

Research Handbook on Analytical Sociology

Edited by

Gianluca Manzo

Professor of Sociology, Sorbonne University, France

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14. Contingency and randomness: a modal approach

Ivan Ermakoff

INTRODUCTION

Causal arguments in social sciences cannot dispense with a positive understanding of contingency. That is, they cannot avoid objectifying the defining characteristics and properties of the mode of causality they label “contingent.” Failing to do so opens the door to muddled exchanges and dialogues of the deaf regarding the etiology of the phenomena we seek to explain.

The difficulty though is that statements that invoke contingency are all over the place in terms of suggested meanings. The lexical associations that trail the predicate “contingent” range from “variable” to “indeterminate,” “accidental,” “nonlinear” and “exogenous” among others. In these conditions, getting oriented is a challenge. Even more troubling, these pointers do not form a *prima facie* coherent picture. How could “variable” be on a par with “indeterminate”? What could be the connection between “nonlinear” and “exogenous”? Given this mind-boggling and, at times, contradictory flurry of meanings, it is tempting to conclude that the maze has no exit and that a disclaimer should read: “Abandon hope all ye who enter here.”

With respect to analytical sociology, the matter is of importance for at least three reasons. First, figuring out what we mean when we name a referent “contingent” serves the “quest for clarity and precision” that, although not distinctive of analytical sociology, is one of its regulative principles (Hedström 2005, pp. 3–4; Manzo 2014, pp. 10–11). Second, while proponents of the analytical sociology research program advance claims that presume a positive understanding of contingency, they leave its empirical content either pending or open to various interpretations (e.g. “the lack of determinism” in Boudon 1986, p. 181; “indeterminate triggers” in Elster 1998, pp. 46, 50; “noise” in Macy and Tsvetkova 2015, p. 30). Third, the call for analytical specificity that underlies the notion of “mechanism” ultimately pertains to the effectuation of change. Clarifying the modes whereby change is effectuated is precisely the whole point of spelling out the empirics of contingency, as I shall argue in the last section of this chapter.

To grasp the nettle and figure a way out of the semantic maze noted above, we need a method. This chapter starts by acknowledging the flurry of semantic correlates that can be culled from contingency claims (Section I). Diffuse notions usually surround themselves with a retinue of surrogates. “Contingency” is no exception. Once this list of possible meanings has been couched down, Section II proposes a way to map them out by demarcating usages: nominalist versus realist, methodological versus substantive and symptomatic versus ontological meanings. These contrasted pairs form a multi-layered classification grid. Methodological and substantive usages denote a realist understanding. Symptomatic and ontological designations are substantive in character. Distinguishing these semantic registers helps overcome blatant inconsistencies.

For the purpose of examining which ones of these categories, if any, put us on the track of an empirical understanding, Section III narrows the focus down on categories that aim to have

ontological meaning. A concept worthy of social scientific status should be able to disclose its empirical credentials. Otherwise, it remains open to imputations of various kinds and has the epistemic status of a Rorschach blot. For an empirical concept to be duly specified, two requirements have to be fulfilled. We should be able to trace empirically the referent in light of observable markers (traceability requirement), and we should be able to differentiate this referent from cognate phenomena that have a family resemblance (differentiation requirement) (Ermakoff 2017, p. 130).

This work of analytical and empirical specification brings into relief two basic modes of indeterminacy (Sections IV and V). One is the causal indeterminacy of coincidences, which for reasons that will become clearer in Section IV this chapter designates as “Cournot contingency.” The other is the indeterminacy of open-ended conjunctures (“open contingency”) (Section V). Cournot contingency rests on a clause of causal independence that encompasses chance happenings in the singular (happenstance) and the plural (random variation). Open contingency takes shape through different configurations. This chapter considers three of them: (1) “possible deflagrations” characterize situations susceptible to sudden, collective and chain-like shifts in behavior (“cascades”) on multiple scales; (2) “evolutionary indeterminate conjunctures” designate conjunctures in which different path-dependent dynamics can take shape; and (3) situations of “collective irresolution” are open to contrasted group stances.

Since one of the motivations for being analytically specific is to enhance our ability to ground empirically the concepts we use and, in so doing, expose them to refutation, Section VI addresses the issue of how we can validate, or refute, contingency claims. Unsurprisingly, the task is different depending on the type of contingency we are considering. We gauge the contingency of a single happening by examining the extent to which the sequences that make up its occurrence are causally independent. In a congruent fashion, we assess randomness by examining the causal independence of multiple occurrences. Gauging the contingency of open-ended conjunctures requires documenting the processes that make these conjunctures indeterminate with regard to their outcome: the emergence of threshold distributions susceptible to chain reactions (possible deflagrations), random interactions in a context of positive feedback processes (evolutionary indeterminate conjunctures) and the emergence of a decisional challenge (collective irresolution).

Armed with these leads, the last section examines how a modal understanding of contingency, that is, a conception of contingency as comprising different modes of indeterminacy, helps us investigate social change. The focus is on three venues whereby contingency makes its way in the realm of socio-historical processes: incidental agency, random interactions, and critical challenges. “Incidental agency” points to the collective impact of contingent alterations of individual action capacities. “Random interactions” affect collective dynamics in different ways depending on whether they mold initial conditions, trigger chain reactions, or induce a shift in interactional patterns. “Critical challenges” draw attention to the bracketing of structural determinations and the possibility of breaks in causal patterns.

In the course of probing the empirical meaning of contingency, the following considerations will draw on three interrelated concepts: action system, sequence and conjuncture. An action system describes how a set of actors engage one another through their action. Delineating an action system thus implies identifying (1) which actors relate to the same decisional stake and (2) the configuration of relations through which they engage one another (e.g. conflictual, competitive cooperative or hierarchical). The notion of an action system is broader than the notion of a field insofar as it does not exclusively presume that actors are engaged in competitive

relationships and that they share an understanding of rules and norms. A sequence designates the successive moments punctuating the evolution of an action system. A “conjuncture” captures how the members of a group experience the action system in which they take part. This experience can be heterogeneous. It is nonetheless presumed to be temporally uniform for each group member. A shift in subjective experience for some or all group members means a shift in conjuncture.

1. SEMANTIC MOTLEY

Statements of contingency abound. Most are assertoric: they contend themselves to asserting contingency without further ado. The assertion suffers no contest and grants itself *prima facie* validity. Some statements sketch contingency by reference to what it is not. In their grand scheme of things the notion is residual. In contra distinction with these two classes of statements, the repertoire of meanings presented below draws on formulations from which *volens nolens* we can infer some semantic imputation either because these formulations point to presumed semantic correlates—they bet so to speak on a meaning taking shape through lexical associations—or because they harness the notion to an explicit definition. The purpose of this repertoire is to survey the range of meanings that contingency statements have grafted upon the notion. As shorthand, I designate each semantic category by the adjective that best captures its meaning given the quotes at hand.¹

Accidental/Fortuitous. “If Napoleon at an early stage in his career had been killed by a meteorite, that would have been the purest of pure contingencies” (Bury 1930, p. 67). Contingency in this case denotes the outcome of chance (Brucker 2001, p. 1). The crux of the parable of Cleopatra’s nose is that “history is, by and large, a chapter of accidents, a series of events determined by chance coincidences and attributable only to the most casual cases” (Carr 1963, p. 128).

Agentic. “History is filled with turning points which have resolved around the life, sanity or decisions of one or two individuals” (Leff 1969, p. 52). “[The] element of indeterminacy in human conduct makes contingency inseparable from history” (*ibid.*, p. 54). Key to this conception is the reference to the role played by some individual actors: through their actions, failures, lapses or absences, these individuals crucially shape historical developments. “Contingent happenings are subject to the vagaries of human will” (Sewell 2005, p. 197).

Conditional. “The event’s exact unfolding ... is contingent on the precise actions constituting the event” (Griffin and Ragin 1994, p. 16). Contingency implies dependence on antecedents. Along these lines Coleman (1966) defines “the problem of contingency” as the problem of figuring out whether rational and self-interested actors will make their actions “contingent on the participation of others” (p. 616).

Conjunctural. “In sharp contrast to critical realism, theoretical realism deploys its causal entities within general covering laws and abhors conjunctural causation or contingency” (Steinmetz 1998, p. 173). “Contingency here means that complex events are codetermined

¹ While this repertoire aims to cover as much ground as possible, aiming for an exhaustive list would most likely be a vain enterprise given the looseness of the categories mentioned here and there.

by constellations of causal mechanisms” (ibid., p. 177). This understanding goes against a conception of causality in terms of law-like generalizations.

Correlated. “I term any measure of the total deviation of the classification from independent probability a measure of its contingency. Clearly, the greater the contingency, the greater must be the amount of association or of correlations between the two attributes” (Pearson 1904, pp. 5–6). Contingency denotes a relationship of numerical association indicating a departure from the assumption of probability independence.

Discrepant amplitudes. “[Contingency] is a feature of political life in settings where self-reinforcing processes are at work. Relatively small events, if occurring at the right moment, can have large and enduring consequences” (Pierson 2004, p. 44). Undergirding this meaning is an observation about a difference in between cause and effects. Small happenings (e.g. individual moves, accidents, lapses, misunderstandings) have big repercussions.

Exogenous. In “moments of contingency ... unpredictable or exogenous events channel history in new directions” (Haydu 2010, p. 31). Contingency designates what is outside a domain of empirical investigation. For instance, Haydu (2010) refers to “war and political mayhem” as “contingent sources of revolution” (p. 37).

Indeterminate. “The event is a contingent happening because it did not have to happen as it did” (Griffin and Ragin 1994, p. 16). The contingent designates the property of what could not have been or what could have been otherwise. For instance, “in Event Structure Analysis, events are conceptualized as causally indeterminate contingent happenings, in that they did not have to unfold as they did” (Griffin and Korstad 1995, p. 449).

Nonlinear. “Temporal process models” [need to be] “sensitive to forms of historically contingent change in the form of nonlinear relations” (Isaac et al. 1994, p. 139). Accordingly, the analysis of contingency focuses on “nonlinear historical process through time” (ibid., p. 115).

Open-ended. “Insofar as the members of the group under challenge make their choices conditional on one another’s and realize that they face the same uncertainty, the collective conjuncture is open-ended. It can go one way or another.... This analysis spells out the notion of historical contingency” (Ermakoff 2010, p. 106).

Residual. “In the actual practice of research, social analysts will consider an event to be contingent when its explanation appears to fall outside of existing scientific theory” (Mahoney 2000, p. 514). The contingent is what analysts define as unaccountable given the theory on which they rely. Ertman (1997) draws on this meaning to account for the two cases that deviate from his theory of European state formation (“In both [Sweden and Denmark] powerful contingent events conspired to confound expected paths of development”, p. 33).

Unnecessary/Undirected. “Genocide is a contingent outcome, not the inevitable result of the world historical developments [Mann] emphasizes” (Straus 2007, p. 488). No inherent necessity is under way (Hawthorne 1991, p. 14). The sequence of happenings does not follow a logic that can be spelled out before its advent.

Unpredictable/Unforeseeable. “[I stressed] the paramount importance to history of ... contingent, essentially unforeseeable events—whether of the sort we commonly attribute to chance or of the sort that displays genuine originality, inventiveness, initiative” (Gallie 1964, p. 103).

Variable. “Contingency and variable are but different terms for the compositional elements of an emerging event” (Porter 1981, p. 39). “Contingent determination appears as historical variability in a parameter regime displaying a variety of possible patterns” (Isaac et al. 1994, p. 116).

2. CLASSIFICATION GRID

This survey of possible meanings is at once perplexing and telling: semantically, “contingency” is all over the place. Polysemy prevails. Equally perplexing: there is no obvious thread, no apparent semantic pattern, connecting the dots. These have a composite character. Some categories play a consonant tune (e.g. “conditioned,” “variable” and “conjunctural”). Others have no apparent connection. “Conditional” and “indeterminate” for instance form an odd couple since the relationship between an effect and the antecedent that conditions this effect can be determinative. If so, it is unclear how “conditional” could go along with “indeterminate.” Still other categories appear to be incompatible like magnets repelling one another (e.g. “indeterminate” and “correlated”).²

Can we discern some logic underneath the jumble? To order the tapestry (or the jigsaw puzzle, depending on the metaphor of choice), I consider three dichotomies. The first contrasts a nominalist representation, which portrays contingency as the residual of a theory or a framework, with a realist conception that assumes characteristics independent of theory. Focusing on realist conceptions, the second dichotomy draws a boundary between a methodological and a substantive understanding. The third dichotomy sorts out statements that aim to provide substantive meaning into two classes: symptomatic and ontological (Figure 14.1).

2.1 Nominal versus Real

A nominalist usage of contingency apprehends it as residual and relative. Cast in this mold, the notion basically designates what remains unexplained. See for instance the following statement: “a contingent event is therefore an occurrence that was not expected to take place given certain theoretical understandings of how causal processes work” (Mahoney 2000, p.513). This approach to contingency suffers from two redhibitory defects. First, since it makes the content of the notion relative to the choice of a “certain theoretical understanding,” it also makes this content variable. What is contingent by reference to one theory may not be by reference to another. Down the line, the meaning of contingency is evanescent. “Although the outcome is potentially consistent with the predictions of other theories not examined, the analyst deemed it to be contingent because its occurrence directly challenges the specific theoretical framework of interest” (*ibid.*, p. 514). Vagueness is the order of the day.

Second, as nominalist usages are put to work, they reveal themselves to be incoherent. When Mahoney (2000) states: “institutions ... are especially capable of seizing opportunities provided by contingent events” (p.515) or “contingent events select institution” (p.519), he assumes a class of events that can be deemed “contingent” because of the properties they display not because of the theory taken as reference. This implicit realist understanding in nominalist usages is not an occasional lapse. See for instance: “path dependence ... involves both tracing a given outcome back to a particular set of historical events, and showing how those events are themselves contingent occurrences that cannot be explained on the basis of prior historical conditions” (Mahoney 2000, pp.507–8). To say that “contingent occur-

² The present diagnosis is in line with Schedler’s (2007) claim that “contingency inhabits a somewhat disorderly semantic field” (p. 54) and Ballinger’s (2013, pp. 48–50) remarks about the confusions generated by the multiplicity of meanings attached to the notion.

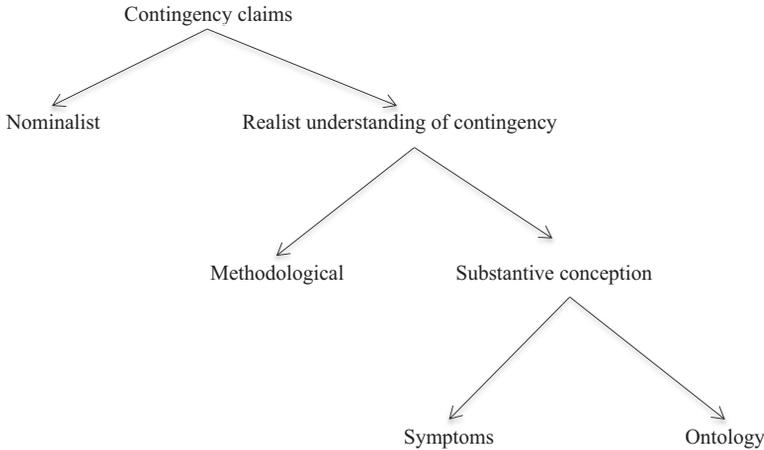


Figure 14.1 *Contingency claims: epistemic registers*

rences ... cannot be explained on the basis of prior historical conditions” makes the predicate “contingent” independent of the choice of a theoretical framework. The imputation is a realist one.³

We should therefore beware of nominalist usages and categories that lend themselves to an interpretation in terms of residuals. The repertoire outlined in Section I lists three categories that run that risk: “conjunctural, exogenous and unpredictable.” There is always the possibility of labeling “conjunctural” or “exogenous” factors and events that a theory does not predict, and to invoke this predicate as another name for ignorance and imperfect knowledge. Similarly, “unpredictable” easily falls on the side of a nominalist understanding. Claims of unpredictability then become relative.

If contingency is to have any positive meaning, we should, therefore, aim at harnessing “conjunctural, exogenous and unpredictable” to a realist understanding of contingency, that is, an understanding premised on what could be called a clause of epistemic independence: the empirical content of the category is independent of the conceptual act that states it (Grafstein 1988, pp. 12–14). “To be a realist at all [means] assign[ing] mind-independent status to elements of the world” (Somers 1998, p. 744).

2.2 Methodological versus Substantive

Among the realist usages of “contingency,” a distinction can be made between methodological and substantive statements. Methodological statements use the predicate “contingent” to denote a relationship of association. This usage—embodied in the “correlated” category—draws attention to a type of variation that might reveal a relation of dependence. Pearson (1904, p. 5) makes such an understanding explicit when for the purpose of analyzing

³ Also surprising is the looseness with which the article outlines the theoretical yardstick by reference to which an outcome can be labeled contingent: “theory” (p. 513), “certain theoretical understanding” (p. 513), “one or more explanatory theories” (p. 513), “existing scientific theory” (p. 514), and “prevailing social theories” (p. 514).

cross-tabulated data, he defines contingency as deviation from the assumption of probability independence.

While methodological statements uncover a relationship of association among variables, substantive statements refer to a mode of causality. Events deemed contingent in a substantive sense are assumed to come about in a way that belies the assumptions built in models of causal invariants and uniformities. Substantive and methodological references to contingency are at loggerheads. The methodological usage starts with deviations from the independence assumption in order to assess a possible pattern of association among variables. The purpose of this assessment is to probe and specify an explanatory model. By contrast, contingency statements understood in a substantive sense presume the irrelevance of such models. They state, posit, or conclude that we cannot predict outcomes on the basis of the patterns of association that the methodological conception labors.

The methodological/substantive distinction proves helpful when we seek to clarify the epistemic status of the “conditional” and “variable” categories. Taken at face value, these are ubiquitous categories. We would be hard-pressed to identify a social or historical process that is *not* at some stage conditional on another. The same remark holds for variation: a lack of variation is but the artefact of data censorship. Interpreted in a substantive sense, these categories are devoid of content. Being ubiquitous, they add nothing to our understanding of contingency as a predicate of events, processes or conjunctures. We get around this elusiveness if we anchor “conditional” and “variable” in the methodological camp (Figure 14.2). This qualification has the additional advantage of resolving the inconsistency noted between “conditional” and “indeterminate.” If we interpret “conditional” in a methodological sense

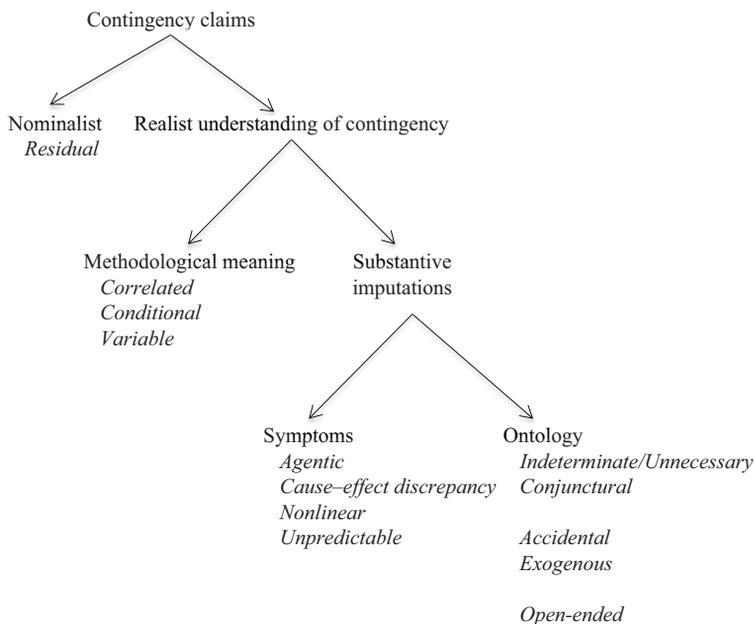


Figure 14.2 Categories of meaning sorted out by epistemic registers (the semantic correlates listed in Section 1 are in italics)

and “indeterminate” in a substantive one, these two categories belong to different epistemic registers. As such, they no longer contradict each other.

2.3 Symptomatic

Our focus will therefore be on statements and categories that purport to have substantive meaning. We cannot hope to substantiate the empirical content of contingency unless we investigate semantic affiliates that aim to shed light on properties from a realist standpoint. Having made this point, it does not take long to realize that several substantive categories (“agentic, discrepant, nonlinear and unpredictable”) are compatible with a deterministic reading as much as they are with claims of indeterminacy. These categories are thus semantically ambiguous.

Consider the reference to individual agency. More often than not, individual actions fit highly predictable patterns and give credence to the hypotheses that they are causally driven. Instances of that kind belie Leff’s (1969, p. 54) and Hawthorne’s (1991, p. 14) assertion that human agency is fundamentally indeterminate.⁴ The matter is actually undecidable. Reflecting on the ways in which “individual ends are formed and pursued,” Goldthorpe (2016) observes that “they are socioculturally structured to some extent” and yet may represent “the ultimate indeterminism in human social life” (p. 25).

Congruent remarks apply to semantic correlates such as “cause-effect discrepancy” and “nonlinear.” Both notions are key for instance to chaos theory: the chaotic behavior of a system displays “acute sensitive dependence” on initial conditions and nonlinearity (Richards 1997, p. 111; Brown 1997, pp. 53–4). Yet, as formal theorists of chaotic processes have underscored, nonlinearity does *not* imply a lack of deterministic processes (Thom 1983, p. 16; Ruelle 1991, p. 45). Nor does the fact of being unpredictable, or unforeseeable, imply indeterminacy (Grafstein 1988, pp. 12, 14; Fearon 1996, p. 42 citing Wolfram 1984, p. 32).

Given these ambiguities, what shall we make of these categories? Obviously, they cannot pretend to capture intrinsic properties. That is, they cannot pretend to have ontological meaning. On the other hand, they may have the significance of conditional symptoms. For instance, a single action’s ability to generate large-scale behavioral changes can be symptomatic of relational configurations liable to chance happenings. Changes in the “magnitudes of causal relations” across time may indicate breaks in causal patterns (Isaac and Griffin 1989, pp. 879–80; Isaac et al. 1994, p. 116).⁵ Unpredictability for its part may reflect the cumulative impact of random factors.

3. ONTOLOGICAL CLAIMS

Our primary focus should therefore be on six categories: “accidental, conjunctural, exogenous, indeterminate, open-ended, and unnecessary” (Figure 14.2). Do these categories help us identify contingency as “a property peculiar to certain processes” (Boudon 1986, p. 181)? From a

⁴ On this point, Spinoza’s disclaimer regarding the notion of “free will” comes to mind: we are all the more likely to view ourselves as free when we are conscious of our desires and ignorant of the causes that determine us (Letter LVIII to Schuler, no date) (Spinoza 1966, p. 302).

⁵ “The [backward moving covariance] procedure, used to assess the temporal stability of time-series estimates and to establish “shift” or “break” points in series, persuasively shows the historically contingent nature of these relationships” (Isaac and Griffin 1989, p. 879).

realist and ontological standpoint, we designate as contingent what happened but could have not happened, as well as what did not happen but could have happened (Bouveresse 1993, p. 127).⁶ In so doing we invoke a mode of causality, that is, a way whereby outcomes and processes come about or get produced, or fail to get produced. And we place at the helm of this mode the commandeering and formidable claim of indeterminacy: contingent phenomena are *somehow* indeterminate. The challenge lies in delineating what lurks behind this *somehow*. Among the six substantive categories just mentioned, “indeterminate” and “unnecessary,” which are interchangeable, have the status of conceptual explananda and question marks. These are the categories in need of empirical specification.

“Conjunctural” hardly helps us on this front. Causation is deemed “conjunctural” when it involves unique and variable “constellations” of factors” (Steinmetz 1998, p. 177).⁷ This definition of contingency is wanting in two respects. First, “conjunctural” lacks the specificity required to differentiate a mode of causality characterized by its indeterminacy. By virtue of being social, causation is bound to be “conjunctural” if only because any social process involves actors exposed to a host of different causal influences. Second, a “constellation” may reflect a pattern of tightly coupled factors and processes. Or it may be coincidental. Revealingly, Ragin (1987), who coined the “conjunctural causation” expression, sets forth formulations that entertain both interpretations: “conjunctural causation” encompasses conditions that happen to “coincide” (pp. 25, 43) as well as “patterns of invariance and constant association” (p. 51). The mode of causality is up in the air.

By contrast, “accidental/exogenous” and “open-ended” put us on specific empirical tracks. A happening is said to be “accidental” or “fortuitous” when a coincidence of processes and factors—exogenous to one another—brings it about (Carr 1963, p. 128). A conjuncture can be depicted as open-ended when we can show that it beholds different possible futures at once. In either case, a certain indeterminacy is at work. While the indeterminacy of accidents points to the modality of their production, the indeterminacy of open-ended conjunctures bears upon the immediate future. The next two sections further elaborate these observations.

4. INTERSECTIONS WITHOUT A CAUSE

Underlying the contingency of chance happenings (happenstance) is a generic formula, which Augustin Cournot ([1851] 1975) stated with utmost clarity: “fortuitous events are events brought about by the combination or the conjunction of other events involved in *independent series*” (p. 34, emphasis added). Happenstance resulting from the intersection of sequences that belong to different phenomenal universes (e.g. biological processes, the physics of natural phenomena or human action) are particularly apt to illustrate this definition. The example of a fly hitting the eye of a motorcyclist riding their motorcycle is a trivial yet relevant example (Hall 1999, p. 160). The causal sequence leading the fly to be on the trajectory of the motorcyclist

⁶ “At a minimum,” when we characterize a referent as “contingent,” we are saying that [this referent] did not have to be at it is” (Shapiro and Bedi 2007, p. 1).

⁷ “[Contingency] also implies that such constellations are not repeatable in a general way and also that the components that make up the causally effective constellation may vary” (Steinmetz 1998, p. 177).

is independent from the sequence whereby the motorcyclist decided to ride their motorcycle on that road without wearing protective glasses. These sequences being causally independent, their intersection has no cause proper. It is arbitrary.⁸ And since this intersection has no cause, we are entitled to describe it as causally indeterminate.

The example of the fly and the motorcyclist is trivial, discrete and singular. Cournot's empirical definition of chance can be extended to happenings that depart from these characteristics insofar as they are historically significant, have a processual character or form a series. Serendipity in science offers an eloquent illustration of "Cournot happenings" if by this expression we mean happenings that are the outcome of unconnected causal sequences. Wilhelm von Röntgen's discovery of X-rays in his laboratory at the University of Würzburg in the fall of 1895 is a case in point (Kuhn 1996, p. 57). Von Röntgen was applying high voltages to a shielded vacuum tube at night. He then noticed that each time he was proceeding with the experiment, crystals of barium platinocyanide, which were laying at some distance from the tube, glowed (Chalmers 1952, p. 218; Glasser 1959, p. 11). Had these crystals not been placed in the vicinity of the tube for reasons unrelated to the conduct of the experiment, Von Röntgen would not have realized that the voltages were producing waves that had not yet been identified.

Marshall Sahlins's (1985) analysis of Captain Cook's and his crew's interactions with Hawaii inhabitants in January–February 1779 offers a processual account of Cournot contingency. Cook anchored his vessel *Discovery* in Hawaii on 17 January 1779. The timing of his arrival coincided with the starting of the Makahiki ceremony. As a result, Hawaiians approached him as the image of the divine entity involved in the ceremony (Lono) (Sahlins 1985, p. 105). The coincidence enacted a powerful symbolic template. The *Discovery* left three weeks later as Cook's Hawaiian interlocutors were signaling that it was now time for the newcomers to leave. After a few days, unexpectedly, Cook decided to sail back to Hawaii in order to repair the defective foremast. In sharp contrast with the sentiments that their arrival had elicited a few weeks earlier, interactions between the crew and the Hawaiians were tense and antagonistic: the British's arrival was "out of phase with the Hawaiian ritual cycle." Violence and skirmishes ensued, ultimately culminating in Cook's killing on 14 February 1779. "Chance," Sahlins argues, had presided over this unexpected chain of happenings: chance understood as "the intersection of two independent chains of causation. The weak link in one of the chains was the 'dishonest work' and 'slovenly supervision' of the Deptford naval yard" [in charge of providing the foremast] (Sahlins 1985, pp. 126–7).

The notion of "randomness" generalizes the Cournot contingency to multiple occurrences of the same type (e.g. the throws of a dice). We characterize a series of throws as random insofar as we believe each throw to be the unique product of independent factors and processes. By the same token, because we believe each throw to be idiosyncratic with respect to its production, we also have good ground to presume the throws to be causally independent from one another. In these conditions, across occurrences no factor shapes factorial combinations and the likelihood of outcomes. Variation in outcomes reflects the variation of arbitrary conjunctions involving independent factors. The mode of causation is contingent in Cournot's sense.

⁸ "There is no reason why here rather than there, why now rather than then" (Blaise Pascal [1670] 2004, p. 91).

5. OPEN-ENDED CONJUNCTURES

In the same way the Cournot contingency can be conceived as happenstance or as random variation, the indeterminacy proper to open-ended conjunctures can appear in different guises (Figure 14.3): (1) it transpires in action systems susceptible of undergoing abrupt and disruptive shifts in states (deflagrations); (2) it characterizes interactions on the cusp of contrasted evolutionary paths; and (3) it reflects the irresolution of groups dumbfounded by a decisional challenge. The following remarks discuss these three modes of open contingency, first by briefly delving into an empirical case: May 1917 in Saint Petersburg (regarding the possibility of deflagrations), the state of nuclear reactor technology in the 1950s (to illustrate evolutionary indeterminate conjunctures), and the meeting of the Presidium of the Serbian Communist party on 18 September 1987 (as an instance of collective irresolution). Each case sets the ground for the characterization of an empirical class and an outline of analytical bearings.

5.1 Possible Deflagration

About four weeks after the toppling of the Tsarist regime, Trotsky (1932) describes the political situation in Saint Petersburg as pervaded with considerable tension. Members of the provisional government were issuing contradictory or ambiguous statements regarding the continuation of war. Soldiers, workers and political activists were expecting the termination of Russia’s military engagement. On May 3 (Julian calendar), the press published a note by the Minister of Foreign Affairs, Miliukov, signaling a renewed commitment to war. Demonstrations followed. “Crowds gathered, meetings assembled, they wrangled at street corners” (p. 355). The next day (May 4), “there were skirmishes and casualties ... The encounters became more and more fierce [between the supporters of the government and the workers]; shots were interchanged, and towards afternoon they became almost continuous. Nobody knew exactly who was shooting or why, but there were already victims of this disorderly shooting, partly malicious, partly the result of panic. The temperature was reaching red heat” (p. 358).

For the purpose of delineating an empirical class, three facets of this case are noticeable: (1) the protagonists’ mutual focus and emotional reactivity, (2) their readiness for “transgressive contention”—to use Biggs’ (2005, p. 1686) formulation—and (3) the prospect of a “deflagration” understood as a large-scale cascade of disruptive actions. First, there is a marked increase of mutual and emotional attention within and between groups. Actors become

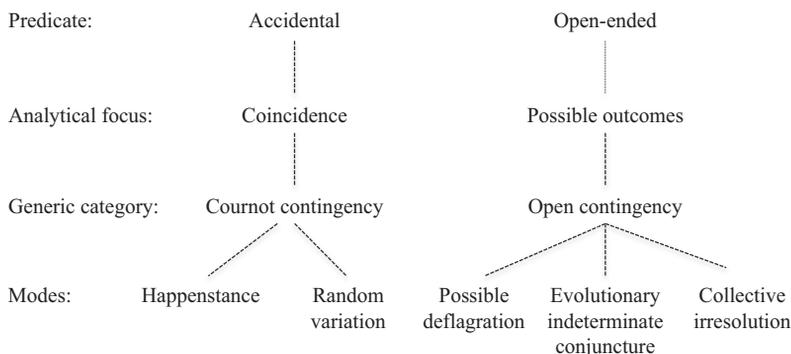


Figure 14.3 *Modes of indeterminacy*

more attentive to statements and behaviors, eager to interpret them as revealing motives, and prone to emotionally react to these interpretations. Second, protagonists are signaling their readiness to transgress the status quo. They do so through various cues: expressions of exasperation, verbal commitments, or behaviors indicating their willingness to bite the bullet (e.g. involvement in groups that flex their coercive muscles). Third, and concomitant, the situation is tense, marked by the shared realization that all hell might break loose.

Several analytical leads are available to tackle these empirical observations. Mutual focus and emotional reactivity fit arguments emphasizing the impact of physical density on emotional energy (Collins 1993, p. 206; 2004, p. 48). The second feature above—actors' readiness for "transgressive contention"—can be interpreted in terms of "action thresholds," i.e. individual actors' propensity to engage in a specific behavior depending on how many others have already done so (Granovetter 1978, p. 1422). As for the perception—pervasive among historical actors—that a deflagration might happen, this empirical observation is congruent with formal accounts devised to account for the sudden occurrence of large-scale disruptive cascades (Bak et al. 1988, p. 365; Brunk 2002, p. 210; Biggs 2005, pp. 1703–9).

5.2 Evolutionary Indeterminate Conjecture

In the 1950s the range of possibilities regarding nuclear reactor technologies was quite wide. At the 1955 Peaceful Uses of the Atom Conference in Geneva, presenters mentioned one hundred reactor types "not obviously impractical" (Cowan 1990, p. 547). Researchers in the United Kingdom and France were working on gas graphite reactors. In Canada, the focus was on heavy water reactors. The U.S. Atomic Energy Commission (AEC) for its part was doing research on different options, including the light water reactor type. Engineers, designers and policy decision-makers were assessing the merits and demerits of these alternatives in light of numerous technical and economic parameters (Cowan 1990, pp. 545–7). Given the multiplicity of dimensions to be taken into account, no technology had a clear-cut advantage.

This case stands for a class of conjunctures in which actors have to choose between alternative ways of doing or proceeding, be these embodied in conventions, types of contract (Young 1998, chapter 1), technologies (David 1985; Cowan 1991) or locations (Arthur 1994, chapter 4). Potential adopters lack parametric information regarding the comparative merits, or disadvantages, of available options. Given this uncertainty, they have an incentive to heed the choices made by others under the assumption that these choices reveal an assessment of worth and will provide opportunities for learning. Strategic considerations thus relay parametric ones. For this class of decision problems, several equilibrium solutions in the game theoretical sense of the term are possible.⁹ "But while information on preferences, endowments, and transformation possibilities allows us to locate and describe these various possible equilibria, it is usually insufficient to tell us which one will be 'selected'. There is an indeterminacy of outcome" (Arthur 1994, pp. 13, 51).

The analytical framework deployed to investigate this type of conjuncture has been centered on patterns of incentives, adaptive mechanisms and choice sequences (Arthur 1994, chapter 2; Young 1998, chapter 2). From this perspective, indeterminacy in evolutionary terms stems

⁹ The notion of equilibrium is here understood in Nash's sense as designating the array of strategies such that no actor taking part in the interaction has an incentive to deviate given the other actors' strategic choices (Kreps 1990, p. 28).

from the combination of positive feedback mechanisms with random perturbations (Hill 1997, p.206). Positive feedback can be of different kinds: technological externalities, learning, uncertainty reduction or increasing returns (Cowan 1991, p.807; Cowan and Gunby 1996, p.523; Arthur 1994, p.111). Whichever feedback obtains, the logic of the situation is such that the more prevalent one particular option appears to be, the greater the incentive to adopt it. As a result, random factors giving precedence to one option at the expense of others can set the action system on a path-dependent evolutionary trajectory (Arthur 1994, pp.17, 115).

5.3 Collective Irresolution

On 18 September 1987 the members of the Presidium of the central committee of the Serbian League of Communists met to deliberate on a motion set forth by the chairman of the Serbian Communist party, Slobodan Milošević, indirectly calling into question the authority and legitimacy of the head of the Serbian state, Ivan Stambolić. In effect, Milošević, acting as party chairman, was making a bid for the state leadership. Interviews and primary accounts underscore deep insecurity on the part of the Presidium members (Ermakoff and Grdesic 2019, pp.569–73). Participants were unwilling to take a stance. Due to the unexpected character of Milošević's power bid, they did not know where the majority stood. Putting at stake their career, political status and ethics, they feared being isolated.

This event exemplifies a class of situations in which the members of a group, when confronted with a choice that they perceive as significantly risky, make their actions conditional on one another's. No behavioral script providing a way out of the challenge is readily available. Either the situation is unprecedented, or scripts inherited from the past fail to generate expectations of coordination. Therefore, actors under challenge cannot assume that those facing the same decisional stake as themselves will adopt a definite and predictable line of conduct. These are moments of *collective* irresolution. Group members acknowledge to one another their mutual dependence and their uncertainty.

The analytics of conjunctures of mutual uncertainty bring two research issues to the fore. One concerns strategies of uncertainty resolution (Ermakoff 2008, chapter 6). Individuals can resolve their decisional dilemma by aligning their behavior with one another's (sequential alignment). Alternatively, when sequential alignment does not, or cannot, take place, individuals under challenge seek to draw inferences about the behavior of the group as a whole by relying on either the information provided by interpersonal contacts (local knowledge) or the implications of public events on shared understandings (tacit alignment). The second research issue pertains to the factors that shape processes of affiliation, or identification with, a reference group (Merton 1968, pp.284–6). Individuals under challenge vary with regard to how they configure the group they take as reference. For instance, they may refer themselves to an imagined community (e.g., "the working class"). They may fall back on the advice or injunction of close affiliates. Or they may decide to relate their decision to the stance of those directly confronted with the same decisional imperative as themselves (Ermakoff 2008, pp.191–2).

5.4 Interactions and Indeterminacy

Whether we are considering the possibility of a deflagration, evolutionary indeterminate conjunctures, or collective indecision, three traits highlight the open-ended character of these

conjunctures. First, interactive processes drive the dynamic of the action system. The tension inherent to situations marked by the possibility of a deflagration stems from an increase in actors' reactivity to each other in the course of their interactions (Brunk 2001, p.427). Evolutionary indeterminate conjunctures undergo divergent dynamics depending on the outcomes of local interactions at an initial stage (Young 1998, p.52). In times of collective irresolution, actors probe one another and tacitly interact (Ermakoff 2008, chapter 6).

Second, uncertainty understood as a micro-analytical concept, that is, as describing individual actors' subjective experience, pervades open-ended conjunctures. When a large-scale deflagration seems imminent, actors have to decide whether to cross the line between transgressive and regulated action. In evolutionary indeterminate conjunctures, they have to appraise the risks and consequences of alternative options. When they are collectively irresolute, uncertainty pervades their perception of the situation and their view of each other.

Third, these conjunctures are indeterminate with regard to their immediate future. That is, different possible future outcomes coexist in their midst. By way of consequence—this is the fourth feature—these conjunctures are sensitive to random perturbations. As a deflagration becomes possible, an inadvertent move can generate a cascade soon experienced as irrepressible. Random interactions can give precedence to one collective scenario at the expense of others (Arthur 1994, p.27; Hill 1997, pp.198–9). Groups engulfed in collective indecision are susceptible to unexpected alignment initiated by lapses and mistakes (Ermakoff 2001, pp.255–6; 2010, p.106).

6. VALIDATION PROSPECTS

The point of crafting concepts and claims that are analytically specific and empirically grounded is in the first place to put at bay rhetorical sleights of hand, evocative poses, and the cultivation of vagueness. This should be the first payoff. There is a second one: as we identify which evidence speaks to the claims we set forth and which indicators help disprove them, we get a sense of possible validation strategies. These, as we could have expected, are functions of the mode of indeterminacy under scrutiny. Broadly speaking, probing the Cournot contingency requires assessing a premise of causal *independence*. In contra distinction with these requirements, validating open contingency requires investigating dynamics of interactional *interdependence*.

6.1 Causal Independence

The Cournot contingency can take place as happenstance (singular mode) or random variation (plural mode). In the case of happenstance, validation means assessing whether the sequences involved in the production of the happening are causally independent. Such an assessment is unlikely to be problematic when the sequences at play unfold in different phenomenal realms (e.g., a fly whose trajectory intersects a motorcyclist's). It is more arduous otherwise, especially if the sequences involve individuals partaking in the same action system, that is, orienting their action to the same stake.

Two probes are possible. One examines whether actors were enacting strategies of action without consideration for one another. If the answer is positive—actors were either unaware

of, or oblivious to, each other—we can presume independence. Given its focus on actors' subjective orientations, this first probe can be labeled "phenomenological." The second probe rests on a counterfactual analysis. It consists in examining whether minimally rewriting one moment in a sequence would have changed the outcome (Lebow 2000, p. 593). The higher the number of moments satisfying this counterfactual rewrite exercise, the more contingent the happening. "An outcome that requires the confluence of many independent causes but could be prevented by removing any one of them with a minimal rewrite ... is highly contingent (ibid., p. 597).

As a test case, let us examine the Archduke Franz Ferdinand's assassination in Sarajevo on 28 June 1914 (Lebow 2000, p. 606). The two main protagonists were the conspirators and the Archduke's retinue. Reports concerning the threat of an attack had been conveyed to the Archduke and his associates. In the morning of the Archduke's visit on 28 June 1914, an attack did take place: one of the conspirators threw a bomb at the Archduke's carriage. The bomb bounced off and the attack failed. The Archduke's retinue subsequently decided to change the itinerary of the visit to derail the possibility of a future attack. Conspirators and the Archduke's retinue were, therefore, adapting their behaviors in light of their expectations about each other's action. The phenomenological probe mentioned above is irrelevant. Does a minimal rewrite counterfactual probe apply?

The assassination was possible because one of the conspirators, Gavrilo Princip, found himself close to the Archduke's carriage when it stood still. If we narrow the focus down on this moment in the sequence, three observations, consistent with a minimal rewrite criterion, give credence to the conclusion that the assassination could have easily not taken place. First, the driver of the Archduke's car had not been told of the change in the itinerary. Had he been told, he would not have turned and then been asked by one of the Archduke's aides to go into reverse. Second, as he tried to go into reverse, the car stalled and got immobilized. Had the car not been immobilized, Princip would not have been able to get close to it and to shoot at point blank range. Third, after the failure of the first attack, Princip had been wandering in this area of Sarajevo. He does not seem to have planned his presence at this intersection at this particular moment. Hence, the fact that he found himself close to the archduke's carriage at the juncture when the car stood still can be diagnosed a fluke.

In the case of random variation, validation requires certifying the causal independence of multiple occurrences. Two venues for certification are conceivable. The first examines the ways in which these occurrences have been produced or have emerged. Any indication that past occurrences affect the production of subsequent ones is enough to ruin the assumption of independence. For instance, the fact that revolutionaries often draw their inspiration from previous revolutions (see Sohrabi 2011, pp. 6–7) problematizes the assumption of causal independence that is customary in macro-comparative analyses. Randomization is a way of making sure that arbitrary conjunction—the kernel of the Cournot contingency—is the *modus operandi* of case selection. In the absence of randomization, or if the analysis of the processes whereby the data has been generated proves inconclusive, the second venue for certification documents the lack of evolutionary or correlational patterns. This approach can be viewed as Popperian insofar as we declare a set or series as random unless it is proved otherwise. The trouble with deterministic processes is that they can produce seemingly random outcomes (Ekeland 1993, pp. 17–20; Reisch 1991, p. 6; Huckfeldt 1990, p. 425).

6.2 Interdependence

Open contingency brings along a different class of empirical referents than the Cournot contingency. The focus is now on conjunctures defined in light of actors' own involvement in, and experience of, an action system. Validating claims pertaining to such conjunctures requires documenting their temporal boundaries. That is, we should be able to identify the moments in time when the defining characteristics of these conjunctures take shape as well as the moments when they recede to the background to the point of becoming inexistent. The following remarks tackle this issue for the three types distinguished earlier: action systems susceptible of a sudden conflagration, alternative evolutionary paths and collective irresolution. These remarks underscore the potential heuristic benefit that can be derived from combining morphological indicators (that is, indicators highlighting formal patterns) with an analysis of actors' situated experience.

6.2.1 Susceptibility to cascades

Regarding action systems presumed to be on the cusp of undergoing an outbreak of disruptive contention, the task of validation amounts to assessing the possibility of a large-scale cascade without the privilege of hindsight. Action systems may of course be more or less prone to sudden shifts in state as a result of their systemic properties, be these observable directly as topological characteristics (Albert et al. 2000; Watts 2002) or indirectly through phenomenal patterns, such as a size distribution of disturbances following a power law (Bak 1996, p. 27; Brunk 2001, pp. 430–3; Biggs 2005, pp. 1697–1703).¹⁰ From this systemic and morphological standpoint, the possibility of deflagration is coterminous with the commencement of a global cascade (Watts 2002, p. 5768).

At issue is whether one can trace the temporal emergence of a conjuncture prone to deflagrations before a large-scale disruptive cascade starts. Three indicators a priori have relevance: (1) a shift downward of action threshold values, (2) an increase in the frequency of disturbances and (3) the emergence of shared beliefs geared to transgressive collective action. While each indicator can reveal growing tension within the action system, each also raises challenges of its own. For instance, data highlighting actors' conditional propensities for transgressive contention—their action thresholds—is usually very difficult to obtain especially in an authoritarian context (Kuran 1991, p. 124).

In the absence of reliable data documenting shifts in action thresholds, it may seem at first glance reasonable to try to gauge whether an action system is undergoing growing tensions by paying attention to the temporal evolution of disturbances (e.g. the pace of demonstrations in the Soviet Union starting in the summer 1987: Beissinger 2002, pp. 74–91). Still, an increase in disturbances does not necessarily mean that the action system has reached a point when a deflagration has become a possibility. Relying on contemporary ethnographic observations may prove very useful to make this assessment provided that these observations highlight median subjective dispositions within the collective under consideration. Trotsky (1932) points to observations of that kind when, about the “commotion” of the May 1917 demonstrations in

¹⁰ It should be noted that the informational content of an indirect “signature” (Bak et al. 1988: p. 364) of system-level properties may be open to question. As Frigg (2003) points out, “the finding of a power law can, but need not be, an indication of an underlying self-organized critical structure” (p. 624).

Saint Petersburg, he remarks: “an attentive ear might have caught already among the ranks of the workers and soldiers impatient and even threatening notes” (p. 346).

6.2.2 Stochastic paths

Validating claims of evolutionary indeterminacy implies several empirical assessments. The first bears upon the existence and the modalities of one or several positive feedback mechanisms. The indeterminacy of outcomes rests on the self-amplifying effects of these mechanisms in an interactive environment in which the Cournot contingency, both in the singular and plural modes, is present (Arthur 1994, p. 27). Under these conditions, interactions produce “contingent outcomes, that is, outcomes in which random events are not averaged away” (Hill 1997, p. 190). Documenting positive feedback is therefore key. The second assessment focuses on the outset of the process for the purpose of gauging whether incidental factors or arbitrary conjunctions gave shape to the dynamic of adoption (e.g. Cowan 1990, pp. 559–64). The third assessment maps out the realm of the possible as historical actors viewed and experienced it. This mapping of possibilities identifies which options were available to actors at the outset of the process. The “vantage point” is *ex ante* (David 1985, p. 334).

6.2.3 Markers of uncertainty

Mutual uncertainty provides the empirical gradient of the third type of open-ended conjuncture—collective indecision. Not only are individuals uncertain about what they should think and do. The uncertainty displayed by those who face the same decisional challenge feed their own. This basic observation sets the agenda for the purpose of validating empirical claims. It invites us to identify the behavioral markers of mutual uncertainty. Do actors adopt a wait-and-see attitude? Do they oscillate as they revise expectations about the stance of their reference group? Are they unwilling to disclose action preferences in public or in interpersonal interactions? Do they betray an interest in aligning their stance with one another’s (e.g. Ermakoff 2008, chapters 8 and 9)?

7. CONDITIONS AND IMPACTS

An empirical understanding of contingency heightens theoretical stakes by making it more difficult to take refuge in assertoric statements. This observation takes on particular significance when we investigate social change. The Cournot contingency raises the question of *how* happenstance and random variation affect collective dynamics. Open contingency invites us to research which properties make action systems open to contrasted collective outcomes. For the purpose of investigating social change, these two empirical foci—impact and conditions—complement one another. We cannot hope to analyze collective dynamics unless we theorize how impacts shape conditions and, conversely, in which respects conditions mediate impacts.

Providing a fully fledged treatment of the impact/condition nexus is beyond the scope of this chapter. The aim of the following considerations is only to show that an empirical and modal understanding of contingency has much to contribute to this perspective of research. I do so by considering three analytical foci: (1) single individual acts, (2) local interactions and (3) group experience. The focus on single individual acts highlights how relational configurations condition the impact of happenstance. The study of random interactions shows how their impact varies depending on whether they set the first stage of an evolutionary path, operate as

triggers of multiple cascades, or initiate a shift in equilibria. The analysis of group experience draws attention to the conditions leading to the emergence of collective irresolution and the bracketing of structural relations.

7.1 Incidental Agency

Accidents affecting individual agency can shape collective outcomes in different ways (Ermakoff 2015, pp. 78–80). The impact is *epistemic* when an individual action affects beliefs about the immediate future. For illustrative purpose, it is sufficient to mention the statement made on 9 November 1989 by a member of the East German Communist Party (SED) Politbüro about the possibility for East German citizens to cross the border with West Germany. In response to questions by journalists, this official, Guenther Schabowski, in charge of announcing the new travel regulations devised by the SED Central Committee, stated that these regulations allowed East German citizens to cross checkpoints along the Berlin Wall without restriction and with immediate effect. This statement, which was actually mistaken—Schabowski “had just returned to Berlin, and had not yet seen the directive or taken part in any discussion about it”—gave way to the widespread belief that the wall was now open (Kramer 2011, p. 843–4).

The impact of happenstance through individual agency is *network-based* as a result of the actor’s positional characteristics in a structure of ties. Let us mention two configurations for illustrative purposes: (1) an individual actor who connects two separate groups is *de facto* the venue through which these two groups can communicate with one another. Happenings that undercut this individual’s ability to communicate, mediate or bargain has collective consequences; (2) scale-free networks, that is, networks in which the degree distribution is a power law, undergo fragmentation when the most connected individuals are incapacitated (Albert et al. 2000, pp. 380–1).

Individual action, or the lack thereof, has a *pivotal* impact when it changes a “precarious” balance of forces between two camps opposing each other (Leff 1969, p. 52). For instance, one defection is enough to turn winning and losing positions upside down. Decisional procedures may be such that the acquisition of a pivotal position turns out to be an emergent feature of the process of stance taking. Consider the situation faced by the French Convention Assembly in the evening of 17 January 1793: the deputies had to decide whether death was to be the punishment meted out to the king, Louis XVI, for his acts of treason. The vote proceeded as a roll-call: one by one representatives publicly stated their stance. Death without reprieve won by only one vote (Ozouf 1989, pp. 102–3; Tackett 2015, pp. 240–1).

A *pyramidal* impact takes place in action systems in which actors have formally transferred control over their own actions to one individual or a set of individuals (Coleman 1990, p. 66). Hierarchical organizations are prone to pyramidal impacts when those to whom a right of control has been granted provide the organization with its impulsion and motion. Incidental changes affecting these actors’ agency have repercussions on subordinates and their agents. This impact can be metaphorically described as pyramidal because it trickles down to the whole organization.

An individual action has a *sequential* impact when it elicits a process of behavioral alignment: actors mimic the reaction already displayed by others. The chain of events that led to the opening of the wall on 9 November 1989 illustrates this process. Earlier in the day, the announcement that East Germans could cross the border without restriction led thousands of East Berliners to gather at the Bornholmer crossing point. Since no instruction had been

conveyed to them, border guards administratively treated those requesting passage to the west as permanent emigrants and stamped their identification cards with this status, so much so that when these East Berliners came back in the evening to go home, entrance was initially denied to them. People shouted. The tension rose up. Unable to reach superiors who could tell them what to do, the local guards at the Bornhomer checkpoint decided to allow free passage. Soon afterward, guards at other crosspoints followed suit (Maier 1997, pp. 160–1). The wall had in effect become open.

7.2 Random Interactions

Interactions that are random in the sense that they are primarily coincidental affect social dynamics in various ways. The difficulty lies in figuring out a framework providing analytical leverage to tackle the roles they play. To this end, I propose to distinguish three classes of impacts depending on whether the focus is on the initial stage of a dynamic process, the triggering of cascades or the transition phase between two equilibria.

That incidental interactions at an early stage can be highly consequential is one of the conclusions yielded by strategic accounts of path dependency mentioned in Sections V and VI (Arthur 1994, p. 117; Hill 1997, pp. 198–9). We need not endorse an evolutionary argument in order to emphasize the conditional significance of random variations at the onset of a process. Studies exploring the empirical relevance of chaos theory applied to social processes have made the same point (Roth 1992 p. 209; Brown 1997, p. 128). So has experimental work centered on the signals delivered by early qualitative assessments (Salganik et al. 2006, p. 855).

Random interactions can also prove significant in triggering chain reactions (cascades) of various scales, which over time contribute to the emergence of a conjuncture prone to large-scale chain reactions. In this line of argument, triggering effects are not confined to a specific scale even though they are particularly noticeable when the cascade is large scale (Biggs 2005, pp. 1686–8). Finally, random deviations from interactional patterns can initiate shifts in equilibria. At times actors incidentally deviate from the decision rule that usually governs their behavioral choices when they interact with others (Young 1998, p. 19; DellaPorta et al. 2017, p. 11). As they cumulate, these deviations create the conditions for a shift in interactional patterns. A new equilibrium emerges. Its genealogy, however, is stochastic.

7.3 Critical Challenges

The focus on group experience points to the significance of decisional challenges, which actors experience as a *collective* process. Actors are caught off guard or taken aback because they lack either the analytical grid allowing them to make sense of the challenge, or the script to mount a planned response. Nonetheless, their uncertainty also betrays a shared awareness that their response—interpretive or behavioral—needs to be a collective one. They seek to achieve a common understanding of what is going on, and they aspire to a collective response. For this purpose, they are willing, if not eager, to make their interpretation and their behavioral response conditional on the stances displayed, or suggested, by those whom they view as referential. In these conditions, structural determinations are up in the air. Depending on which stance will emerge from the process, “structures” understood as enduring patterns, can be tossed up, altered or reinstated.

8. CONCLUSION

This chapter expounded a modal conception of contingency as encompassing different modes of indeterminacy, that is, different ways for happenings and conjunctures of being deprived of necessity regarding their cause (happening) or their outcome (conjuncture). A modal understanding had three defining characteristics that are of particular relevance for the analysis of contingency. First, it implies a realist approach to its referents. There would be no point in distinguishing different “ways of being” or “ways of being effectuated” if we could not assume that the phenomenal reality displaying these different modes has an existence independent of the act of conceptualizing them. Second, a modal understanding places the empirics of its cases at the center of the stage. Accordingly, this chapter took pain to relate conceptual claims to the empirics of specific cases. Third, in line with its concern for issues of demarcation and differentiation, a modal understanding is geared to the specification of conditional factors. All three features, as I hope to have made clear, are key to an empirical understanding of the roles played by contingency’s various guises in social dynamics.

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