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RESEARCH ARTICLE

Time on their minds: Narrative reasoning and leaders' construction of temporality in foreign policy

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Abstract

Scholars have identified several temporal challenges in foreign policymaking, such as variable time horizons and maintaining commitment or resolve over time. While the behavioural turn has emphasised leaders and their subjective perceptions, research often relies on rationalist conceptions of objective and linear time and struggles to assess leaders' subjective perceptions of it. This paper theorises time as an intrinsic aspect of narrative reasoning in foreign policy, introducing a 'temporal definition of the situation' (TDoS) framework to capture leaders' situation-specific subjective time perceptions. I then operationalise the TDoS framework's key temporal features and show how it can be empirically examined. The value of the TDoS is illustrated by assessing the temporal perceptions of Bush and Obama regarding Iran's nuclear programme, showing how their distinct definitions of the foreign policy situation shaped their subjective time perceptions and their corresponding responses. I conclude by discussing how this advancement can enhance behavioural research, provide insights into the 'why now?' questions surrounding leaders' actions, and challenge existing understandings of time's impact on foreign policymaking.

Keywords: Decision-making; foreign policy; leaders; narrative reasoning; Perceptions; time

Introduction

Hours before Russia invaded Ukraine, Putin asserted that 'since time immemorial' people in what is now Ukraine called themselves Russian, hinted that it is 'only a matter of time' before Ukraine can achieve its ambition for nuclear weapons, and lamented the 'constant' presence 'over the past few years' of NATO military contingents in Ukraine, the 'rapid buildup' of NATO forces, and Kiev's long-term ambitions to join NATO.[1] He rejected European assurances that Ukraine joining NATO 'will not happen literally overnight', arguing 'if it does not happen tomorrow, then it will happen the day after tomorrow', which would increase the risk of a 'sudden strike at our country'. With the Kiev regime's 'unabated' abuses of Ukrainians having 'no end in sight', his patience was running out, and he concluded that it was 'necessary to take the long overdue decision' to recognise Donetsk and Lugansk as independent. Among his substantive claims about Western deception, Ukrainian subversion, and the deployment of threatening weapons systems, time was clearly on Putin's mind.

Time is central to the foreign policies states pursue, and International Relations (IR) scholars have identified several time-bound challenges affecting decision-makers, such as commitment

[1]Vladimir Putin, 'Address by the President of the Russian Federation', President of Russia, 21 February 2022, http://en.kremlin.ru/events/president/news/67828.

problems[2] and foreign policy resolve[3] over time, and the impact of different time horizons.[4] These challenges have been linked to important international behaviours, including bargaining, negotiations, reneging on agreements,[5] conflict avoidance,[6] short- and long-term cooperation,[7] contingency planning,[8] the variable assessments of military intervention costs,[9] the use of costly signalling,[10] the narrowing of foreign policy options,[11] and 'too soon' or 'too late' foreign policy mistakes.[12] Leaders themselves recognise time's importance. Prime Minister Pierre Trudeau asserted 'the essential ingredient of politics is timing',[13] President Joe Biden believed that success for presidents is 'in large part because they know how to time what they're doing',[14] and less philosophically French European Affairs Minister Amelie de Montchalin claimed 'we do not accept time pressure'.[15]

Recent scholarship has advanced behavioural approaches to studying international relations, emphasising individual-level analysis and heterogeneity across leaders as important influences on decision-making.[16] With regard to time, leaders may differ in their temporal orientations, with some focusing on short-term time horizons and others looking further into the future, some preferring immediate rewards and others leaning towards strategic patience, and some buckling under the weight of time pressure and others holding steadfast through the most turbulent of times. Scholars have recently examined such temporal differences across individuals. Kertzer, for example, demonstrates the 'microfoundations' of variation in decision-making resolve over time,[17] and Dvir links differences in leaders' time horizons to the generation and selection of options.[18] This work advances our understanding of time's impact on leaders, offering a more nuanced approach than rationalist models[19] by recognising that leaders can differ in their orientation to time and by examining psychological propensities in relation to time.[20] While promising, these approaches continue to struggle with two problems.

[2]James D. Fearon, 'Bargaining, enforcement, and international cooperation', *International Organization*, 52:2 (1998), pp. 269–305.

[3]Joshua D. Kertzer, 'Resolve, time, and risk', *International Organization*, 71:S1 (2017), S109–36.

[4]Philip Streich and Jack S. Levy, 'Time horizons, discounting, and intertemporal choice', *Journal of Conflict Resolution*, 51:2 (2007), pp. 199–226; James D. Fearon, 'Rationalist explanations for war', *International Organization* 49:3 (1995), pp. 379–414; Monica Duffy Toft, 'Issue indivisibility and time horizons as rationalist explanations for war', *Security Studies*, 15:1 (2006), pp. 34–69.

[5]Fearon, 'Bargaining, enforcement, and international cooperation'.

[6]James D. Fearon, 'Rationalist explanations for war'.

[7]Streich and Levy, 'Time horizons'; D. M. Edelstein, *Over the Horizon: Time, Uncertainty, and the Rise of Great Powers* (Ithaca, NY: Cornell University Press, 2017).

[8]Ronald R. Krebs and Aaron Rapport, 'International relations and the psychology of time horizons', *International Studies Quarterly*, 56:3 (2012), pp. 530–43.

[9]Kertzer, 'Resolve, time, and risk'.

[10]Joshua D. Kertzer, Brian C. Rathbun, and Nicholas S. Rathbun, 'The price of peace: Motivated reasoning and costly signaling in international relations', *International Organization*, 74:1 (2020), pp. 95–118.

[11]Rotem Dvir, 'All options are on the table? Time horizons and the decision-making process in conflict', *Foreign Policy Analysis*, 17:4 (2021), orab028.

[12]Stephen Walker and Akan Malici, *US Presidents and Foreign Policy Mistakes* (Stanford, CA: Stanford University Press, 2011).

[13]Pierre Trudeau, *The Rainmaker: A Passion for Politics*, ed. Keith Davey (Toronto: Key Porter Books, 1986).

[14]Joseph R. Biden, 'Remarks by President Biden in Press Conference", White House, 25 March 2021, https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/03/25/remarks-by-president-biden-in-press-conference/.

[15]"'We do not accept time pressure in UK talks," says French Europe minister', *Reuters* (28 February 2020), https://www.reuters.com/article/britain-eu-france-idUSS8N29D08V.

[16]Emilie M. Hafner-Burton, Stephan Haggard, David A. Lake, and David G. Victor, 'The behavioral revolution and international relations', *International Organization*, 71:S1 (2017), S1–S31.

[17]Kertzer, 'Resolve, time, and risk'.

[18]Dvir, 'All options are on the table?'.

[19]See Fearon, 'Bargaining, enforcement, and international cooperation'; Fearon, 'Rationalist explanations for war'; Streich and Levy, 'Time horizons'; Toft, 'Issue indivisibility and time horizons'.

[20]Krebs and Rapport, 'International relations and the psychology of time horizons'; Aaron Rapport, 'The long and short of it: Cognitive constraints on leaders' assessments of 'postwar' Iraq', *International Security*, 37:3 (2012), pp. 133–71.

First, they have largely adopted rationalist approaches to time itself as objective, linear, and fixed for everyone. Some treat time as an exogenous, objective force, like a limited amount of time causing the subjective feeling of 'time pressure' during crisis decision-making.[21] Others focus on more subjective perceptions but simplify time along two dimensions, where leaders may, for example, focus on 'near' or 'distant' time horizons, which influences their calculations around conflict and cooperation,[22] alters their cognitive processes,[23] and shapes their development of decision-making options.[24] These approaches assume objective or linear time and surmise its effects on subjective perceptions, rather than assessing leaders' subjective time perceptions – how leaders perceive and interpret time in decision-making – and what those might entail. That is, they lack a theory of time as it is subjectively perceived by leaders.

Second, existing temporal approaches provide little guidance about how situations leaders face affect their subjective time perceptions. As Edelstein laments, individual-level approaches 'struggle to explain variation in the observed time horizons of individuals, including political leaders'.[25] While we may be confident that a short versus long time horizon, for example, will affect leaders in particular ways, it is difficult to know when a leader sees one or the other in a specific foreign policy situation. Identifying when leaders see a situation as involving short or long time horizons, or when they believe that commitment or resolve over time may be required, is crucial for knowing when we should expect time perceptions to affect their decision-making. In sum, time scholarship embracing the individual level and heterogeneity across leaders lacks both a theoretical framework and an empirical strategy for assessing context-specific, subjective time perceptions.

Foreign Policy Analysis (FPA), with its focus on agency, subjectivity, and decision-making,[26] offers the promise of a way forward. Specifically, the concept of the 'definition of the situation' (DoS) explicitly proposes that leaders' subjective understanding of foreign policy situations, rather than the objective situations that they face, drive their foreign policy decisions.[27] This foundational concept for FPA research provided an ontological shift centralising agents, and an epistemological shift demanding attention to their subjectivity. Early DoS research[28] and more recent advances[29] have demonstrated the value of this focus on agents and subjectivity. Connecting DoS work to existing temporal approaches would provide a 'head on approach [linking] individuals to international outcomes',[30] with the pay-off being more 'empirically realistic models of individual decision-making processes'.[31] Specifically, a DoS theoretical framework centred on subjective time perceptions and applicable to a wide range of foreign policy situations would complement and extend existing temporal research on leaders by showing how and when time factors associated with resolve, commitment, and time horizons may influence decision-making. It can also shed light on the temporal

[21] Christopher P. Neck and Gregory Moorhead, 'Groupthink remodeled: The importance of leadership, time pressure, and methodical decision-making procedures', *Human Relations*, 48:5 (1995), pp. 537–57.

[22] Edelstein, *Over the Horizon.*

[23] Krebs and Rapport 'International relations and the psychology of time horizons'.

[24] Dvir, 'All options are on the table?'.

[25] Edelstein, *Over the Horizon*, p. 13.

[26] Valerie M. Hudson, 'Foreign policy analysis: Actor-specific theory and the ground of international relations', *Foreign Policy Analysis,* 1:1 (2005), pp. 1–30.

[27] R. C. Snyder, H. W. Bruck, and B. Sapin, *Foreign Policy Decision-Making: An Approach to the Study of International Politics* (Glencoe, IL: Free Press of Glencoe, 1962).

[28] Donald A. Sylvan and Stuart J. Thorson, 'Ontologies, problem representation, and the Cuban Missile Crisis', *Journal of Conflict Resolution*, 36:4 (1992), pp. 709–32.

[29] Jonathan Keller and Yi Edward Yang, 'Problem representation, option generation, and poliheuristic theory: An experimental analysis', *Political Psychology*, 37:5 (2016), pp. 739–52; Stephan Fouquet, 'Beat the elite or concede defeat? Populist problem (re-)representations of international financial disputes', *Review of International Studies* (2024), pp. 1–24. https://doi.org/10.1017/S0260210524000743.

[30] Robert Powell, 'Research bets and behavioral IR', *International Organization*, 71:S1 (2017), S265–77 (S272).

[31] Hafner-Burton et al., 'The behavioral revolution and international relations', S4.

origins of often-puzzling aspects of leaders' decision-making, such as 'why now?' questions regarding wars of choice like Russia's 2022 invasion of Ukraine or the making of foreign policy mistakes when leaders act 'too soon' or 'too late'.[32]

Definition of the Situation (DoS) research

Approaches to studying leaders' DoS vary but share some key features. While a DoS may be affected by numerous factors (bureaucratic position, ideology, personality, political self-interests, etc.), some understanding of any situation is a prerequisite to formulating responses to it. While leaders can develop and change their DoS as events and circumstances change,[33] it is their subjective understanding that drives their foreign policy choices rather than the objective situation.[34] Despite these commonalities, several different approaches to the DoS have emerged. Some argue that 'overarching frames' guide leaders' perceptions. Stein, for example, focuses on perceptions of threats versus opportunities, and the effect on both decision-making processes and defensive or aggressive behaviours.[35] Similarly prospect theory approaches emphasise the gain/loss framing of a situation as it influences risk propensities.[36] More generally, constructivist approaches have emphasised the ontologically rooted basis of defining the 'national interest'[37] or in shaping the way a foreign policy problem is subjectively represented.[38] The latter produced several 'problem representation' frameworks that modelled leaders' DoS as ill-structured problems defined in terms of goals, means, and constraints, and examined the cognitive processes and group dynamics involved in solving them.[39] Some of these incorporated 'story models' of how decision-makers organise information and make choices.[40] More recently, scholars have examined how problem representations work to unconsciously screen out politically unpalatable foreign policy options,[41] or how external pressure and advisory systems impact the re-representation of foreign policy problems.[42]

These different DoS approaches are limited in ways that hinder their usefulness for assessing subjective time perceptions. First, 'overarching frames' are very general, lacking both sufficient detail to assess subjective time perceptions and any theoretical basis for linking 'a threat' or 'a gain' framing to them. Second, problem representation approaches have tended to focus on causal reasoning or causal problem solving, emphasising explanatory thinking as causal chains of events with minimal attention to temporal reasoning or thinking.[43] Some of the 'story models', while richer

[32]Walker and Malici, *US Presidents and Foreign Policy Mistakes*.

[33]See Donald A. Sylvan and James F. Voss (eds), *Problem Representation in Foreign Policy Decision-Making* (Cambridge: Cambridge University Press, 1998); Fouquet, 'Beat the elite or concede defeat?'.

[34]See Snyder et al., *Foreign Policy Decision-Making*; Keller and Yang, 'Problem representation, option generation, and poliheuristic theory'.

[35]Janice Gross Stein, 'The political psychology of threat assessment', in Cameron G. Thies and Robert J. Pekkanen (eds), *Routledge Handbook of Foreign Policy Analysis Methods* (London: Routledge, 2022), pp. 202–17.

[36]Barbara Vis and Dieuwertje Kuijpers, 'Prospect theory and foreign policy decision-making: Underexposed issues, advancements, and ways forward', *Contemporary Security Policy*, 39:4 (2018), pp. 575–89.

[37]Jutta Weldes, *Constructing National Interests: The United States and the Cuban Missile Crisis* (Minneapolis: University of Minnesota Press, 1999); Jutta Weldes, 'Constructing national interests', *European Journal of International Relations*, 2:3 (1996), pp. 275–318.

[38]Sylvan and Thorson, 'Ontologies, problem representation, and the Cuban Missile Crisis'.

[39]Sylvan and Voss (eds), *Problem Representation in Foreign Policy Decision-Making*.

[40]Nancy Pennington and Reid Hastie, 'Evidence evaluation in complex decision making', *Journal of Personality and Social Psychology*, 51:2 (1986), pp. 242–58; Tanya Charlick-Paley and Donald A. Sylvan, 'The use and evolution of stories as a mode of problem representation: Soviet and French military officers face the loss of empire', *Political Psychology*, 21:4 (2000), pp. 697–728; Donald A. Sylvan and Deborah M. Haddad, 'Reasoning and problem representation in foreign policy: Groups, individuals, and stories', in Donald A. Sylvan and James F. Voss (eds), *Problem Representation in Foreign Policy Decision-Making* (Cambridge: Cambridge University Press, 1998), pp. 187–212.

[41]Keller and Yang, 'Problem representation, option generation, and poliheuristic theory'.

[42]Fouquet, 'Beat the elite or concede defeat?'.

[43]Donald A. Sylvan, Thomas M. Ostrom, and Katherine Gannon, 'Case-based, model-based, and explanation-based styles of reasoning in foreign policy', *International Studies Quarterly*, 38:1 (1994), pp. 61–90.

in detail, neglected time, instead focusing on causal reasoning within stories and treating stories as ways multiple decision-makers *communicated* about a foreign policy problem rather than as subjective understandings. More recent problem representation work touches on the importance of time, but in more objective ways, such as decision-making happening in sequences[44] or as an external variable pressuring policymakers.[45] None of these DoS frameworks explicitly examine the relationship between frames, representations, or causal reasoning and time, nor have they developed any theoretical basis for understanding subjective time perceptions.

In sum, recent behavioural research on the impact of time on individual decision-making has lacked a framework for assessing subjective perceptions of time across situations, and research on leaders' subjective perceptions of situations has lacked a focus specifically on time. I propose that conceptualising the DoS as narrative reasoning can surmount these problems by focusing on subjective, detailed and context-specific perceptions, and can theorise subjective time perceptions through the close relationship between narratives and temporality. Specifically by extending timing theory,[46] I show how time is not only intersubjectively constructed but is also subjectively perceived by leaders as they develop a mental representation of a foreign policy situation as a narrative that constructs their subjective time perceptions. To develop this theoretical framework, I first introduce narrative reasoning as an alternative approach to the DoS. I then show how timing theory works as a foundation for theorising subjective time within narrative reasoning about foreign policy. After proposing the 'temporal definition of the situation' (TDoS) theoretical framework, I develop key temporal dimensions for assessing it, including points of tension in a narrative's emplotment as well as time features associated with a narrative's constitutive elements. I provide general examples to clarify this empirical approach before illustrating it by contrasting Bush's and Obama's TDoS and foreign policies regarding Iran's nuclear programme. I conclude by discussing insights the TDoS framework provides into time-bound analytical problems in the study of international relations and foreign policy.

Narrative reasoning, timing theory, and subjective time perceptions

Much research has focused on narratives – broadly defined as 'an account of events occurring over time'[47] – as a form of thinking or reasoning, arguing 'we understand the world in which we live through narratives as they give meaning to contexts, actors, and events'.[48] For example, Bruner was a pioneer in understanding narrative thinking as distinct from logico-scientific thinking,[49] Turner saw narratives as essential to many aspects of cognition,[50] and Carr emphasised that we understand our own lives and the world in a narrative format.[51] Recent research specifically on decision-making also shows how narrative reasoning helps structure complex and uncertain situations, arguing that 'narratives pervade decision-making' in uncertain and fuzzy situations where possible outcomes cannot be fully enumerated and probabilities cannot be readily assigned to different options.[52] Narratives are a way decision-makers understand and reason about their experiences, and entail contextually rich content associated with specific settings, actors, and events.

[44] Keller and Yang, 'Problem representation, option generation, and poliheuristic theory'.

[45] Fouquet, 'Beat the elite or concede defeat?'.

[46] Andrew R. Hom, *International Relations and the Problem of Time* (Oxford: Oxford University Press, 2020).

[47] Jerome Bruner, 'The narrative construction of reality', *Critical Inquiry* 18:1 (1991), pp. 1–21.

[48] Kai Oppermann and Alexander Spencer, 'Narrative analysis' in Cameron G. Thies and Robert J. Pekkanen (eds), *Routledge Handbook of Foreign Policy Analysis Methods* (London: Routledge, 2023), pp. 117–32 (p. 117); See also Raffaele De Luca Picione and Jaan Valsiner, 'Psychological functions of semiotic borders in sense-making: Liminality of narrative processes', *Europe's Journal of Psychology*, 13:3 (2017), pp. 532–47; David Herman, 'Storytelling and the sciences of mind: Cognitive narratology, discursive psychology, and narratives in face-to-face interaction', *Narrative*, 15:3 (2007), pp. 306–34.

[49] Bruner, 'The narrative construction of reality'.

[50] Mark Turner, *The Literary Mind: The Origins of Thought and Language* (Oxford: Oxford University Press, 1996).

[51] David Carr, 'Narrative and the real world: An argument for continuity', *History and Theory*, 25:2 (1986), pp. 117–31.

[52] Samuel G. B. Johnson, Avri Bilovich, and David Tuckett, 'Conviction narrative theory: A theory of choice under radical uncertainty', *Behavioral and Brain Sciences*, 46 (2023), e82 (2).

The relationship between narrative reasoning and time, however, has not been systematically developed. While Bruner, following Ricoeur, asserts that narratives express 'human time',[53] he is broadly focused on the narrative construction of reality rather than decision-making, and the subjective construction of time is not central to his work. Narratives have also been extensively analysed in terms of time and temporal structures by a range of scholars,[54] but their examinations have not been specifically on narrative *reasoning* nor on decision-making – which focuses on the narrative's structure, content, and themes associated with a decision context – but more broadly on the narrative discourse, the narrative performance, the narration, and the audience, for example. In order to see how time is subjectively constructed by leaders, and to avoid imposing objective and linear conceptions of time on those leaders, we need a theory of time itself that is compatible with narrative reasoning and decision-making, which I develop from timing theory.[55]

I begin by examining the relationship between time and timing. First think of time – and the clocks we presume to be measuring it – in terms of relative change. How much clock-ticking (change 1) corresponds to a given activity (change 2)? From this view, we see that clocks (or other 'timekeeping' devices) are actually performing a role as a *standard* reference point that allows us to reconcile or compare different change processes with one another. The actual speed of the clock-ticking is not relevant, merely a common reference point by which comparisons, of varying precision, can be made. For example, how much faster or slower is this runner than that one? How rapidly does work or production happen in this factory compared to that one? While we might try to precisely calibrate our clock-ticking measures to some objective features of the world (Earth's spin, quartz vibrations, etc.), this is not genuinely an effort to arrive at 'true time' but merely reflects our desire to compare more precisely – to be able to determine *exactly how much* workers, factories, or runners differ, but not how fast or efficient they *truly* are.

Beyond comparisons, we use time and clocks to actually *coordinate* different change activities. When we establish a 'workday', for example, we do so without quartz vibrations in mind at all, but rather to coordinate productivity across our different workers so that their collective labours turn out more profitably. We might have a precisely measured 'hour', but it is the use of that hour as a *timing standard* that matters in regulating when we all start or quit work in unison, or when goods arrive at a port by train and a ship arrives simultaneously (on the same hour) to carry them to market. This makes time useful as an ordering device around which important activities converge and repositions our understanding of time from an objective and linear background feature over which events occur ('time') to an actively constructed ordering of different changing events purposely linked to make them turn out in one way rather than another ('timing').[56] As such, 'time' is better conceived as a verb, *timing*, such as timing our labourers, shipping, or any other set of coordinated activity towards desired outcomes. Indeed, seemingly 'objective' clock-time was invented *to time*, that is, for the purpose of *timing*, and establishing a *timing standard* – like clocks or calendars – governs or orders specific change processes. Timing standards 'tell time' by orienting actors, events, and actions to one another and making clear how these different changes interact, synchronise, or unfold (see Figure 1).

Timing standards, however, can take many forms depending on what change processes they are meant to govern, and they need not be a mechanical or finely metered device like a clock or calendar.[57] A simple example is a deadline, which if issued by a powerful enough actor, has the potential to reorient actors, events, and actions, pushing them to unfold in a particular way. Timing standards can also be ideational, such as an autobiographical narrative focused on identity, which can

[53]Bruner, 'The narrative construction of reality'; Ricoeur, 'Narrative time', *Critical Inquiry*, 7:1 (1980), pp. 169–90.

[54]Carr, 'Narrative and the real world'; Ricoeur 'Narrative time'; Arkadiusz Misztal, 'From ticks to tricks of time: Narrative and temporal configuration of experience', *Phenomenology and the Cognitive Sciences*, 19:1 (2020), pp. 59–78.

[55]Hom, *International Relations and the Problem of Time*.

[56]Hom, *International Relations and the Problem of Time*.

[57]Hom, *International Relations and the Problem of Time*.

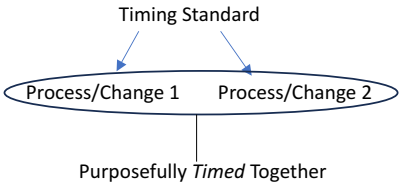

Figure 1. Timing theory.

provide a stable sense of self that foreign policymakers draw on 'to privilege key identity features, historical events, and future aspirations' and connect these features in meaningful ways.[58]

I argue that timing theory is not only a theory about the intersubjective construction of time as a means of coordination and control, but it can also serve as a theory of subjective meaning-making. Because the perceived relationship(s) between and among different change processes in the world can be extraordinarily complex, stitching them together into some coherent order – timing them – allows individuals to simplify, organise, and otherwise set them into meaningful relationships with each other. This is consistent with Hom, who states that timing imbues 'dynamic situations with an *intelligible and tractable sense* of how they hang together and can or should unfold'.[59] It 'constructs links between the "when-aspects" of very different change processes … [and] provides the organizing rubric for stitching disparate changes, processes, and agents together into a *coherent and orderly* whole'.[60]

Hom develops a synthesis of timing theory and narrative theory through the concept of *narrative timing*, which involves 'recast[ing] the narrative work of emplotment as a timing function that makes sense of our experiences of change'.[61] Drawing on Carr's work,[62] Hom and Steele propose that 'narrative helps us apprehend and organise diverse stimuli, and thereby constitutes time as a coherent flow or duration'.[63] Developing a narrative about situations in the world involves selecting and constructing the relevant narrative elements – actors, settings, and events – and their emplotment 'times several such experiences in a loosely serial order, establishing a "now", a "then", and a "to come"'.[64] Narrative timing also distinguishes between constructed time as constituted within a narrative's emplotment, and the temporal features of emplotment narratologists attribute to a narrative, which reify time by seeing it as something objective that can be *applied to* the analysis of narratives. This risks imposing objective or linear time, for example, on a leader's subjective time perceptions and 'reinforces the assumption of two separate temporal categories: the time we constitute to ourselves, and an exogenous, pre-existing, and problematic time "in" which we just do exist … elid[ing] narrative's function as a *timing device* and therefore a constitutive source of time per se'.[65]

While Hom examines the construction of time in the narratives of International Relations theories,[66] I assert that leaders' narrative reasoning about the foreign policy situations they face constructs time for them. That is, it creates their subjective time perceptions – what Hom might call

[58] Ryan K. Beasley and Andrew R. Hom, 'Foreign policy in the fourth dimension (FP4D): Locating time in decision-making', *Foreign Policy Analysis*, 17:2 (2021), p. 9; Andrew R. Hom and Brent J. Steele, 'Anxiety, time, and ontological security's third-image potential', *International Theory* 12:2 (2020), pp. 322–36.

[59] Hom, *International Relations and the Problem of Time*, p. 38 (emphasis added).

[60] Hom, *International Relations and the Problem of Time*, p. 35 (emphasis added).

[61] Hom, *International Relations and the Problem of Time*, p. 82.

[62] Carr, 'Narrative and the real world'.

[63] Hom and Steele, 'Anxiety, time, and ontological security's third-image potential', p. 323.

[64] Hom and Steele, 'Anxiety, time, and ontological security's third-image potential', p. 324.

[65] Hom, *International Relations and the Problem of Time*, pp. 85–6.

[66] Hom, *International Relations and the Problem of Time*.

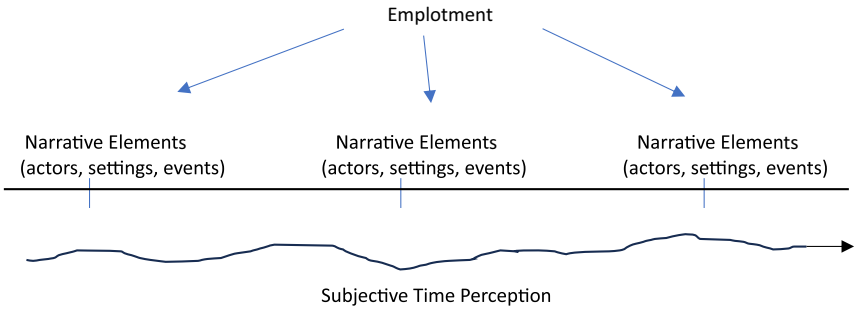

Figure 2. TDoS framework.

their 'visions of time'.[67] Thus time is a variable depending on how different leaders define the foreign policy situations that they face. This is a leader's Temporal Definition of the Situation (TDoS; see Figure 2), which makes sense of the world by understanding narrative elements in a specific relation to one another, and the nature of that relationship constitutes the leader's subjective time perception within a given foreign policy situation.

Next I conceptualise the TDoS by providing a framework for: (1) identifying the relevant temporal features of actors and settings; (2) identifying the temporal features of emplotment and distinguishing their importance from the causal features of emplotment; and (3) identifying key points of temporal tension – the *temporal dissonance* – for a decision-maker within the emplotment.

Assessing a TDoS: A practical guide

Narrative methods within FPA can guide analysis of a TDoS but must be modified to focus on subjective time perceptions as constructed via narrative reasoning. For this practical guide, I follow Oppermann and Spencer's method for narrative analysis, which they assert can examine both intersubjective narratives in political discourse as well as subjective narratives, and specifically indicate this method 'can be used to probe narrative meaning-making in foreign policy and [can] shed light, for example, on the representation of foreign policy problems by decision-makers'.[68] They propose three major aspects of narratives for analysis: settings, actors, and emplotment.[69] Narrative settings involve the broader decision-making situation within which other narrative elements are being constructed, and the stakes and challenges involved in decisions. Analysing actors involves characterising, labelling, and associating them with one another, and assessing their motives, interests, and behaviours. Emplotment involves foreign policy reasons or rationales, objectives, and the means to them, and assessments of success or failure.

I modify their approach by focusing on narrative reasoning and time and propose four time features for assessing a TDoS (see Table 1), drawn from existing narrative studies in international relations and foreign policy with some temporal focus:[70] initiation, duration, pace, and order. *Initiation* involves assessing leaders' understandings about when actions and events were started,

[67] Hom, *International Relations and the Problem of Time*, pp. 87–89.

[68] Oppermann and Spencer, 'Narrative analysis', p. 121).

[69] They use the term 'characterization' rather than actors. Like them, I recognise these categories can overlap and serve only as a guide, and that narratives are not fixed but can change.

[70] Felix Berenskoetter, 'Anxiety, time, and agency', *International Theory*, 12:2 (2020), pp. 273–90; Bernardo Teles Fazendeiro, 'Narrating events and imputing those responsible: Reflexivity and the temporal basis of retrospective responsibility', *Review of International Studies*, 45:1 (2019), pp. 161–80; Lee Jarvis, 'Constructing the Coronavirus crisis: Narratives of time in British political discourse on COVID-19', *British Politics*, 17:1 (2022), pp. 24–43; Ronald R. Krebs, *Narrative and the Making of US National Security* (Cambridge: Cambridge University Press, 2015); Nomi Claire Lazar, *Out of Joint* (New Haven, CT: Yale University Press, 2019); Kai Oppermann and Routledge, 2018), pp. 55–72; Bram van Vulpen, Jorren Scherpenisse, and Mark

Table 1. Time features for assessing a TDoS.

Time Feature	Dimensions	Definition
Initiation	Started———Stopped	When, how, and who initiates actions/creates conditions
Duration	Short———Long Temporary———Permanent	How long actions/conditions/actors endured/will endure
Pace	Fast———Slow Static———Dynamic	How quickly events unfold; and their constancy (static) or variability (dynamic)
Order	Un-sequenced———Sequenced	Whether or not actions/conditions are sequenced

such as before/after other events or at a particular point in clock/calendar-time (e.g. summer, the year 1991, etc.) and also entails assessing their understanding of who or what precipitated actions and events (e.g. claiming 'they *started* it', or believing it all *began when* they put missiles in Cuba). *Duration* assesses a leader's understanding of how long an action or policy endures or endured, varying from a short to a long period, and with (temporary) or without (permanent) a fixed end. *Pace* entails assessing the speed with which actions or policies are seen to unfold and varies in terms of the overall pace (fast/slow) but also in terms of whether the pace is fixed (static) or changes in response to actions and events, such as slowing down or speeding up (dynamic). Finally, *order* involves assessing the perceived sequence of actions (e.g. A precedes B, or the sequence of A and B are not relevant or understood).

Source material for assessing a TDoS should follow existing practices associated with DoS scholarship. A long history of research into leaders' decision-making – building on Snyder et al.'s work[71] – uses both official/public communications that may reflect leaders' underlying interpretations, supported by internal decision-making documents and other sources that aim to identify their privately held beliefs. These can include verbal statements, written materials (e.g. meeting minutes; diaries), and other representations (e.g. images, symbols), as well as accounts of the decision-making process by those involved or with close access to them.[72] Identifying temporal features of narrative reasoning through such sources is aided by understanding how both temporal representations and temporal language relate to timing. Timing theory conceives of time language (e.g. 'the clock is ticking', 'now is the time', 'an historic era') and other temporal representations as *timing indexicals* that reveal underlying timing practices, efforts, and concerns. 'Whenever we speak "time" or "temporality" … whenever we evoke temporal symbols as guides to thought or action, we engage directly in timing.'[73] Sources that show leaders expressing an understanding of actions and events using temporal features (e.g. seeing the pace of aggression as quickening), structuring representations of events and actions as if they follow a particular timeline (e.g. asserting they first conquered Crimea and subsequently sought to conquer all of Ukraine), or using temporal symbols (e.g. countdown clocks) are *timing indexicals* revealing actors' underlying timing concerns or practices at play. We as analysts can treat such timing indexicals as markers of subjectively held time perceptions. When expressed publicly, such timing indexicals might simply be rhetorical devices for persuasive or political purposes, but when corroborated with private statements, documents, and other sources, the convergence of expressed timing indexicals increases our confidence that we are assessing leaders' subjective time perceptions.

van Twist, 'Time to turn over the crown: A temporal narrative analysis of royal leadership succession', *International Journal of Public Leadership*, 16:1 (2020), pp. 41–58.

[71] Snyder et al., *Foreign Policy Decision-Making*.

[72] See, for example, J. G. Blight and D. A. Welch, *On the Brink: Americans and Soviets Reexamine the Cuban Missile Crisis* (New York: Hill and Wang, 1989); Fouquet, 'Beat the elite or concede defeat?'.

[73] Hom, *International Relations and the Problem of Time*, p. 56.

Assessing temporal features of narrative reasoning: Examples

Here I offer guidance on how to identify temporal features associated with narrative elements from source materials and provide several hypothetical and more mundane examples, noting the temporal features from Table 1 parenthetically. Returning to the Russian invasion of Ukraine example, a hypothetical TDoS by Putin shows how the narrative elements of settings and actors can have temporal features and contrasts these with clock/calendar-time. Putin's TDoS may include temporal features of narrative elements (shown parenthetically) such as believing Ukraine *suddenly turned* towards the West (actors/initiation), decrying the '*rapid expansion* of NATO over the last few years' (setting/pace) or the '*unabated and unending* attacks by militant extremists' (actors/duration), or characterising Ukraine's actions as *repeatedly* taking calculated steps towards getting nuclear weapons (setting/order), all of which individually convey a temporal potency of the actors and setting helping to define the situation Putin sees. Those temporal features, along with their emplotment among other narrative elements, construct time within the Ukraine conflict. Clock/calendar time, in contrast, like Monday or 8am, is meaningless – it is 'time' *outside* the TDoS – unless it becomes connected by a decision-maker to elements *within* the TDoS, for example by Putin setting a deadline by which an ally must pledge anew its loyalty, NATO must agree no further expansion, or attacks must finally cease. In this way decision-makers can incorporate or interweave clock/calendar-time within their TDoS and their foreign policy responses to it, but we should not view clock/calendar-time as 'objective' time nor conflate it with time as constructed within the TDoS.[74]

While settings and actors can individually have temporal features, emplotment is central to the construction of subjective time within the narrative. In narrative analysis, emplotment entails two major features that bring together the selected events and actions of the plot: causality and time.[75] Causality in emplotment meaningfully links settings, characters, and actions together to account for *why* events occurred and what *consequences* they have.[76] Time in emplotment sequences the actions and events in a particular way, ordering and unfolding them meaningfully.[77] While both temporal and causal emplotment are important, and all causal features imply a temporal order, temporal emplotment can be especially important to assessing a leader's subjective construction of time.

For example, the novelist E. M. Forster is attributed with the observation that 'the King died and then the Queen died' is a chronology, just one thing and then the next. But 'the King died and then the Queen died of grief' is a story, a narrative imbued with meaning. This turns centrally on emplotting the emotional connection between the King and Queen through a causal linkage (his death causes hers). Now consider 'there were no missiles in Cuba, then there were missiles in Cuba' (the chronology) compared to a more causal and then a more temporal version: 'there were no missiles in Cuba until the *Soviets placed them* there' (causal focus), and 'there were *never* any missiles in Cuba, and *now suddenly* there are' (temporal focus). Both help create a meaningful narrative out of a chronology, but one emphasises the actions of an adversary and the other emphasises the temporality of events. The timing of the occurrence of the missiles is important in defining the situation, beyond what caused them, imbuing the situation with meaning and helping to identify subjective time perceptions.

Focusing on causality can also underplay important aspects of a narrative's temporal emplotment. For example, the 'domino theory' arguably influenced the definition of the situation for many

[74]The pervasiveness of clock/calendar time makes it a particularly recognisable and powerful tool in foreign policymaking. See Ryan K. Beasley and Ameneh Mehvar, 'Timing bombs and the temporal dynamics of Iranian nuclear security', *European Journal of International Security,* 10:2 (May 2025), pp. 171–89. https://doi.org/10.1017/eis.2024.20; Hom and Beasley, 'Constructing time in foreign policy-making'; Lazar, *Out of Joint*.

[75]Oppermann and Spencer, 'Narrative analysis'.

[76]Frank Kermode, 'Secrets and narrative sequence', *Critical Inquiry*, 7:1 (1980), pp. 83–101.

[77]Gérard Genette, Nitsa Ben-Ari, and Brian McHale, 'Fictional narrative, factual narrative', *Poetics Today*, 11:4 (1990), pp. 755–74; Ricoeur, 'Narrative time'.

US presidents. But the notion of falling dominos is essentially a temporal emplotment relying primarily on order and pace – one country becoming communist leads quickly to others doing so – and eliding a clear causal explanation of how this might happen.[78] For a more mundane example, parents grappling with understanding the problem of their baby crying may focus on the causes ('maybe she's hungry'), but also the temporal features of the crying, such as suddenly crying (initiation), crying more and more often (pace), crying for hours on end (duration), or crying after meals (order) – all of which are central to emplotting the crying against other narrative features. Finally, temporal features may themselves be what makes a situation problematic. A noisy neighbour's loud music (the cause) may be fine during the day but problematic at night (the temporal setting that makes it a problem). And time may be crucial to understanding how to solve problems, such as by feeding the baby but *infrequently during the day* and less but *at regular intervals at night*, or encouraging anew our neighbour's *daily rhythms* rather than their music-playing. By foregrounding temporal aspects of emplotment, we gain insights on the subjective construction of time within a narrative that focusing primarily on causality might obscure.

Temporal dissonance

Cognitive dissonance is the psychological discomfort that arises when an individual experiences conflicting beliefs, attitudes, or behaviours, motivating them to reduce the inconsistency. Temporal dissonance refers to the tension arising from misaligned or un-timed change dynamics among important features of a foreign policy situation. This can manifest as violated expectations, where predicted patterns of important events or behaviours suddenly change – like a baby that suddenly won't stop crying – or as the 'slippage' between two or more change dynamics that were formerly aligned – like an audio track and video track becoming unsynchronised – which disrupts the expected flow of events.[79] Within narrative reasoning, this can be thought of as 'plot tension', which focuses decision-makers on the problematic features of the narrative and motivates them to realign these elements back into a coherent order by taking foreign policy actions to address them. In this way, temporal dissonance prompts problem identification, followed by efforts to understand the dissonant features, connect them to other actors, settings, and actions, and respond.

The tension(s) may be identified by analysts through their relationship to other narrative elements. For example, beyond being 'threatening', the Soviet missiles in Cuba in 1962 became important because they were dissonant with the US decision-makers' Cold War narrative of a strategic balance of power system between the US and the USSR. While they did view the missiles as being *offensive*[80] and thus causally threatening, they were also specifically concerned with their temporality within the narrative emplotment, as *suddenly* having been placed, becoming operational *soon*, and potentially reducing the *warning time* for a nuclear attack. Observing how the decision-makers put the missiles together with other related actions and events (emplotment), the temporal features they associated with the missiles help us as analysts identify the underlying timing problem (the temporal dissonance) they were perceived to have created.

Moreover, the temporally dissonant features of the TDoS may shape the temporality of the potential options decision-makers generate. US options for dealing with the missiles in Cuba included *preventing them from becoming* operational (initiation), *slowing* the placement of additional missiles/warheads via a blockade (pace), and intentionally ignoring Khrushchev's claim that the US had similarly placed missiles in Turkey *first* (order).[81] In sum, leaders might experience temporal dissonance as they see the timing of important features of the environment being altered – by sudden unexpected changes, or by slippages between formerly aligned change process. This

[78] Jerome Slater, 'The domino theory and international politics: The case of Vietnam', *Security Studies* 3:2 (1993), pp. 186–224.

[79] Ryan K. Beasley and Andrew R. Hom, 'Foreign policy in the fourth dimension (FP4D): Locating time in decision-making', *Foreign Policy Analysis* 17:2 (2021), oraa028.

[80] Sylvan and Thorson, 'Ontologies, problem representation, and the Cuban Missile Crisis'.

[81] Blight and Welch, *On the Brink*.

can be assessed through both the narrative's emplotment and key time features associated with it, including the temporality of potential foreign policy responses.

TDoS Illustration: Bush, Obama, and the Iranian nuclear programme

Overview

In 2002, following international revelations about its nuclear programme, Iran agreed to a temporary suspension of its uranium enrichment under pressure from the IAEA, while also announcing its intention to master the full nuclear fuel cycle. Talks involving the E3 (Germany, France, and the UK) began in 2003 but broke down by 2006. Despite the Bush administration's (2001–8) strong opposition to uranium enrichment within Iran and its strategy of applying maximum pressure through technological restrictions and economic sanctions, by 2007, Iran had resumed and was accelerating and expanding its uranium enrichment activities. The 2007 US National Intelligence Estimate at the time, however, assessed with moderate confidence that Iran had not resumed its nuclear weapons programme.[82] Between 2006 and 2013, Iran increased its number of centrifuges, despite years of sanctions.[83] The Obama administration (2009–16) shifted to a strategy prioritising negotiations alongside continuing sanctions. Secret negotiations in 2012 laid the groundwork for the 2013 interim agreement and eventually the 2015 Joint Comprehensive Plan of Action (JCPOA), which formally linked sanctions relief to stringent restrictions on Iran's nuclear activities and included various sunset provisions for these restrictions.[84]

Drawing on this background, I illustrate the narrative reasoning of George W. Bush and Barack Obama, showing how this constructed their different perceptions of time and shaped their foreign policies towards Iran's nuclear programme. This is a partial account for illustrative purposes, drawing on a limited number of secondary sources, participant accounts, speeches, and interviews. I utilise private information about policy discussions and actors' understanding of events and actions alongside secondary sources that focus on the reasoning leaders used, as well as the foreign policy actions they took. I work to demonstrate the leaders' understanding of the situation prior to their key foreign policy actions, while recognising that this can change. The Iran case provides some comparability, with similar leader roles and political systems (US presidents), issue area, and general international timeframe (2002–15). It has also been examined for timing as a tool of foreign policy behaviour and prima facie seems suited to illustrating leaders' TDoS.[85] Finally, both Bush and Obama arguably had similar DoS in terms of overarching threat perceptions and also shared many causal understandings of the foreign policy problem they faced, but they took different foreign policy approaches. This allows us to better illustrate the potential added value of the TDoS framework.

Bush and the 'two clocks'

Setting: Following 9/11, Bush saw the geostrategic setting through the lens of his global war on terror (GWoT), which emphasised prevention (*initiation*) of nuclear proliferation and weapons of mass destruction (WMDs) falling into the hands of 'rogue states' and non-state actors, and the willingness of the US to engage in unilateral and pre-emptive (*order*) actions. This included the unilateral withdrawal from the anti-ballistic missile (ABM) treaty, the development of a proliferation security initiative aimed at preventing the trafficking of WMDs globally, and criticism of the Non-Proliferation Treaty (NPT) with regard to the nuclear ambitions of both North Korea and

[82]National Intelligence Council, *National Intelligence Estimate: Iran: Nuclear Intentions and Capabilities* (Washington, DC: Office of the Director of National Intelligence, 2007).

[83]Wendy R. Sherman, 'How we got the Iran deal: And why we'll miss it', *Foreign Affairs*, 97:5 (September/October 2018), pp. 186–97.

[84]Kumuda Simpson, *US Nuclear Diplomacy with Iran: From the War on Terror to the Obama Administration* (Lanham, MD: Rowman & Littlefield, 2015).

[85]Beasley and Mehvar, 'Timing bombs and the temporal dynamics of Iranian nuclear security'.

Iran.[86] Within the Middle East regional setting, Bush saw Iraq's presumed WMDs as warranting pre-emptive invasion.[87] The revelation of Iran's nuclear programme in 2002 was also a similar concern for Bush, who believed a nuclear Iran would threaten Israeli and Saudi Arabian security and lead to a regional arms race. For Bush, then, the stakes were high. A nuclear Iran would amplify it as a threat to US strategic partners, destabilise the Middle East, and increase the spread of nuclear weapons.[88]

Actors: Bush saw Israel as a long-term (*duration*) ally and a valuable partner in the GWoT and anti-nuclear proliferation, as seen in his support of Israel's 2006 actions in Lebanon and their strikes against Syria's nuclear reactor.[89] While Bush knew Israel's interests sometimes diverged from those of the US, he also believed they had a long-term (*duration*) interest in preventing Iran from becoming a nuclear power. Bush also viewed several Gulf states as potential regional allies in isolating Iran, and he saw domestic opposition groups in Iran that could be supported to help increase diplomatic and economic pressure on the Iranian regime. He had characterised Iran as part of the 'Axis of Evil', along with North Korea and Iraq, a view reinforced by the election of Ahmadinejad in 2005, which confirmed Bush's view that Iran was a malign actor with long-term ambitions to acquire nuclear weapons (*duration*) and support terrorist groups.[90]

Emplotment: Set against the backdrop of a global war on terror, Bush defined the problem primarily as one of continuously containing Iran, ensuring that it never (*duration*) developed the capacity to enrich weapons grade uranium.[91] Bush's National Security Advisor Hadley describes this as a 'two clocks' strategy: 'First, try to push back the time when the Iranian regime would have a clear path to a nuclear weapon. And second, try to bring forward the time when public pressure would either cause the regime to change its nuclear policy (and suspend enrichment), or transform it into a government more likely to make the strategic choice to deal with the international community'.[92] In essence, Bush's approach sought to permanently (*duration*) prevent (*initiation*) Iran's acquisition of nuclear weapons capability and nuclear know-how via domestic uranium enrichment, while speeding up (*pace*) regime or policy change in Iran.

The temporal dissonance in this narrative arises from the onset of (*initiation*) and persistent (*duration*) efforts by Iran to advance their nuclear programme. The revelation of its nuclear capacities and its stated intentions of pursuing enrichment initiated a troubling timing slippage within the narrative of containment, regional stability, and more broadly limiting the proliferation of nuclear-capable actors to minimise the dangers of terrorists armed with WMDs. Based on his perception of time and temporal dissonance, and given his key objective of preventing Iran from achieving nuclear weapons capability, resolving the dissonance needed to involve these temporal features. Bush's position that Iran should never have nuclear weapons or the capacity to develop them, when paired with the necessity of regime or policy change, created a permanent strategy of nuclear containment, resting on the back of continuous or escalating economic sanctions and maximum pressure to slow or degrade Iran's progress towards enrichment. When significant nuclear programme advancements (*initiation*) that precipitate nuclear breakout are made or anticipated (*order*), additional pressure or setbacks must soon follow. For example, Bush openly suggested

[86]Simpson, *US Nuclear Diplomacy with Iran*

[87]Jeremy Pressman, 'Power without influence: The Bush administration's foreign policy failure in the Middle East', *International Security*, 33:4 (2009), pp. 149–79.

[88]Simpson, *US Nuclear Diplomacy with Iran*.

[89]T. Parker, 'Ranking Bush and Obama as foreign policy presidents: A scorecard', *Israel Journal of Foreign Affairs*, 11:1 (2017), pp. 25–34; George W. Bush, 'President discusses Global War on Terror', White House, 14 August 2006, https://georgewbush-whitehouse.archives.gov/news/releases/2006/08/20060814-3.html.

[90]Stephen Hadley, 'Iran primer: The George W. Bush administration', United States Institute of Peace (2010), https://iranprimer.usip.org/resource/george-w-bush-administration.

[91]Pressman, 'Power without influence'.

[92]Hadley, 'Iran primer'.

that Israel could take action against Iran's nuclear programme[93] and is believed to have worked to undermine Iran's centrifuge technology via the Stuxnet virus.[94] Bush also openly favoured regime change in Iran, or a change in Iranian nuclear programme behaviours along with objective guarantees that its nuclear programme was only for peaceful purposes.[95] The dissonance finds resolution through active efforts to prevent uranium enrichment on Iranian soil, to slow Iran's technological advances, and to encourage democracy and domestic resistance to destabilise Iran's ruling elite.[96] Built on a clear projection into the future, this TDoS leans heavily on persistent and pre-emptive actions and strengthening Israel as a regional ally with a long-term interest in degrading Iran's capabilities to slow or reverse progress towards nuclear breakout.

For Bush, success involved the containment of Iran's nuclear programme, indefinitely. With the release of the National Intelligence Estimate (NIE) in 2007, Bush himself expressed in starkly temporal terms his perception of success and ongoing concerns over criticisms he believed he would face were he to fail:

> the NIE makes it clear that the strategy we have used in the past is effective. And the reason why we need to make sure that strategy goes forward for the future is because if Iran shows up with a nuclear weapon at some point in time, the world is going to say, what happened to them in 2007? How come they couldn't see the impending danger? What caused them not to understand that a country that once had a weapons program could reconstitute the weapons program? How come they couldn't see that the important first step in developing a weapon is the capacity to be able to enrich uranium? How come they didn't know that with that capacity, that knowledge could be passed on to a covert program? What blinded them to the realities of the world? And it's not going to happen on my watch…[97]

These comments, when examined together with other public and private sources, provide insight into Bush's narrative reasoning and his subjective perception of time.

Subjective time perception

Bush's subjective time perception differs from linear clock/calendar-time, instead specifying particular types of events that indicate *when it is time* to escalate international pressure and threats, and to take actions to degrade Iran's progress towards nuclear breakout, forever until Iran no longer wants nuclear weapons. In this narrative, 'breakout time' – the estimated calendar-time until Iran produced sufficient fissile material for one nuclear bomb – indicates when it is 'time to act' against Iran's progress, requiring neither particular precision nor significant buy-in from other actors. Instead it serves as an internal clock defining how close Iran is at any moment to breakout, a variable time horizon defining when it is time, or too late, to act. Bush also viewed Iran as an inherently bad faith actor with long-term resolve to proactively pursue nuclear weapons. This defined negotiations for him as a *waste of time*, merely a delaying tactic where Iran would present a façade of change anchored by its unchanging longer-term ambition for nuclear weapons: 'my concern is that [Iran] will stall, they'll try to wait us out … they need to understand that we're firm in our commitment, and if they try to drag their feet or get us to look the other way, we won't do that'.[98]

This TDoS, operating in a temporal world of its own making, is largely indifferent to the passage of clock/calendar-time. Even when the US National Intelligence Estimate, released in late 2007,

[93] David Hastings Dunn, '"Real men want to go to Tehran": Bush, pre-emption and the Iranian nuclear challenge', *International Affairs*, 83:1 (2007), pp. 19–38.

[94] Jon R. Lindsay, 'Stuxnet and the limits of cyber warfare', *Security Studies*, 22:3 (2013), pp. 365–404.

[95] Dunn, '"Real men want to go to Tehran"'; Simpson, *US Nuclear Diplomacy with Iran*.

[96] Simpson, *US Nuclear Diplomacy with Iran*.

[97] George W. Bush, 'Press conference on national intelligence estimate on Iran's nuclear program', White House, 4 December 2007, https://georgewbush-whitehouse.archives.gov/news/releases/2007/12/20071204-3.html.

[98] George W. Bush, 'President's remarks at the ceremony celebrating National Hispanic Heritage Month', White House, 15 September 2006, https://georgewbush-whitehouse.archives.gov/news/releases/2006/09/20060915-2.html.

stated that Iran had halted its weapons programme *four years previously*, Bush argued that even still they could restart the programme at any time. The NIE indication that Iran likely had not been pursuing nuclear weapons is largely irrelevant to Bush's TDoS – a process without end that Iran can start and stop at will and without warning. For Bush dealing with Iran involved US strategic resolve, and the 'two clocks' created different time horizons: one focused on the time until Iran achieved a nuclear weapon capability and the other focused on the time until regime/policy change, which he connected to the larger narrative elements of national security, Israeli security, and the prevention of further terrorist strikes against the US and its allies.

Obama and negotiating 'breakout time'

Setting: Obama saw the geostrategic setting through the lens of multilateralism and diplomacy, sought to end (*initiation*) the GWoT, emphasising a willingness to 'extend a hand' to countries willing to unclench their fist.[99] This involved engagement and dialogue globally, including ratifying the New Start Treaty with Russia and launching Nuclear Security Summit processes aimed at securing nuclear materials and preventing nuclear terrorism. While he continued (*initiation*) Bush's focus on combating terrorism, his 'strategic pivot' towards Asia reduced the US focus on the Middle East and towards Afghanistan, working to end (*initiation*) military occupation of Iraq.[100] For Obama, the stakes were significant, as he believed the Iraq war was shifting the power balance and increasing security dilemmas, emboldening Iran's efforts to undermine Israel, and generally contributing to regional security concerns.

Actors: Obama viewed Israel as a long-term (*duration*) US ally and believed that Israel had legitimate regional security concerns. He also, however, believed that Israeli actions exacerbated regional security conflicts.[101] For example, early in his first administration he demanded Israel fully freeze (*initiation*) its settlement activities in occupied territories[102] and later disagreed with Netanyahu's approach on several issues, including the viability of negotiations with Iran.[103] Obama was not sanguine about Iran, viewing it as a malign actor and supporter of terrorist groups, but he also believed that Iran had been fatigued by enduring years of sanctions (*duration*), including those he had continued or escalated from the Bush administration.[104] He saw the election of Rouhani in 2013 to be a move by Iran in a more moderate direction. More generally he viewed Iran's regional behaviours as something that could change and that there was potential for the Iranian regime to evolve (*order*), but 'never that this would happen overnight' (*pace*).[105]

Emplotment: Set against the backdrop of a broader shift away from the GWoT – which he viewed as having perpetuated (*duration*) serious regional insecurity – and towards more 'constructive engagements' with international actors, Obama defined the problem of Iran's nuclear programme primarily as one of maintaining (*duration*) pressure on Iran while gradually drawing them, step by step (*order*), into negotiations aimed first at slowing (*pace*) their advancing nuclear programme and ultimately better linking its behaviours to economic sanctions. When re-elected in 2012, Obama continued to see Iran as a malign actor seeking to cross the nuclear threshold, endangering the security order both internationally and regionally. Importantly, he observed that Iran's nuclear programme was 'hurtling towards nuclear weapons capability', picking up speed (*dynamic*

[99]Barack Obama, 'Inaugural address by President Barack Obama', White House, 20 January 2009, https://obamawhitehouse.archives.gov/blog/2009/01/20/inaugural-address.

[100]Martin S. Indyk, Kenneth G. Lieberthal, and Michael E. O'Hanlon, 'Scoring Obama's foreign policy: A progressive pragmatist tries to bend history', *Foreign Affairs*, 91:3 (May/June 2012), pp. 29–43.

[101]Parker, 'Ranking Bush and Obama as foreign policy presidents'.

[102]Indyk et al., 'Scoring Obama's foreign policy'.

[103]Ilan Ben Zion, 'Netanyahu brushes off Obama critique', *The Times of Israel* (16 January 2013), https://www.timesofisrael.com/netanyahu-brushes-off-obama-snub/.

[104]John Kerry, *Every Day Is Extra* (New York: Simon & Schuster, 2018); Simpson, *US Nuclear Diplomacy with Iran*.

[105]William J. Burns, 'An interview with Ambassador William J. Burns on Iranian–American negotiations', *Journal of International Affairs* (2016), https://jia.sipa.columbia.edu/news/interview-ambassador-william-j-burns-iranian-american-negotiations.

pace) from 164 operational centrifuges during the early Bush administration to 19,000 centrifuges enriching uranium by 2011.[106] With the election of President Rouhani in 2013, Obama believed that the preliminary and secret bilateral negotiations between the US and Iran initiated in 2011 could potentially be expanded.[107]

Obama did not suddenly shift his approach, however, and continued to explore military options and to support the use of the Stuxnet computer virus which disrupted Iranian centrifuges.[108] But he saw this continued pressure as a means to motivate Iran to engage in negotiations, rather than as a means of seeking regime change.[109] He also worked to constrain military escalation (*initiation*) by Israel,[110] to prevent further recalcitrance by Iran regarding its pursuit of a nuclear weapon. In the summer of 2012, for example, Israel believed that Iran was approaching a red line and was preparing to take military action. 'The priority at that moment was convincing Israel to refrain from bombing Iran – at least temporarily.'[111] He also believed that international sanctions were hurting Iran's economy, but also 'strengthening Iran's resolve to accelerate their nuclear program. Time was running out … It was time, President Obama determined, to signal to Iran that the United States was willing to discuss the possibility of an agreement in which Iran could continue to enrich uranium on a limited basis.'[112]

The central point of tension – the temporal dissonance – was the slippage between Iran's progress towards nuclear breakout and the US, Israeli, and international sanctions efforts to slow or stop it. Like a soundtrack increasingly unsynchronised with the video, temporal dissonance pressured Obama. Concluding that a policy of ceaseless prevention was not only failing to slow Iran's progress but instead accelerating it, Obama began to develop a different understanding of the problem, driving him to consider the ways he could more effectively link Iran's activities to international responses. He addresses the dissonance by explicitly managing the timeframe of Iran's nuclear programme advances. This TDoS emphasises pace and order, rather than durable resolve, and requires a process to which both sides could credibly commit that would both slow and contain Iran's nuclear programme by ordering it in a way that unfolds, gradually and predictably, step by step. A key figure in the back-channel negotiations indicated 'it would have been extremely difficult – I think impossible – to have gone in one leap to a comprehensive agreement.'[113] Obama saw the need to first slow Iran's progress but ultimately not be drawn into never-ending negotiations. He initially sought an interim (JPOA) agreement 'that would give us time to negotiate a comprehensive, longer-term deal' by freezing Iran's programme while providing some sanctions relief.[114] This agreement was announced in late 2013, setting the stage for further negotiations. 'With the JPOA in place, time could not be used against either side.'[115]

Obama claimed critics of the interim agreement 'called it "a historic mistake" … the critics were wrong',[116] emplotting the interim step within the larger narrative of the final JCPOA deal and contrasting his vision of its success against others' accusations of failure. The sunset provisions, which allowed certain restrictions to lapse after a number of years, drew particular scrutiny from opponents of the accord, but Obama saw them 'purchasing, for 13, 14, 15 years, assurances that the

[106]Kerry, *Every Day Is Extra*, p. 495.
[107]Kerry, *Every Day Is Extra*.
[108]Lindsay, 'Stuxnet and the limits of cyber warfare'; Simpson, *US Nuclear Diplomacy with Iran*.
[109]Wendy R. Sherman, 'How we got the Iran deal'.
[110]Mark Landler, 'Obama says Iran strike is an option, but warns Israel', *New York Times* (3 March 2012), https://www.nytimes.com/2012/03/03/world/middleeast/obama-says-military-option-on-iran-not-a-bluff.html; Simpson, *US Nuclear Diplomacy with Iran*.
[111]Kerry, *Every Day Is Extra*, p. 495.
[112]Kerry, *Every Day Is Extra*, p. 495.
[113]Burns, 'An interview with Ambassador William J. Burns'.
[114]Kerry, *Every Day Is Extra*, p. 498.
[115]Kerry, *Every Day Is Extra*, p. 501.
[116]Barack Obama, 'Obama: Iran will face longer "breakout time", though not indefinitely', *NPR*, 11 August 2015, https://www.npr.org/sections/parallels/2015/08/11/431652556/obama-iran-will-face-longer-breakout-time-though-not-indefinitely.

breakout is at least a year', without removing 'the same options available to stop a weapons program as we have today'.[117] He believed this was no worse than no deal, and better for having bought time to assess, and possibly change, Iranian intentions and behaviours: 'if the breakout time is extended for 15 years and then it goes back to where it is right now, why is that a bad deal?'[118]

Subjective time perception

Obama's subjective time perception differs from linear clock/calendar-time, entailing complex and sequenced time horizons. Seeing the dynamic accelerating pace of Iran's programme both shortened his time horizon for preventing breakout and pushed him towards a sequential approach: prevent Israeli strikes to buy time in negotiations, slow Iran by agreeing domestic enrichment, then ensure compliance and monitoring in the medium term through carefully negotiating breakout time. Believing that Iran was not necessarily permanently committed to pursuing nuclear weapons allowed him to see that a solution would entail some form of a *commitment problem* that could buy time for Iran's nuclear motivations to change. This necessitated the creation of a shared and precise conception of breakout time that could link their nuclear behaviours with economic sanctions in the short term, gradually reducing them over time in exchange for Iran's compliance in slowing its nuclear activities. His administration placed a nearly unprecedented focus on breakout time during the negotiations; it was explicitly incorporated into the JCPOA agreement, was defined anew by the negotiators themselves, and was directly and intentionally linked to the relaxation or implementation of economic sanctions.[119]

Driven by the growing temporal dissonance between the persistent sanctions regime and episodic disruptions targeting Iran, on the one hand, and the growing pace of Iran's enrichment programme on the other, Obama shifted from ceaseless prevention and pre-emption – characteristic of the Bush administration's approach – to short-term containment and medium-term management, reorienting foreign policy around a different temporal understanding. Obama had constructed a new subjective time perception, one focused less on long-term resolve and more on incremental, short-term steps towards mutual commitments in the medium term. This TDoS helped define what to do (and not do), when to do it, and how to measure and assess progress and change. It also relegated the longer-term time horizon to simple calendar years, something to be dealt with later, not central to his subjective time perception around solving the Iranian problem, but which he believed would leave the US no worse off than it was before the JCPOA agreement.

Comparison

Following Oppermann and Spencer's narrative method,[120] Table 2 summarises key temporal features of the narrative reasoning by both Bush and Obama. The two leaders' TDoS differed rather significantly as they diagnosed the problem they were facing and the foreign policy initiatives they needed to take to address it. Certainly they were both focused on threats and risks around security, but examining their DoS without foregrounding time gives pride of place to the nouns of those features, each merely modified with temporal adjectives such as long-term *threats* and immediate *security risks*. But focusing instead on these temporal modifiers in predicate form reveals the *timing* driving the understanding of the problem. For Bush the threat of nuclear breakout could be *happening at any point in time*, a stopped programme can be *restarted*, and long-term insecurity both regionally and globally would be *permanent* and thus must be repeatedly pre-empted, in near perpetuity. Therefore Bush focused on long-term resolve in response to Iran's initiation of a nuclear programme, which he judged to have a key tipping point (domestic enrichment) after which it

[117] Obama, 'Obama: Iran will face longer "breakout time"'.
[118] Obama, 'Obama: Iran will face longer "breakout time"'.
[119] Beasley and Mehvar, 'Timing bombs and the temporal dynamics of Iranian nuclear security'.
[120] Oppermann and Spencer, 'Narrative analysis'.

Table 2. Bush and Obama TDoS of Iranian nuclear programme.

Narrative Features	Bush TDoS	Obama TDoS
Setting	GWoT; prevent nuclear proliferation and spread of WMD; pre-emptive and unilateral actions	End GWoT; multilateralism and engagement; reduce nuclear proliferation; withdraw from Iraq
Actors	Iran: 'Axis of Evil'; supports terrorism; long-term resolve to acquire nuclear weapons	Iran: Fatigued by sanctions; supports terrorism; seeks nuclear weapons for regional security; accelerating nuclear programme
	Israel: long-term ally; supports GWoT; long-term opposition to nuclear Iran; supports degrading Iran's programme	Israel: long-term ally; motivated by short-term security; actions undermine long-term regional security
Emplotment	'Why now?': Iran's launch of nuclear program, which can restart at any time	'Why now?': Accelerating nuclear advancement and hard-line resistance
	Temporal Dissonance: A nuclear Iran instigates regional arms race and spread of WMD	Temporal Dissonance: Sanctions failing to slow Iran's increasing pace towards nuclear breakout
	Objectives: Prevent nuclear Iran by disrupting programme and hastening regime change	Objectives: Control nuclear activity by continuing pressure but allowing limited enrichment to initiate negotiations
	Success: Contain Iran until regime change; prevent enrichment	Success: Measuring breakout time, link to sanctions; Iran abides by JCPOA
	Failure: Negotiations are delay tactic; enrichment = permanent know-how	Failure: Runaway enrichment; delaying negotiations too much
Subjective Time Perception	'Two Clocks': Temporal resolve; indefinite vigilance against enrichment and continuous pressure/pre-emption	'Breakout Time': Temporal commitment; first slow then manage accelerating nuclear programme
	Time Horizons: Long-term resolve; medium-term regime change and undermining of capabilities	Time Horizons: Short-term engagement; medium-term commitment within JCPOA framework; long-term 'sunset' provisions

would be too late, permanently changing both regional security and international nuclear proliferation. Obama was concerned with a shorter time horizon within which Iran's nuclear programme could first be slowed to prevent impending nuclear breakout and subsequently better linked to international sanctions, building the basis for commitment and buying time for Iran to moderate its ambitions and perhaps lessen its resolve to become a nuclear actor.

Existing approaches to the DoS – focusing on overarching frames like threat/opportunity or gains/losses, and emphasising causal reasoning – would struggle to account for the different approaches taken by Bush and Obama. The two presidents did not differ significantly in many of their causal understandings connecting different actors, actions, and events. For example, both had economic concerns about Iran's oil production and its capacity to affect shipping routes, and both worried that the efforts to maintain economic sanctions were causing political frictions with key allies. Both also believed Iran was causing regional disruption, arming terrorist groups, and both saw Israel as being threatened by Iranian behaviours. Their perceptions of 'threat' or 'opportunity', as overarching frames, also did not differ significantly. Bush and Obama both saw nuclear proliferation as a potential global threat, and both saw a threat posed by a nuclear Iran to regional allies. Most significantly, neither overarching framing approaches nor causal problem representation approaches in existing DoS research can provide a theoretically grounded account of these leaders' temporal perceptions, such as their perceived time horizons or the need for commitment or resolve.

The TDoS, however, showed the temporal features that were prominent for these leaders, provided detailed information about the specific 'threats' or 'opportunities' they saw, and gave us insight into the temporal bases of their different foreign policy responses, offering a better grounding for applying time-based approaches to these different leaders as they grappled with the problem

of Iran's nuclear programme. In some ways, each leader behaved consistently with predictions from work on resolve, commitment, and time horizons. We see that Bush's longer time horizon increased resolve and reduced short-term cooperation, whereas Obama's shorter time horizon led to more cooperation in the short term around negotiations, but less focus on longer-term potential conflict around sustaining commitment into the future.[121] But the TDoS framework also let us see their perceptions of time in greater complexity, such as how multiple time horizons were operating for both leaders, and how resolve as a long-term strategy related to these for Bush, while sequencing was central to Obama's efforts to construct a more precise measure of 'breakout time' to foster cooperation in the near term.

Conclusions

Scholars have identified several time-bound problems that challenge leaders and influence their choices. While centralising individuals and recognising their heterogeneity, recent examinations have not assessed how leaders subjectively perceive time within the decision-making situations they face, relying instead on more objective or linear notions of time. Drawing on Definition of the Situation research in FPA, I have theorised time as being subjectively constructed through leaders' narrative reasoning about the foreign policy decision-making situations they face. This Temporal Definition of the Situation framework avoids ascribing to decision-makers preconceived objective and linear understandings of time. Importantly, it also provides a method for assessing leaders' situation-specific subjective time perceptions. This represents a key advancement for integrating actor-specific microfoundations into our empirical investigations of time's impact on international relations and foreign policy.

The TDoS can also give us insights into the sometimes puzzling 'why now?' question around foreign policy actions, including why foreign policymakers sometimes seem to act 'too soon' or 'too late'.[122] Existing answers to the 'why now?' question often involve appealing to different factors 'lining up' at the same clock/calendar-time, offering a fortuitous situational account wherein a leader just recognises, or fails to recognise, an 'opportune moment'. The TDoS framework instead focuses on different perceptions of time, and particularly troubling temporal dissonance. The case illustration showed Obama initiating the JCPOA agreement process *when* he did because of growing temporal dissonance between Iran's advances in nuclear technology increasingly slipping against intensifying international sanctions. Not acting then would have been seen as a mistake, as it was clearly past time to change. From Bush's TDoS this would have simply been an increase in the pace of a well-understood temporal cycle, perhaps just necessitating faster responses. For Bush, pursuing negotiations would have been too soon and a lapse in resolve. The answer to 'why now?' questions is not simply the (mis)recognition of an opportune moment but is instead rooted in temporal perceptions, like Bush's perceived need to outlast Iran's resolve around obtaining nuclear weapons and Obama's temporal perception that a growing foreign policy problem was now just over the horizon and coming fast.

The TDoS also corrects for scholars' tendency to incorporate objective time into their subjective approaches to leaders by showing how time can be a variable, not just something over which decision-making happens. This in turn invites critical reflection on our understanding of temporal biases and their effects on foreign policy. For example, the 'present bias' – where people overvalue the present and hyperbolically discount the increasingly distant future – focuses on changes in the perceived *value* of outcomes at different future points in time (short or long horizons), instead of focusing on perceptions of *time itself*, such as duration ('that seems so soon'), pace ('that is coming at us fast'), or the sequence of steps towards the time horizon ('lots has to happen between now and then'). While leaders may have general, context-free tendencies to increasingly discount the

[121] See Kertzer, 'Resolve, time, and risk'; Fearon, 'Bargaining, enforcement, and international cooperation'; Fearon, 'Rationalist explanations for war'; Edelstein, *Over the Horizon*.

[122] Walker and Malici, *US Presidents and Foreign Policy Mistakes*.

value of future outcomes, they may also construct time differently within 'objectively' similar time horizons. Obama's sunset provisions in the JCPOA may have seen a 15-year time horizon as being quite distant, offering greater opportunity for Iran to change its resolve for nuclear weapons. Bush, on the other hand, might have seen the 'same' 15-years as rather soon, making a change in Iranian resolve seem less likely in such a short time. Subjective time perceptions challenge our understanding of temporal biases by pushing us to see fixed units of objective time themselves as individually variable rather than universally constant.

The TDoS has clear potential to foster integration with other approaches to the study of foreign policy. For example, beyond narratives as reasoning, narratives are also a type of foreign policy behaviour – in the form of discourses that are constructed by leaders and employed for various purposes. Narrative reasoning and narrative discourses that leaders construct are likely related, but just how remains an open question. Assessing leaders' TDoS may provide insights into their construction and use of different types of narratives as substantive elements of their foreign policies, including strategic narratives,[123] legitimising narratives,[124] security narratives,[125] war narratives,[126] and narratives of retrospective responsibility.[127] The TDoS may also help identify how temporality influences, for example, the effectiveness of narratives,[128] or the specific nature of narratives around time-sensitive foreign policy problems like climate change[129] or pandemics.[130]

Finally, a time-based conception of leaders' DoS built around narrative reasoning also fosters better theoretical integration, both within FPA and between FPA and International Relations. The TDoS, for example, links decision-makers' recognition of a foreign policy problem, their understanding of its key features, and the likely behaviours they will pursue to address it, which are decision processes FPA scholars have most often examined separately. By drawing upon timing theory, the TDoS also demonstrates our ability to bridge between Critical IR and FPA approaches, which represents a promising but underexplored area.[131] Providing a new framework for assessing the psychological microfoundations and heterogeneity of leaders, the TDoS also fosters integration between FPA and existing IR work that demonstrates the importance of time in shaping international outcomes. In these ways, by extending the original vision of the DoS with a theoretically grounded subjective conception of time as perceived by foreign policy agents, scholars are in a better position to link FPA's 'engine of theoretical integration' to wider IR approaches.[132] And it's about time.

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