Manago, 2022) and, for qualitative researchers, Bayesian process tracing (Book Symposium, 2023) are the gold standards for the discipline.⁷ Making an analogy to particle physics, Sil and Simmons (ND: 66) – in a brilliant turn of phrase – refer to this as the discipline's 'standard model.' The problem, or rather the limitation, of such standards is they are premised on a snapshot view of the social world, where the goal is strengthened causal inference, with cause conceptualized in frequentist or Bayesian terms. The philosophical shadow of positivism looms large.

Yet, the foregoing discussion suggests that if we take seriously the philosophical, methodological and ethical implications of putting the social world into motion, then we need to revisit those proposals and standards, with a broadened set of philosophical priors. Instead

⁷ One additional indicator of such standing: In September 2024, Tasha Fairfield was awarded the David Collier Mid-Career Award by APSA's Organized Section for Qualitative and Multi-Method Research, largely for her work on Bayesianism.

of tinkering with design and method within a single (positivist) frame to generate new knowledge, process analytics, by employing multiple philosophical frames, will equip us to advance the knowledge frontier.

In my opening line, I characterized this essay as an exercise in silo-busting. This is always a good thing. It is not only disciplinary developments and advances that lead to such a conclusion, but Checkel's own stakes in the game. Recall my early training as a Sovietologist, where I spent much of my doctoral training at MIT calculating how the US could win a nuclear war with the Soviet Union. This involved a 'counterforce' targeting strategy designed – quite literally – to bust silos. (Many of the land-based Soviet missiles were positioned in and launched from underground silos.) So, for this young Sovietologist in the dying days of the Cold War, silo-busting was necessary; it helped us achieve a greater good. Note my consequentialist ethical reasoning!

The disciplinary silo-busting advocated here, thankfully, is less ethically compromised. It theorizes ethics in radically different ways, but still achieves a greater good. Political science needs to take its foot off the meta-theoretical accelerator. The result will be a discipline with multiple standards that not only better reflect the diversity of our scholarship, but also multiply the ways in which we advance the knowledge frontier, thus creating a more plural and inclusive scientific community. Indeed, if pluralism could be 'scaled up to the discipline of political science or the social sciences writ large, we will have greatly increased our chances of hitting upon a much wider array of useful insights about a much wider range of phenomena that constitute the social world (Sil and Simmons, ND: 69).

Building upon Sil and Simmons, this essay's main take-away is that silo-busting and a plural meta-physics also matter at the level of method. Yes, we need process tracing and, yes, we need the Bayesian version as well. But there is a lot more in motion in the world today – sites, concepts, migrants, technologies – that requires an expansion of how we conceptualize

process, and a rethink of the analytic end game. Telling rigorous, mechanism-based causal stories ain't the only (processual) game in town.

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