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Binary Role Theory and Levels of Role Change in World Politics: When Do Leaders Make a Difference?

Abstract: The problem of understanding when and how change happens in world politics is under-conceptualized. One potential source of change for further examination is the relationship between change and the leadership of states and international institutions. The decisions and actions of leaders are an immediate source of both peaceful and violent change. A change of leaders may simply be an endogenous marker for a shift in historical forces that explain change in world politics, or leaders may be indispensable in explaining change at state and systemic levels of analysis. Are leaders the pilots or simply passengers on states caught in the tides of history? Binary role theory offers a coherent account of "role change" specified by the interactions and outcomes between leaders and historical situations, which is a more nuanced "both/and" account than a simple "either/or" answer to this question. The interactions and outcomes that model role change are first presented in the abstract terms of role theory and then illustrated with two case studies of UK-Iran and US-Iran relations.

Keywords: binary role theory, levels of role change, leadership

Introduction

Understanding the contribution of leaders to change in world politics is a more specific form of the general puzzle of understanding peaceful or violent change in world politics studied by the pioneers in economics, sociology, and biology who established the field of peace research (Boulding, 1962; Galtung and Fischer, 2013; Rapoport, 1960). The puzzle is posed in the political psychology literature as two questions by Greenstein (1969): Are the actions of political leaders (in)dispensable in understanding political outcomes? Are the personalities

of political leaders (in)dispensable in understanding their political actions? The answers to these two questions may or may not be inter-related, i.e., if personalities directly contribute to actions and actions directly contribute to outcomes, then personalities indirectly contribute to outcomes and the answers to the two questions are inter-related. Their contributions may vary in strength, ranging from being "contributing" antecedent conditions within the context of a more complex explanation of political consequents to being "necessary" or "sufficient" antecedent conditions for explaining actions and outcomes (George, 1993; Little, 1991; Goertz and Starr, 2002).

The term *(in)dispensable* refers to one (or both) of the latter two kinds of antecedent conditions (Greenstein, 1969). A contributing condition (X) is substitutable in its contribution to the explanation of consequent (Y). A necessary condition (X) is an antecedent condition that must exist for a consequent (Y) to occur; however, (Y) does not always follow (X). A sufficient condition is an antecedent condition (X) in which the consequent (Y) always occurs as a consequent. In logical terms, therefore, the dispensability of (X) in explaining (Y) varies from being dispensable (Y can occur without X), to being partly indispensable (Y cannot occur without X) to being completely indispensable (if X, then Y always occurs). It is also possible for two antecedent conditions jointly to be necessary and sufficient conditions for explaining a consequent. In the case of understanding political outcomes (Z), it may be the case that leader personalities (X) and leader actions (Y) jointly may be necessary and sufficient conditions to explain outcome (Z), i.e., if (X) and (Y), then (Z) always occurs (Little, 1991).

Which of these logical possibilities is actually the case in understanding the contribution of leaders to peaceful or violent change as a political outcome is both a logical and an empirical question. In order for any of the three logical possibilities to be plausible, it is desirable to establish them as hypotheses either by induction from empirical observations or by deduction from theoretical propositions. Establishing the logical statements as testable hypotheses requires that antecedent condition(s) and consequent(s) be explicated from specific cases or abstract concepts as constructs that vary in scaled values and are specified to covary in explicit patterns as models of actual past or potential future observations (Nunnally, 1978, pp. 94–109). Once established as testable hypotheses, the next step is to test their logic by means of further empirical observations, which may be covariations between or among antecedents and consequents for "easy", "hard", or "crucial" cases (Eckstein, 1975; Watson and McGaw, 1980; King, Keohane and Verba, 1994; George and Bennett, 2005).

The nature of these constructs and the relationships that are established between them as antecedents and consequents often provides an insight into the process that connects them. Personality theorists in the field of political psychology have identified and employed three processes as important in understanding the relationship between personality and politics: object appraisal, ego defense,

and mediation of self-other relationships (Smith, 1968; Greenstein, 1969; Post, 2003). Object appraisal focuses on cognitive contents, ego defense on personality traits, and self-other mediation on social relations (Smith, 1968). These processes may be approached separately or within the context of an over-arching theory (Walker, Malici, and Schafer, 2011; Schafer and Walker, 2021).

In the first approach there is an attempt to delimit the scope conditions in which these processes may operate as expressions of the decision maker's personality. They include "when the actor occupies a strategic location, when the situation is ambiguous or unstable, when there are no clear precedents or routine role requirements, and when spontaneous or especially effortful behavior is required. These conditions stress the importance of the context in which the actor is operating, observing that the impact of leader personality increases to the degree that the environment admits of restructuring" (Post, 2003, p. 3; see also Greenstein, 1969; Hermann, 1976; Holsti, 1976). In the foreign policy literature dealing with psychological profiles of political leaders the processes of object appraisal and ego defense are emphasized rather than the process of mediation between self and other with the significant exception of leader-advisor relations within a state (Post, 2003; see George, 1980; Hermann, 2001; Schafer and Crichlow, 2010; Preston, 2011).

In the second approach the processes of object appraisal, ego defense, and mediation of self-other relations are considered collectively and integrated within the context of a general psycho-social theory with its own scope conditions. An example of such a general theory is binary role theory, which is sufficiently comprehensive to encompass all three processes within its models even though its primary emphasis is on the mediation process between self and other (Walker, Malici, and Schafer, 2011; Walker, 2016b; Malici and Walker, 2017). Leadership is a contested concept in the context of binary role theory, which is unpacked in this paper as constituting the processes of object appraisal, ego defense, and mediation of self-other relations associated with the exercise of social power in world politics.

Binary role theory

Binary role theory is employed in this paper to address and answer the question of how leadership contributes to the understanding of role change in world politics. The interactions and outcomes that model "role change" are first presented in the abstract terms of three binary role theory models and then illustrated with two case studies of UK-Iran and US-Iran relations. The *role demands* model focuses on the structure of the situation in which states or other actors in world politics operate. Role demands are the constraints and incentives that can shape

the roles that these agents can take in their interactions with one another. Binary role theory identifies two important demands as the equal (=) or unequal (≠) distribution of power and the distribution of vital (−) or secondary (+) interests between an agent (Ego) and others (Alter) in these interactions. The distribution patterns may be symmetrical or asymmetrical power {E, A: =, =; >, <; <, >} and symmetrical {E, A: + +; − −} or asymmetrical {E, A: + −; − +} interests (Walker, Malici, and Schafer, 2011; Walker, 2013; Malici and Walker, 2017).

The *role identities* model centers on the beliefs of each agent regarding its own roles and the counter-roles of others. The agents who occupy the Ego, Alter roles are states represented by predominant leaders, single groups, or bureaucratic coalitions who are their decision units (Hermann, Hermann, and Hagan, 1989; Hermann, 2001). Binary role theory identifies two basic roles, cooperation (+) and conflict (−), which may match up as four patterns of interaction between Ego and Alter. The *role enactments* model specifies those patterns of interaction as binary valences (+ or −) between Ego and Alter, which are constituted by decisions to cooperate (+) or conflict (−) with one another and relate in one of the following patterns as {E, A: +, +; +, −; −, −; −, +} to define the situation between them. Together the three models are a recursive model of relations between structure and agents that define a social system with the exercise of social power as an emergent property or outcome (Walker, Malici, and Schafer, 2011, pp. 14–15; Malici and Walker, 2017; see also Baldwin, 2002).

The exercise of power is a manifestation of the process of *role location* between the elements (agents) as a role set in this system. As its valenced patterns of interaction occur over time, the roles of its agents evolve in the direction of conflict or cooperation or transition between conflict and cooperation. These processes of *role adaptation* and *role transition* are how binary role theory conceptualizes and specifies different levels of role change in world politics. The four basic patterns of role change in world politics within the context of binary role theory are shown in Figure 1. They are changes in the spatial and temporal relations between Ego and Alter in two directions: spatially between cooperation and conflict (role transition) and temporally between conditional and unconditional cooperation or conditional and unconditional conflict (role adaptation). The vectors in Figure 1 show these patterns for Alter at the top of Figure 1 and for Ego at the bottom of this figure.

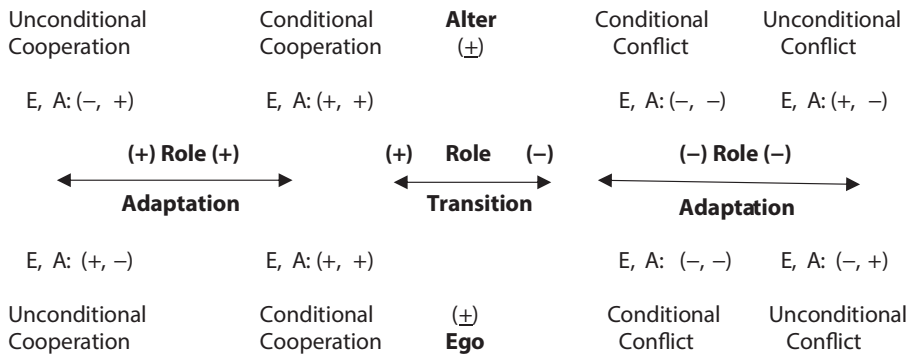

Figure 1. Role change patterns of transition & adaptation in the evolution of world politics*

* E = Ego; A = Alter; Role transition is change between cooperation (+) and conflict (–). Role adaptation is change between conditional and unconditional cooperation or conditional and unconditional conflict.

The patterns of role change in Figure 1 are the logical patterns of self-other processes of mediation possible within the context of binary role theory. Each member of an Ego/Alter role dyad can define their (E, A) relations of mutual cooperation (+, +) or submission/domination (+, –) or domination/submission (–, +) or mutual conflict (–, –) as initial, intermediate, or final states in a social system. Specifically, each member of the role dyad can choose "stay" or "move" from one of these states as an initial state over time to create intermediate states until both members choose "stay" as a final state. The entire set of these states is defined as a Strategic Interaction Episode (SIE). The set can be expanded to infinity in the absence of a termination rule that prohibits cycling and acts as a boundary for the SIE.

Brams (1994) provides such a termination rule plus rules of interaction as a Theory of Moves (TOM) for sequential ordinal games (Rapoport and Guyer, 1976), which stipulate that Ego and Alter alternate moves from an initial state until they cycle back to the initial state or both choose "stay" at a final state before cycling back to the initial state. These rules are rules of play for a 2×2 sequential game between Ego and Alter, in which players rank the four possible states between them from (4) highest to (1) lowest and base their choices to "stay" or "move" with a conditional or unconditional strategy, as shown in Figure 2. With TOM's rules of play, Brams (1994, pp. 215–219) has worked out the rational solutions to all of the possible games as final states from each initial state between Ego and Alter. TOM's solutions are algorithmic solutions in extended form to subgames within a taxonomy of 2×2 ordinal games in normal form (Rapoport and Guyer, 1976).

Binary role theory circumscribes games with contingent (conditional) or dominant (unconditional) strategies of cooperation (+) or conflict (–) for the two players. An important difference among the games in Figure 2 is that a different outcome is ranked highest in each game for Self: Game 1 ranks submission (+, –) highest; Game 2 ranks mutual cooperation (+, +) highest; Game 3 ranks mutual conflict (–, –) highest; Game 4 ranks domination (–, +) highest. These four games contain examples of different families of strategies, whose members are defined by their common ranking of the highest outcome while differing in their rankings for the remaining outcomes. Different games may illustrate different strategies of cooperation (+) or conflict (–) within each family, depending on these latter rankings, and they may also vary by each player for a given game.

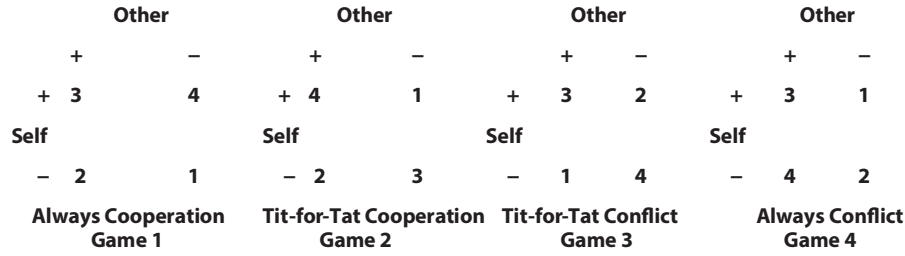

Figure 2. Examples of strategies of cooperation and conflict modeled with sequential games*

* Self's preferences for the four outcomes are ranked from highest (4) to lowest (1). The +'s and –'s represent decisions by Self and Other to choose cooperation (+) or conflict (–) while Other's preferences are not shown. Commas normally separate the intersecting preferences of Self and Other in each cell as (S, O) with Self's choice to the left and Other's choice to the right of the commas. The intersections of the (S, O) preferences construct four outcomes from their strategic interactions: mutual cooperation (+, +), submission/domination (+, –), mutual conflict (–, –), domination/submission (–, +).

An unconditional strategy of cooperation is one in which a player always chooses cooperation (+) no matter what the other player chooses, which is illustrated for Self in Figure 2. Self will always choose (+) as an unconditional strategy in Game 1, because the payoff for Self is greater (ranked higher) when Other chooses either cooperation (+) or conflict (–): if Other chooses (+), then 3 > 2 for Self; if Other chooses (–), then 4 > 1 for Self. The same logic applies for an unconditional strategy of conflict (–) by Self in Game 4: if Other chooses (+), then 4 > 3 for Self; if Other chooses (–), then 2 > 1 for Self. The two conditional strategies for Self are in Game 2 and Game 3 where Self's strategy is contingent on Other's choice of cooperation (+) or conflict (–). In Game 2: if Other chooses (+), then Self will choose (+) because 4 > 2; if Other chooses (–), Self will choose (–) because 3 > 1. The same logic applies in Game 3: if Other chooses (+), then

Self will choose (+) because 3 > 1; if Other chooses (–), then Self will choose (–) because 4 > 2.

FRIEND
Bandwagoning Strategies

Power:		**Weak**			**Equal**			**Strong**	
Interests		CO	CF		CO	CF		CO	CF
	CO	3	4	CO	2	4	CO	2	4
Secondary									
	CF	1	2	CF	1	3	CF	3	1
		CO	CF		CO	CF		CO	CF
	CO	3	4	CO	1	4	CO	1	4
Vital									
	CF	2	1	CF	2	3	CF	3	2

PARTNER
Appeasement Strategies

Power:		**Weak**			**Equal**			**Strong**	
Interests		CO	CF		CO	CF		CO	CF
	CO	4	3	CO	4	2	CO	4	2
Secondary									
	CF	1	2	CF	1	3	CF	3	1
		CO	CF		CO	CF		CO	CF
	CO	4	3	CO	4	1	CO	4	1
Vital									
	CF	2	1	CF	2	3	CF	3	2

RIVAL
Balancing Strategies

Power:		**Weak**			**Equal**			**Strong**	
Interests		CO	CF		CO	CF		CO	CF
	CO	2	3	CO	3	2	CO	1	2
Secondary									
	CF	1	4	CF	1	4	CF	3	4
		CO	CF		CO	CF		CO	CF
	CO	1	3	CO	3	1	CO	2	1
Vital									
	CF	2	4	CF	2	4	CF	3	4

ENEMY
Hegemonic Strategies

Power:		**Weak**			**Equal**			**Strong**	
Interests		CO	CF		CO	CF		CO	CF
	CO	2	3	CO	3	2	CO	1	2
Secondary									
	CF	4	1	CF	4	1	CF	4	3
		CO	CF		CO	CF		CO	CF
	CO	1	3	CO	3	1	CO	2	1
Vital									
	CF	4	2	CF	4	2	CF	4	3

Figure 3. Conditional and unconditional strategies* of role enactment for Ego as the Row player in 2 × 2 sequential games (Walker, 2013, pp. 34–42)

* The structural logic of the role enactment strategies also applies to Alter as the column player.

The expansion and application of these examples to different families of foreign policy strategies is shown in Figure 3. The bandwagoning, appeasement, balancing, and hegemonic strategies represent the enactment of different role identities, *friend*, *partner*, *rival*, and *enemy*, which either actively define or are passively conditioned by variations in power positions and national interests. These two possibilities highlight the recursive relations among the three models unified with binary role theory under different initial scope conditions, which are shown in Figure 4. Under the initial condition of a first encounter, the *role enactments model* specifies that role enactments by Ego or Alter at time t_1 *actively define* each agent's role identities at t_2 and construct indirectly at t_3 the role demands of power positions and national interests for Ego and Alter. Under the initial condition of a past encounter, the *role demands model* explains that the role enactments at t_4 are specified directly by the role identities at t_4 and also *passively conditioned* indirectly by the role demands at t_3 from the past encounter (Walker, Malici, and Schafer, 2011, pp. 248–257; Walker, 2013, pp. 34–42).

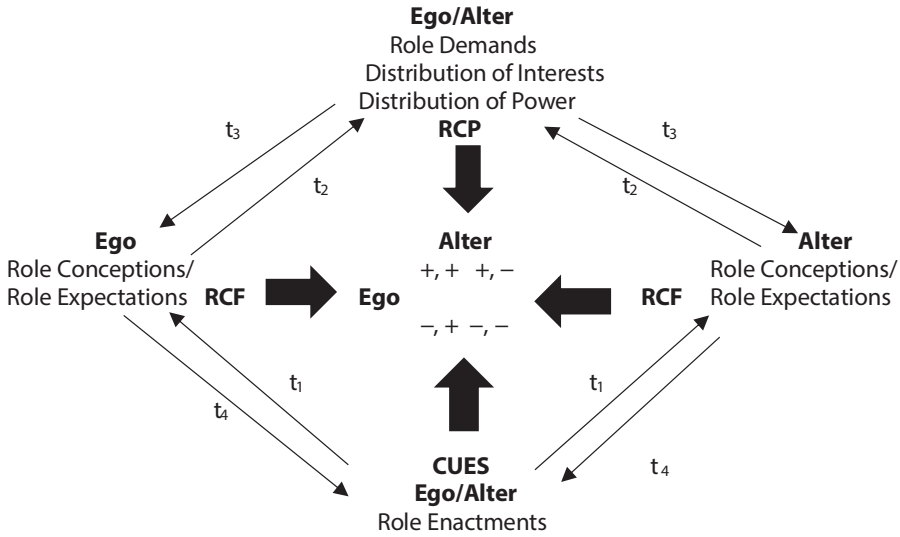

Figure 4. First encounter and past encounter models of role location

Source: Adapted from Malici and Walker (2017, p. 49). Cues: positive (+) and negative (–). Time: t_1 …. t_4. Role Conflict: RCF; Role Competition: RCP.

Exogenous shocks to the role dyad in the center of Figure 4 from the domestic or foreign environment in the form of changes in the identities of Ego or Alter (role conflicts) and changes in their respective power positions or national interests (role competitions) may interrupt and re-specify the recursive interaction of

these two models of role location over time. If the leaders of Ego or Alter change and interject new role identities into the model, the short-term effects on role enactment (what role is enacted) are specified by a *role identities model*; however, such a change at the agent level of analysis by Ego or Alter is not sufficient to explain the outcome effects on relations between Ego and Alter. It is also necessary to take account of whether the role identities of both agents change, in order to account for changes in their relations. This possibility is specified by expanding the analysis in Figure 4 to a two-sided model, in which both Ego and Alter exchange cues that together construct the 2 × 2 game model at the center of Figure 4.

The three models of binary role theory act collectively to construct one of the possible games in Figure 3, which specifies how Ego and Alter rank possible outcomes. The Theory of Moves (TOM) for 2 × 2 games by Brams (1994) identifies the conditional or unconditional strategies for how Ego and Alter can optimize their respective outcomes as payoffs for each possible game (Walker, Malici, and Schafer, 2011, pp. 245–266). Depending on the particular model of role theory that is the focus of analysis, three types of leadership are identified:

- *Passive* leadership is a role-taking pattern of role selection and enactment that is a function of the *role demands* model: role identities and role enactment are conditioned by power position and national interests as antecedent conditions. Who leads does not matter, as role demands shape foreign policy strategies in a process of structural adaptation.
- *Active* leadership is a role-making pattern of role selection and enactment that is a function of the *role identities* model: it defines the agent's role demands and role enactment as a consequence of enacting a role identity. Who leads does matter, as role identities shape strategies and also define national interests and power position.
- *Shared* leadership is an altercasting pattern of role selection and enactment that is a function of the *role enactments* model: it is governed primarily by the exchange of cues between Ego and Alter instead of by antecedent role demands or role identities. The initial conditions of Ego and Alter in this model are a superposition (±) between cooperation (+) and conflict (−), which becomes localized by their mutual interaction.

Under each of these leadership patterns roles are selected and enacted with outcomes as results.

The focal actor through which the processes of role selection and role enactment operate as a decision unit inside the state may be a predominant leader, a single group, or a coalition of multiple autonomous actors (Hermann, Hermann, and Hagan, 1989; Hermann, 2001). The absence of individual leadership, therefore, does not mean that leadership is not present but rather manifested as a pattern of shared leadership by other focal actors at other levels of analysis within and between states.

The concept of "entanglement" from quantum physics describes the mutual awareness and connectivity of social and cognitive elements leading to shared leadership patterns at the core of role theory (Busemeyer and Bruza, 2014; Walker, Malici, and Schafer, 2011, p. 15; Walker, 2016a; see also Wendt, 2015). Social roles emerge as patterns of interaction akin to the process of "decoherence" in the transition from quantum to classical physics, as each role is paired in a process of "interference" with a counter-role to constitute a role dyad (Schlosshauer, 2007; Zurek, 2014). These concepts from physics are used here to emphasize that roles are not merely causal but also constitutive constructs (Wendt, 1998; 1999).

Put another way, a social role identity requires both Self and Other to define one another in terms of the relations between them. Common examples are Teacher/Student or Father/Son role pairs, in which one role is real and intelligible only in terms of the other role (Wendt, 1999). Micro-level processes of role-making and role-taking in the form of exchanging cues constitute the macro-level processes of role location, role transition, and role adaptation plus role strain, role competition, and role conflict as socio-cognitive entanglement features of binary role theory (Malici and Walker, 2017, pp. 6–8, 39–57; Walker, Malici and Schafer, 2011, pp. 245–266).

To sum up, change in world politics can occur at several levels of analysis within the context of binary role theory. The preceding discussion has conceptualized *change* as "role change", which is a multi-level construct that refers to changes in role demands, role identities, and role enactments, as shown sequentially in Figure 4 and located at three levels of analysis: structure, agent, and interactions. Macro-structural changes are in the distributions of national interests and power while agent-level changes are in the role identities and role enactments of Ego and Alter. The interactions changes are in the matrix of interactions between Ego and Alter at the center of Figure 4, a level of analysis which Wendt (1999, pp. 147–150) references as a system's micro-structure.

The particular property of interest that is the focus in this paper is a change in a role's strategic direction, conceptualized as change in a positive (+) or a negative (–) role location along a continuum of cooperation (+) and conflict (–) and originating at one of the three levels of analysis, Leadership is conceptualized as patterns of role enactment defined as the exercise of social power, constrained passively by structure, driven actively by agents, or generated by shared interactions within a role dyad. These patterns of role change are specified and constructed as changes in the conditional and unconditional strategies of role enactment by Ego and Alter, which are identified in Figure 1, illustrated in Figure 2, specified in Figure 3, and modeled in Figure 4.

Examples of role change

The following examples of role change are extracted from case studies of 19 games in UK-Iran relations and 12 games in US-Iran relations between 1950 and 1953. The summaries of these cases illustrate patterns of passive, active, and shared leadership as sources of role adaptation and role transition in the Iran-UK and Iran-US role dyads, which constitute the principal dynamics of change in world politics identified through the lens of binary role theory. These cases are analyzed within the context of binary role theory's role enactment strategies that are identified in Figure 3 and specified with sequential game theory in Figure 4.

The results are presented here as game matrices and summary properties derived from event chronologies in public sources or historical narratives by other scholars plus statistical data retrieved from public and private statements by U.S. and Iranian leaders, which are presented at length elsewhere (Malici and Walker, 2017, pp. 59–100, 185–235). The documentary sources for the statements by state leaders for the 1951–1953 period include memoranda and telegrams authored by British and American diplomats from their respective national archives, public speeches by Iranian and American leaders, correspondence between Iranian officials and U.S. presidents. Transitive verbs from these statements by leaders describing the exercise of social power by each state were coded with the Verbs In Context System (VICS) of content analysis to construct the indices of role identities for each state (Walker, Schafer and Young, 1998; Young, 2001).

The reliability of the data retrieved from these sources is high, as the VICS coding rules are automated by a grammatical computer program (Profiler+) for identifying parts of speech and English dictionaries of relevant transitive verbs. The validity of the data is limited by the representative sample size, the logic of the VICS indices, and the relevance of the sources for the data. However, the authors of these studies note (Malici and Walker, 2017, p. 45):

> It is not necessary for these individuals [leaders] to 'really' believe the words contained in their statements. Instead, the contents of these statements represent the actionable beliefs of their respective states distilled for public expression from private thoughts and internal communications within their respective governments. […] Together these thoughts and actions represent the public presentation of self and other as the performance of social roles within a particular setting (Goffman, 1959).

The sources for the foreign policy behaviors attributed to each state are the sequence of events reported and retrieved from the *Washington Post* archives for the 1951–1953 period. These events were retrieved by providing the *Post's* search engine with key terms from the title, abstracts, and first three paragraphs of daily articles. The rules for identifying a relevant event were as follows (Malici and Walker, 2017, p. 47): "First, it had to originate from an official governmental

agent of the contending parties or, alternatively, from a non-state actor sanctioned by the government. Second, it had to be directed by one member of each dyad at the other member of the dyad". Eligible events were then recorded sequentially in chronological order and coded as positive sanctions (cooperation) or negative sanctions (conflict) with the VICS categories for the exercise of power employed in other studies (Walker, Schafer, and Young, 1998; Schafer and Walker, 2006; 2021). The following narratives of each conflict summarize the historical context for interpreting the results in the accompanying figures and tables of Iran-UK and Iran-US games.

Iran-UK Conflict. Anglo-Iranian relations following World War II were disrupted by the Iranian decision to nationalize British oil holdings in 1951. Iran's decision was prompted by the desire in Iran's public statements to adapt from a Client (weak partner) v. Patron (strong partner) role set to an equal Partner v. Partner role set in relations with Britain. Britain's public statements identified an equal Partner role for both states. The historical narratives suggested a transition to a Rebel (weak rival) v. Hegemon (strong rival) role set, based on the distributions of power and interests between the two states. These possibilities are presented in Figure 5 and are constructed from the relevant role enactment strategies in Figure 3 (Malici and Walker, 2017, pp. 74–81).

The information below each of the games in Figure 5 shows the solution paths in parentheses for Ego (Row) and Alter (Column) with each player having the next move from each cell of the games as an initial state numbered from the upper-left cell as zero to upper-right as one, lower-right as two, and lower-left as three. The numbers in brackets specify for each player whether they will choose zero (cooperation) or one (conflict) from each cell when they have the next move in the game. An analysis of the congruence between the algorithms for the Iran subjective game and the algorithms for the UK subjective game is below the two games. An algorithm is read from left to right, which corresponds to the order of the cells in the game matrix numbered from upper-left cell (0) clockwise to the lower-left cell (3). The results show that the role conception algorithm [1111] in Iran's subjective game is almost completely incongruent (C = .25), i.e., it does not match up (agree) with the corresponding role expectation [0100] for Iran in the UK subjective game except for the upper-right cell (C = 1 out of 4 = .25).

The analysis in Figure 5 shows a significant level of *role conflict* (RCF) is present for the roles of both Iran and Britain across these games with the exception of the high congruence (C = .75) between Iran's role in Iran's subjective game and the role demands game. There is less role conflict (more congruence) regarding the UK role (C = .50) when the role conception for the UK in Britain's subjective game is compared with the role expectation for the UK in Iran's subjective game. The lowest level of role conflict (RCF = .25) in Figure 5 is indicated by the highest level of congruence (C = .75) between Iran's national role

conception of Rebel and the role expectations for Rebel defined for Iran by the distributions of power and interests in the Rebel-Hegemon role dyad as role demands for Iran.

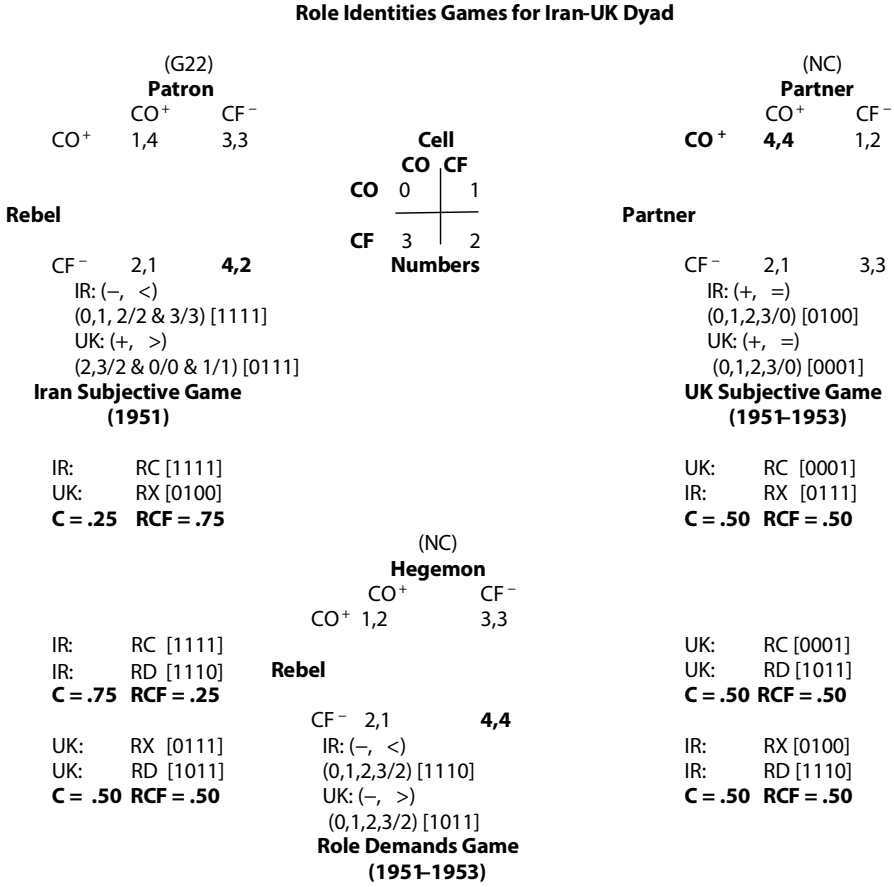

Figure 5. Formal analysis & comparisons of Iran-UK role adaptation & transition games

Source: Adapted from Figure 5.1 in Malici and Walker (2017, p. 85). Note: Iran is Row player and the UK is Column player. Brams nonmyopic equilibrium (NME) solutions are in bold. Game number and NME's are taken from Brams (1994, Appendix, pp. 215–219). A no-conflict (NC) game is where both players rank highest the same outcome. The cells in each game are numbered clockwise from 0 to 3 to calculate expected paths from each cell to an NME and are in parentheses. The binary algorithm specifies choosing "cooperate" (zero) or "conflict" (one) at each step (cell) of the paths for each agent and is in brackets. RC is role conception; RX is role expectation; RD is role demands. C is an index of Congruence, the degree to which one agent's role matches the other agent's corresponding role across games. RCF is role conflict where (RCF = 1 minus C).

The results of a behavioral analysis between March 1951 and March 1953 in Table 1 show that the best fit to describe and explain Anglo-Iranian relations during this period is the Rebel-Hegemon role demands model. In this case it appears that structural imperatives in the role demands model trumped the different role identities in the public statements of British leaders (Malici and Walker, 2017, pp. 84–92). This weak rival v. strong rival pattern of role enactment in Table 1 is robust (Mean C ≥ .70) for both the first nine and last ten of the nineteen strategic interaction episodes in the event data set of public interactions between Iran and Britain from the *Washington Post* for the March 1951 to March 1953 period (Malici and Walker, 2017, pp. 85–91).

Table 1. Congruence patterns between role adaptation or transition games & Iran-UK interactions*

	Rebel-Patron		**Partner-Partner**		**Rebel-Hegemon**	
SIEs	**Iran Subjective Game**		**Britain Subjective Game**		**Role Demands Game**	
∑C1-9	5.25	5.00	5.50	5.50	7.50	7.00
Mean	.58	.56	.61	.61	**.83**	**.77**
∑C1-4	3.00	2.00	2.00	2.50	4.00	3.50
Mean	**.75**	.50	.50	.63	**1.00**	**.88**
∑C5-9	2.25	3.00	3.50	3.00	3.50	3.25
Mean	.45	.60	**.70**	.60	**.70**	.65
∑C10-19	7.75	5.25	4.75	5.75	8.75	8.75
Mean	**.78**	.52	.48	.58	**.88**	**.88**
∑C10-14	3.75	2.50	2.75	2.50	5.00	5.00
Mean	**.75**	.50	.55	.50	**1.00**	**1.00**
∑C15-19	4.00	2.75	2.00	3.25	3.75	3.75
Mean	**.80**	.55	.40	.65	**.75**	**.75**

* N = 76 moves divided into sequences of four as 19 games or Strategic Interaction Episodes (SIEs). Robust mean congruence scores (C ≥ .70) for ego and alter are in bold. Source: Malici and Walker (2017, pp. 88–90).

Iran-US Conflict. The analysis of subjective games in the public statements by Iran and the United States in Figure 6 indicates that Iran's role conceptions shifted from Friend in 1951 to Enemy in 1953 while retaining role expectations of Partner for the United States. The US public statements attributed a role of Partner to both the USA and Iran in 1953 after characterizing Iran as a Partner and

the USA as a Rival in 1951. However, this public shift in the US role enactment pattern from Rival to Partner was accompanied by a covert US strategy of conflict, which emerged dramatically in public when a CIA-backed coup overthrew the Iranian government led by Prime Minister Mossadegh and restored the Shah's government in the summer of 1953. The outcome of the coup inaugurated a stable pattern of Client-Patron relations between Iran and the United States, which persisted until the Iranian revolution and the hostage crisis with the United States between 1979 and 1981 (Malici and Walker, 2017).

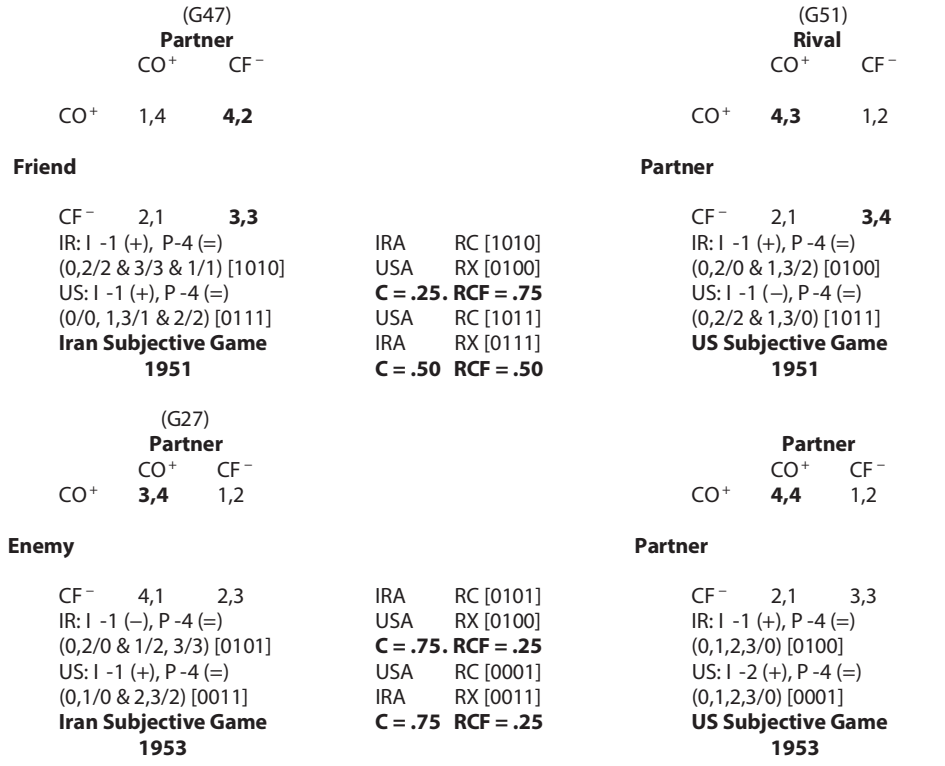

Figure 6. Formal analysis & comparisons of Iran-US role adaptation & transition games

Source: Adapted from Figure 5.3 in Malici and Walker (2017, p. 93). Note: Iran is Row player and the US is Column player. Brams nonmyopic equilibrium (NME) solutions are in bold. Game numbers and NME's are taken from Brams (1994, pp. 215–219). The cells in each game are numbered clockwise from 0 (upper left) to 3 (lower left) in parentheses to calculate expected paths from each cell to an NME. The binary algorithms in brackets specify choosing cooperation (0) or conflict (1) at each step (cell) of the path for each agent. RC is role conception and RX is role expectation. C is an index of congruence, the degree to which one agent's role conception matches the other agent's role expectation. RCF is role conflict where (RCF = 1 minus C).

The congruence scores of four models of Iran-US relations are in Table 2. The algorithms predicted by the Partner-Partner subjective game in US public statements are congruent (match up) with the average algorithms of the strategic interaction episodes between them (Mean C ≥ .75) for 1953, reaching a peak of (C = .88) for the Iran role and (C = .92) for the US role in the first six strategic interaction episodes before falling to C = .58 for Iran and C = .63 for the US in the last six episodes. This decline in congruence (C) for the last six episodes indicates an increase in role conflict (RCF) that is consistent with the covert U.S. strategy of conflict and foreshadows the subsequent coup against the Shah's regime backed by the CIA. The congruence scores for the other three role identities models of Iran-US relations are relatively low except for the Enemy role identity enacted by Iran as the Row player during the second six episodes for the Enemy-Partner role set in 1953 and the Partner role by Iran as the Row player during the first six episodes of the Partner-Rival role set in 1951. The remaining low congruence scores in 1951 indicate both Iran and the USA experienced high levels of role conflict during most of their strategic interaction episodes in 1951.

Table 2. Congruence patterns between role adaptation or transition games & Iran-US interactions*

	Iran Subjective Game				**U.S. Subjective Game**			
	1951		**1953**		**1951**		**1953**	
SISs	**Friend**	**Partner**	**Enemy**	**Partner**	**Partner**	**Rival**	**Partner**	**Partner**
∑C1-12	3.50	4.00	8.25	7.25	9.00	5.75	8.75	9.25
Mean	.29	.33	.69	.60	**.75**	.48	**.73**	**.77**
∑C1-6	2.00	2.50	4.00	4.00	5.25	2.50	5.25	5.50
Mean	.33	.42	.67	.67	**.88**	.42	**.88**	**.92**
∑C7-12	1.50	1.50	4.25	3.25	3.75	3.25	3.50	3.75
Mean	.25	.25	**.71**	.54	.63	.54	.58	.63

* N =48 moves divided into sequences of four as 12 games or Strategic Interaction Episodes (SIEs). Robust mean congruence scores (C ≥ .70) for ego and alter are in bold. Source: Malici and Walker (2017, pp. 95–97). Some of these scores are corrections of errors in Table 5.5 on page 95.

Conclusion

The cases of role enactment in the Iran-UK and Iran-US role dyads during the conflict over the nationalization of Iranian oil illustrate some important patterns of leadership and change in world politics. They suggest how and when

leadership made a difference in the direction and degree of change in the relations between Ego and Alter in these role sets. The employment of formal models from sequential game theory to specify the enactment of roles permits process-tracing the strategic interactions that generated changes in strategies by Ego and Alter, conceptualized as role adaptation and role transition (George and Bennett, 2005; Malici and Walker, 2017). These formal models also allow inferences about the degree of congruence between patterns of role enactment by Ego and Alter and their role identities or the role demands that constrain the selection and enactment of roles.

The Rebel-Hegemon role demands model provides the best fit for the pattern of strategic interactions between Iran and Britain. This version suggests a pattern of *passive leadership* by both governments, in which their respective actions are primarily responses to environmental constraints in tracing the process of role transition between them from a Client-Patron to a Rebel-Hegemon role set and explaining the outcome as a corresponding change in their relations from mutual cooperation to mutual conflict. However, the timing of the change in their relations is explained by a change in Iran to *active leadership* following World War II in the form of a change in role identities from Client (+) to Rebel (–) in their public statements and a behavioral shift in role enactment from cooperation (+) to conflict (–) regarding the oil nationalization issue. The British role identity also adapted from Patron to Partner in their public statements; however, the pattern of interactions between Iran and Britain fit the predictions of the Rebel-Hegemon role demands model better than either the Rebel-Patron model in Iran's public statements or the Partner-Partner model in UK public statements, and even the Rebel-Partner model inferred from each member's role identities for Self.

Even though Iran's leadership pattern was relatively active in transitioning its role identity from Client to Rebel and the UK's role identity adapted from Patron to Partner, their continued mutual specification of vital national interests as role demands did not re-structure the environment sufficiently to permit a peaceful pattern of role adaptation from a Client-Patron to a Partner-Partner role dyad. The strategic interactions between Iran's dominant (unconditional) strategy versus the UK's contingent (conditional) strategy in a Rebel-Partner role set were indispensable as joint sufficient conditions to prevent an outcome of mutual cooperation and limited the solutions to domination/submission or mutual conflict, as shown by the analysis of the Rebel-Partner role set in Figure 7.

	Hegemon			Partner		
		CO $^{+}$	**CF** $^{-}$	(G20)	**CO** $^{+}$	**CF** $^{-}$
	CO $^{+}$	1,2	3,3	**CO** $^{+}$	1,4	3,2
Rebel				**Rebel**		
	CF $^{-}$	2,1	**4,4**	**CF** $^{-}$	2,1	**4,3**
	Macro-level Process Role Demands Model			**Micro-level Process Role Identities Model**		
	IR: (–, <) [1110] (0,1,2,3/2)			IR: (–, <) [1111] (0,1,2/2 & 3/3)		
	UK: (–, >) [1011] (0,1,2,3/2)			UK: (+, =) [0011] (0/0 & 1,2,3/2)		

Congruence	**Iran**	**Britain**	**Iran**	**Britain**
∑ 1-19	16.25	15.75	13.25	13.00
Mean C	**.88**	**.83**	.69	.68
∑ 1-9	7.50	7.00	5.25	6.25
Mean C	**.83**	**.78**	.58	.69
∑ 10-19	8.75	8.75	8.00	7.00
Mean C	**.87**	**.87**	**.80**	**.70**

Figure 7. Comparisons of fit for Iran-UK role demands & role identities models*

* Dominant strategies underlined. Non-myopic solutions (NME's) in bold; C = Congruence.

No matter which action the UK chooses in Figure 7, Iran always chooses conflict (–), leading either to a domination/submission (–, +) or a mutual conflict (–, –) outcome. In this case the logics of the past encounter model of role demands and the first encounter model of role identities show that an exogenous change in the form of the change in Iran's leadership does not always result in a change in outcomes even though there is a change in role enactment. It is an example of supervenience, in which the logic of the role demands model at a higher (systemic) level of analysis supervenes as an explanation when the same outcome is generated by the logic of the role identities model at the lower (agent) level of analysis (Walker, Malici, and Schafer, 2011, pp. 27–29; Little, 1991, pp. 190–195).

This case is thereby also an instance of equifinality in which neither model is endogenous with respect to the other, as role demands do not predict role identities and neither do role identities predict role demands. They are simply two paths to the same outcome from different levels of analysis (Walker, Malici, and Schafer, 2011, pp. 27–29; George and Bennett, 2005). Within the theoretical context of binary role theory, the role identities of Iran and Britain are instances of *shared leadership* and action indispensability, in which the enactment patterns of their roles are together sufficient conditions to explain the outcome of mutual conflict predicted at the agent level of analysis by the role identities model.

Both the micro-processes model at the agent level of analysis and the macro-processes model at the systemic level of analysis are theoretically cogent (internally coherent) explanations of the same phenomenon (mutual conflict as an outcome); however, they are not both valid empirically to the same degree. The congruence (fit) in Figure 7 between these models and the actual enactment of roles by each agent is higher for the role demands model (C = .88 Iran and .83 UK) than for the role identities model (C = .69 Iran and .68 UK) in the nineteen strategic interaction episodes between Iran and Britain between 1950 and 1953.

In contrast to the Iran-UK dyad, the history of past encounters between Iran and the United States is relatively sparse. Individual Americans played important parts as private citizens in Iranian history during the early 20th century (Malici and Walker, 2017, pp. 22–32), but relations between the two governments were relatively absent until after World War II. The first encounter between them enacted by the two countries during the cold war was a Partner-Partner role set in 1951, which was reflected by the role identities in the public statements from Iranian leaders but not reflected by the public statements of US leaders until 1953 (Malici and Walker, 2017, p. 78). As we have already seen in Figure 6, Iran's public statements showed by then that the role identity for Iran had transitioned from Friend to Enemy while maintaining a Partner role expectation for the United States.

This role transition appears to be an instance of altercasting by Iran in two stages, as shown earlier in Table 2. In the first stage (Episodes 1–6), Iran's enactment of a Partner role for Iran was successful by 1953 in casting the US as Alter into a Partner counter-role. In the second stage (Episodes 7–12), Iran's enactment of an Enemy role was ultimately successful in casting the US as Alter from a Partner into an Enemy counter-role, as evidenced by the planning and execution of a coup against Iran's government with support by the CIA. This role transition did not show up in the public interactions between Iran and the United States, however, as the fit between the Enemy-Enemy role enactment model's predictions and the actual role enactment patterns during the last six episodes (not shown in Table 2) was relatively poor (C = .63 for Iran and .33 for US). Examination of the roles enacted for these six episodes reveals an oscillation between Patron and Hegemon for Iran's role and a relatively consistent pattern of cooperation (+) roles enacted by the US in five of the six episodes until the coup in the 13th episode as an end game revealed a role enactment pattern of Rebel for Iran and Rival for the US (Malici and Walker, 2017, pp. 98–99).

The volatile pattern that characterized Iran-US relations in 1953 highlights the recursive nature of Ego-Alter relations in this case where a member of the role dyad may engage in role-making while the other member engages in role-taking. If Ego's role changes (role-making) and Alter responds, the response may be either a counter-role that complements Ego's role (role-taking) or a counter-role that does not complement it (counter role-making). The strategy of

role-making is an altercasting strategy in which one member of the dyad attempts: either to cast the other member into an identical or a complementary role: or to resist the other member's alter-casting strategy. Role pairs in binary role theory may share symmetrical (+, + or –, –) or asymmetrical (+, – or –, +) identities, e.g., Partner (+, +) or Rival (–, –); Friend (+, –) or Enemy (–, +) with either symmetrical (=) or asymmetrical (≠) power relations and national interests (Malici and Walker, 2017).

In conclusion, this paper has focused on the leadership of states as one potential source of change in world politics. Binary role theory is an information processing theory that recognizes that the passive, active and shared actions of leaders are immediate sources of both peaceful and violent change. Passive leadership may simply be an endogenous marker for historical forces that explain continuity and change in world politics, or active leadership may be indispensable in explaining change at state and systemic levels of analysis. When are leaders the pilots or simply the passengers on states caught in the tides of history? Binary role theory answers this question with the specification of models that represent different historical situations and different types of leaders. It provides a logically exhaustive and mutually exclusive set of such models and the possible historical outcomes of cooperation and conflict derived from them. These models offer a theoretically coherent and empirically valid analysis of the interactions between leaders and historical situations, which is a more nuanced, "both/and" account of shared leadership than a simple, "either/or" answer of passive or active leadership to this question.

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