



Theorizing in the Cohort Mode: On Ryder's Processual Account of Social Change

Ethan Fosse^{1,2}

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Abstract

The classic 1965 article by the Canadian-American demographer Norman Burston Ryder on the cohort concept has inspired generations of social scientists to examine the nature and extent of social change in a wide range of contexts. However, while there have been numerous attempts to develop new methods for analyzing temporally structured data, there have been strikingly few attempts to elaborate on Ryder's core theoretical insights. Drawing on his 1965 article as well as a collection of unpublished documents, this article fills this gap by developing a new, general Ryderian theory of social change. I first discuss the main features of the overall theoretical framework, focusing on the sociocultural system, the cohort concept, and the problem of persistence. Next, I outline a "processual" account of social change, introducing the key distinction between structure, process, and transformation as well as revealing how a Ryderian approach, using insights from demography, can be generalized to encompass a diverse array of structural changes. I conclude with a discussion on promising directions for additional research based on Ryder's ideas.

Keywords Cohort analysis · Norman Ryder · Social change · Life-cycle change · Social process · Social structure · Transformation

Résumé

Depuis sa publication en 1965, l'article désormais classique du démographe canadien-américain Norman Burston Ryder relatif au concept de cohorte publié en 1965 continue d'encourager des générations de chercheurs en sciences sociales à examiner la nature et l'étendue des changements sociaux dans une vaste gamme de contextes. Et pourtant, alors que de nombreux efforts ont été déployés pour développer de nouvelles méthodes d'analyse des données structurées dans le temps, peu de chercheurs ont essayé d'approfondir les principes fondamentaux de Ryder. En nous fondant sur

✉ Ethan Fosse
ethan.fosse@utoronto.ca

¹ Department of Sociology, University of Toronto, 700 University Avenue, Toronto, ON, Canada

² Data Sciences Institute, University of Toronto, Toronto, ON, Canada

cet article de 1965, ainsi que sur d'autres travaux non publiés, nous visons ici à combler ce manque en développant une nouvelle théorie né Rydérienne z générale du changement social. Dans cet article, nous com-mençons d'abord par discuter des caractéristiques principales du cadre théorique général en mettant l'accent sur le système socioculturel, le concept de cohorte et le problème de la persistance. Nous développons ensuite la dimension né processuelle z du changement social en introduisant des distinctions fondamentales entre structure, processus et transforma-tion, mais aussi en révélant la façon dont une approche né Rydérienne z, appuyée par les connaissances démographiques, peut être généralisée de façon à intégrer un large éventail de changements structurels. Nous concluons en discutant des orientations prometteuses pour de nouvelles recherches fondées sur les idées de Ryder.

1 Introduction

Norman Burston Ryder, one of the pioneering demographers of the twentieth century, is widely regarded as the foremost proponent of the cohort concept. His most celebrated sociological contribution is his essay "The Cohort as a Concept in Social Change," published in 1965 in the *American Sociological Review* (see also NRP, Box 1, September 1959). Drawing on the insights of Karl Mannheim (1952 [1927/1928]), as well as various demographers and historians, Ryder contended that, by entering and exiting across periods, cohorts pose a threat to social stability, potentially leading to considerable social change although no specific individual (or cohort) has changed over the life course. He further argued that successive cohorts differ in a number of important ways, including in their levels of formal education, involvement with peer groups, and unique historical circumstances, as well as their involvement in transformative events such as wars and revolutions, not to mention less dramatic but equally dynamic processes such as technological change and immigration.

Inspired by Ryder's seminal essay, scores of sociologists and demographers have developed increasingly sophisticated techniques for analyzing time-series cross-sectional data organized by age, period, and cohort, or APC data. The array of methods currently available to applied researchers is vast, encompassing various Moore–Penrose estimators, multilevel models, bounding approaches, Bayesian regressions, mechanism-based models, proxy variable models, and so on (e.g., Fu, 2018; Harding, 2009; Winship & Harding, 2008; Yang & Land, 2013). Yet, although there have been countless attempts to refine various statistical methods for analyzing temporally structured data, there have been remarkably few efforts to elaborate on Ryder's core theoretical insights. This gap in the literature is all the more striking given that Ryder considered theory to be absolutely essential to cohort analysis, necessary for not only explaining but even describing patterns in temporally organized data. Specifically, Ryder argued that the analysis of APC data "requires one to take a firm theoretical stand," such that the researcher must "specify a model of how one thinks the world works" rather than trying "to let the data speak for themselves," which, in this case, is a "futile task" (NRP, Box 5, c. 1985; see also NRP, Box 5, January 15, 1998). As Ryder concluded, "measures reflect models, and models represent

theoretical choices made explicitly on substantive grounds not self-evident in the data” (NRP, Box 4, June 1979; see also NRP, Box 5, January 15, 1998).

Elaborating on Ryder’s key theoretical contributions will help researchers avoid the inherent pitfalls of analyzing temporally structured data “theory-free.” In addition, and perhaps more importantly, such an elaboration will provide the conceptual foundation for a more realistic, informative, and empirically grounded theory of social change. Although a core concept in sociology, a number of scholars have noted that the theoretical aspects of social change have remained relatively undeveloped, persistently bogged down by outmoded assumptions, univalent mechanisms, and loosely related or nonexistent empirical referents (e.g., see Blumer, 1990; Boudon, 1986; Haferkamp & Smelser, 1992: p. 3; Hallinan, 1997; Lenski, 2005; Savage, 2021: pp. 86–98; Tilly, 1984). For example, in her presidential address to the American Sociological Association, Maureen Hallinan, in a comprehensive review of the field, emphasized that, while “theories of social change have made significant contributions,” they have been limited by unrealistic “assumptions of continuity, linearity, and stable equilibrium” (Hallinan, 1997: p. 2). Hallinan thus called on sociologists to “formulate new models that better portray and explain complex, contemporary social events” (1996: p. 2). More recently, in an extensive overview of the various theoretical accounts of social change, Jiří Šubrt has observed that the discipline of sociology “has reached a situation that calls for new approaches to theories of social change” (2017: p. 52). Likewise, Mike Savage (2021) has underscored that, given the immense historical “weight” of inequality on the present, sociologists must “radically question” their “understanding of time and historical process” and thus their “very conceptions of social change” (77). Thus, notwithstanding the thorny conceptual difficulties involved, it is “vital for sociologists to rise to the challenge of offering their interpretations of social change” (2021: p. 408).

In this article, I develop a general demographic theory¹ of social change, building on Ryder’s seminal (1965) contribution to cohort analysis as well as a trove of unpublished drafts, letters, and notes.² The remainder of this article is organized as follows. First, I discuss the core aspects of the overall theoretical model, outlining a Ryderian conceptualization of society as a spatiotemporally distributed system lying at the intersection of the population and environment, both of which constantly threaten its continued existence. Second, I introduce a Ryderian “processual” account of social change, which links shifts in cohort-specific social processes to transformations in the social structure. In doing so, I discuss the key distinction between structure, process, and transformation, as well as the concept of the stable societal model as a sociological analogue to the stable population model used in demography. Third, I outline the various ways in which the Ryderian

¹ I use the term “theory” advisedly. Ryder’s ideas form not just a theory of social change but also an overall theoretical framework, namely, a general perspective for how to conceptualize and measure social change. For the remainder of the article I use the terms “theory” and “theoretical framework” interchangeably.

² All archival materials are from the Norman Ryder Papers (NRP) collection at Princeton University. The NRP include Ryder’s research notes, drafts, and unpublished manuscripts, as well as personal correspondence and administrative documents.

concept of social change can be generalized to a broad class of events involving different kinds of social processes. As well, I elaborate on the key distinction between change *of* individuals versus change *in* individuals, or what Ryder termed “social metabolism” versus “social mutation” (NRP, Box 5, December 21, 1973), outlining a number of sub-processes that contribute to social change.³ I conclude with an overview of the proposed demographically oriented theory of social change, sketching its limitations and outlining promising directions for further research.

2 Ryder’s Theoretical Framework

Before describing in detail a Ryderian conceptualization of social change, I first outline the three main components of the overall theoretical framework: the socio-cultural system, the cohort concept, and the problem of societal persistence. These three elements together provide the conceptual “mise-en-scène” in which social change, as Ryder understood it, can be appropriately defined, measured, and generalized. I discuss each of these components in turn.

2.1 The Sociocultural System

The first main component of Ryder’s theoretical framework is “the sociocultural system,” which is shown schematically in Fig. 1 (NRP, Box 4, January 5–7, 1987; see also NRP, Box 4, October 1961; NRP, Box 4, c. 1961a, c. 1961b, c. 1961c). The large double-sided arrows in Fig. 1 indicate the reciprocal, ongoing relationships between a given society, denoted by a rectangle, and the population and environment. These three domains roughly correspond to the principal objects of study in sociology, demography, and (human) ecology, respectively. As Ryder viewed it, ecologists typically focus on “the interface of society with the environment,” while demographers focus on the interface of the population and the environment (NRP, Box 3, c. 1990).⁴ Sociologists, in contrast, “monopolize the area in between” (NRP, Box 3, n.d.). The environment of any particular society encompasses not only various aspects of the

³ Additionally, I discuss the core aspects of a Ryderian “methodological cohortism” (as distinct from methodological individualism) in the online supplement, showing how his cohort-centric approach not only preserves the temporality of events but also recognizes the distinct distributional properties of the cohort as an aggregate.

⁴ As the founder of the Center for Demography and Ecology at the University of Wisconsin-Madison in 1962, Ryder’s conceptualization of the sociocultural system outlined here can be viewed as clarifying how demography and ecology are related to sociology. More specifically, both ecologists and demographers, in Ryder’s view, focus on a “concrete population” with “a spatiotemporal referent” (NRP, Box 3, c. 1990). The difference is that the “ecologist specializes in space,” focusing on analyzing “the spatial community minimally defined by spatial co-occupancy,” while the “demographer specializes in time,” focusing on studying “the temporal community” that is “minimally defined by temporal co-occupancy” (NRP, Box 3, c. 1990; see also NRP, Box 4, January 5–7, 1987).

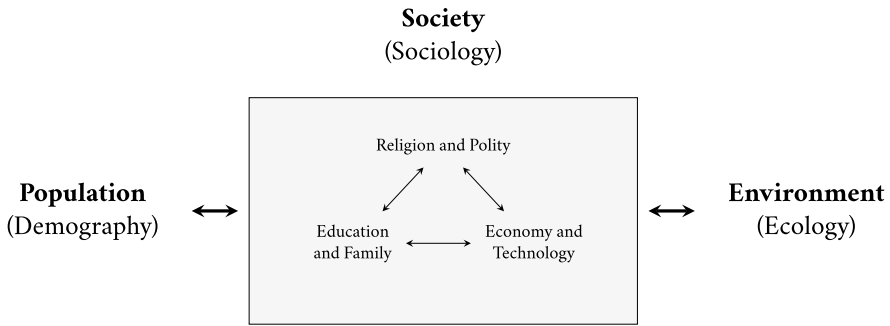
physical environment, such as natural resources and ecosystems, but also other societies as well. By contrast, the population consists of aggregates of individual elements governed by processes of fertility, mortality, and migration, broadly conceived.⁵

Lying at the intersection of the population and environment, a society is a “loosely integrated,” complex, emergent, multilevel system of spatially distributed institutions “rolling through time” (NRP, Box 4, October 1961; see also NRP, Box 6, December 4, 1962a). These institutions, or what Ryder called “sociocultural organizations” (NRP, Box 4, October 1961), are “normative complexes that constitute the rules of the game for the conduct of classes of activity” (NRP, Box 1, n.d.). Although characterized by considerable complexity, any given society can be analytically decomposed into three primary “institutional areas” (NRP, Box 4, October 1961; see also NRP, Box 4, c. 1961a, c. 1961b, c. 1961c; NRP, Box 4, January 5–7 1987), which are schematically represented in Fig. 1: first, education and the family; second, technology and the economy; and, lastly, the polity and religion.⁶ These institutional areas are distinct but nonetheless interdependent, as denoted by the double-sided arrows displayed in Fig. 1. Importantly, these institutional areas span the boundaries of the population and environment, and thus of time and space (NRP, Box 3, c. 1990). It is unsurprising, then, that Ryder, while sympathetic to structuralist theoretical accounts, rejected the notion of society as a totalizing, coherent “whole,” separable from the spatiotemporal context in which it is embedded (NRP, Box 3, c. 1990).

Rather, Ryder depicted society as akin to a complex adaptive system, with a number of corresponding features (cf. Buckley, 1967, 1968; see also Simon, 1962). First, instead of a “limitless reticulated network,” he viewed society as “a series of semi-isolated semi-insulated structures” with “semi-autonomous” stabilizing processes, linked “with particular other parts of the system more strongly than with others” (NRP, Box 4, c. 1961a, c. 1961b, c. 1961c). Second, the “basic social reality consists of interrelated wholes at a higher level than the individual” (NRP, Box 1, n.d.). In other words, the basic units of society are not individuals, but cohorts and other aggregative entities. Third, society is hierarchical, consisting of subsystems nested within systems, which in turn are subsystems of other systems (NRP, Box 1, n.d.; NRP, Box 4, October 1961). For example, cohorts are nested within institutions, which are in turn nested within larger, more encompassing institutions, which, at the highest level, constitute the three institutional areas in Fig. 1. Fourth, the sociocultural system is fundamentally dynamic, particularly over the long run, with structural features characterized more by an emergent complexity than a purposeful design imposed from above by powerful actors (NRP, Box 4, October 1961). Fifth, the properties of the wholes in the social system are not straightforwardly derivative of the properties of their parts (NRP, Box 1, n.d.). In other words, the whole is more than the sum of its parts, not in a metaphysical sense, but in the practical sense that

⁵ Specifically, following Lotka (1907), Ryder defined a population as “a denumerable aggregate of individuals within a particular category — corresponding to some clear definition — with established processes of entry and exit from membership, and persistence within the population for some finite time between entry and exit” (NRP, Box 5, November 29, 1972; see also Ryder 1964a).

⁶ Note that, although predating the work by at least a decade, Ryder’s tripartite framework is similar to that outlined by Daniel Bell (1976).



Notes: Double-sided arrows indicate reciprocal, ongoing relationships. The population and environment pose ongoing threats to a society's persistence through time and across space. As indicated by the relationships within the rectangle, any given society comprises three primary institutional areas: (1) education and the family; (2) technology and the economy; (3) polity and religion.

Fig. 1 Ryder's sociocultural system

it is a non-trivial matter to infer the properties of any given whole from its constitutive elements (cf. Simon, 1962: p. 468). Lastly, the sociocultural system is open, continually interfacing with the population and environment, the latter of which, as noted above, includes other societies (NRP, Box 1, n.d.; NRP, Box 4, October 1961).

2.2 The Cohort Concept

The second element of Ryder's overall framework is the cohort concept. According to Ryder, the basic elements of the population and, by extension of society, are not individuals, but cohorts, which, through a general process of "demographic metabolism," are continually entering and exiting the society as a whole as well as every subsystem of which it is composed (1965: p. 843). At the most general level, each cohort is "a set of actors" marked by the "occurrence of a particular and important event," typically but not exclusively year of birth (Ryder, 1992: p. 228; see also NRP, Box 6, December 4, 1962b).⁷

Cohort is often distinguished from period (year of observation) and age. In Ryder's view, cohort, period, and age are "not on equal footing in terms of how we think about them, or how we should think about them" (NRP, Box 4, June 1979). From Ryder's perspective, "cohort is the behaving entity," both the "central element" in "the model of a population (from a demographic standpoint)" as well as "the conceptualization of social change (from a sociological standpoint)" (NRP, Box 4, June 1979; see also NRP, Box 3, c. 1990). In fact, for Ryder, cohort is a general, all-purpose concept applicable in a wide range of substantive domains, akin to "social class" in sociology (Ryder, 1965: p. 847) or "community" in human ecology (NRP, Box 6, December 4, 1962b). By contrast, period is "the environmental context of the cohort," while "age is the derivative piece of information" indicating simply "how long" the cohort has "been around" (NRP, Box 4, June 1979).

⁷ As I discuss later, Ryder viewed the cohort concept as encompassing a much wider class of events and social processes than commonly acknowledged.

Ryder's conceptualization implies a theoretical framework in which an "(aggregate) actor, the cohort, enters a period with a structure which has been built up in the course of the cohort's history, its experience in previous periods" (NRP, Box 4, c. 1981). While in the period, "the cohort is exposed to various stimuli which are characteristic of the setting or environment peculiar to the period" (NRP, Box 4, c. 1981). The "change of state observed occurring to the cohort in the period" is therefore the product of the "period-specific stimuli and cohort-specific structure," with age signifying "the number of previous periods in which the structure has been formed" (NRP, Box 4, c. 1981).

Note that, according to Ryder, age can be thought of as the most elementary piece of information about a cohort's history. If one "proceeds to further analysis" and includes additional cohort characteristics "such as education, religion, occupation," then these as well will be "pieces of information about the cohort's history" (NRP, Box 4, c. 1981). As the "behaving entity" in the classic cohort-period-age triad, Ryder conceived the cohort concept as the central vehicle for theorizing about the nature and extent of societal change. Building on earlier work by historians and demographers, most notably Mannheim (1952 [1927/1928]), Ryder viewed cohorts as exhibiting both "intra-cohort temporal development" as well as "inter-cohort temporal differentiation" (1965: p. 861). Because it involves variation within cohorts as they age through time, intra-cohort development represents life-cycle change; by contrast, because it entails variation across successive cohorts through time, inter-cohort differentiation represents social change. Taken together, intra-cohort development and inter-cohort differentiation, or equivalently, life-cycle and social change, constitute what Ryder famously referred to as "comparative cohort careers" (1965: p. 861). Regardless of the particular parametric model employed,⁸ Ryder strongly believed that a systematic comparison of the careers of cohorts, or what he generally termed "the cohort approach," could provide important insights into the nature of life-cycle and social change for a range of sociological phenomena, including social norms, attitudes, lifestyles, and various behaviors (Ryder, 1965: 843; see also NRP, Box 4, June 1979; NRP, Box 1, n.d.).

Although a number of scholars have attempted to portray "cohort" as analytically distinct from "generation" (e.g., Burnett, 2010; Edmunds & Turner, 2002), Ryder generally viewed cohorts as equivalent to Mannheimian generations, albeit defined with a greater degree of granularity. As Ryder asserted, a "synonym" for cohort is "generation" (NRP, Box 2, January, 1962).⁹ In fact, similar to Mannheim's distinction between generation location, generation as actuality, and generation unit,

⁸ Informally intra- and inter-cohort sequences of events (that is, trends) can be obtained by stratifying on cohort and comparing summaries (e.g., means) of some characteristic or status across and within levels of age. Alternatively, and more formally, an analyst can specify one or more functions indexed by age and cohort (Ryder 1968; NRP, Box 4, June 1979). Note that there is no assumption that the formal model only includes age and cohort parameters: period parameters can be included as long as they are re-indexed by age and cohort.

⁹ Ryder, however, steadfastly eschewed the term "generation." The reason is that, in his judgment, the "word has so many meanings that it may very frequently be misconstrued" (NRP, Box 2, January 1962). As he elaborated: "It is a biological term signifying the process of procreation, it is a length of time, it is an approximate identification of an era, and it is an identification of the parent-child relationship" (NRP, Box 2, January 1962; see also Ryder 1968: pp. 546–547). For the sake of analytical clarity, he suggested that the term "generation" be limited to refer to parent-child relationships, "in which it has an important role to play without competitors" (NRP, Box 2, January 1962; see also Ryder 1965: p. 853). By contrast, for the "identification or location of a group in time," he argued that "the term 'cohort' is clearly preferable" (NRP, Box 2, January 1962).

Ryder distinguished between a cohort, cohort community, and subsets of the cohort community. As defined previously, a cohort is simply a “demographic definition,” reflecting the minimum criterion that a collection of individuals have experienced a particular cohort-defining event (NRP, Box 3, c. 1990). By contrast, a cohort community is “formed by special shared experiences,” thereby elevating a cohort from a purely demographic entity to a distinct, sociologically relevant “temporal community” (NRP, Box 3, c. 1990). Lastly, any cohort community may exhibit “heterogeneity in other respects,” with subsets experiencing unique types of experiences and kinds of changes (NRP, Box 3, c. 1990; see also Ryder, 1965: pp. 846–847).

2.3 The Problem of Persistence

The third component of Ryder’s theoretical framework is what he called “the problem of persistence,” as distinct from the problem of order (NRP, Box 4, October 1961; see also NRP, Box 3, c. 1990). As has been widely discussed by social theorists (e.g., see Hechter & Horne, 2003), the problem of order is the fact that, to avoid collapsing, a society must in some way remain “integrated,” with various institutions acting together despite potentially conflicting goals (NRP, Box 4, October 1961). The problem of persistence, which has received considerably less attention among social theorists, arises from the fact that both the population and environment continually impinge on a society, presenting a steady stream of threats to its ongoing existence. While acknowledging the importance of both, Ryder viewed the problem of persistence as far more fundamental inasmuch it can be understood as a prerequisite for even addressing the problem of order.

Although the population and environment both pose threats to societal persistence, they do so in divergent ways. As Ryder observed, the population presents more of a threat to survival through time, while the environment throws up a challenge to survival across space (NRP, Box 4, October 1961; NRP, Box 4, January 5–7, 1987). Specifically, on the one hand, the population presents a temporal risk due to the continual infusion of new cohorts, who arrive without knowledge of a society’s norms, rules, values, and beliefs (Ryder, 1965, 1968, 1974).¹⁰ On the other hand, the environment poses a spatial risk due to inherent physical constraints, such as finite resources and geographical barriers, as well as a continual supply of unpredictable events and processes, including, for instance, not only climatological shifts and ecological collapse

¹⁰ As Ryder noted, each individual element in a population has “an ultimate survival probability of zero” (NRP, Box 3, c. 1990). As a result, the “aggregate survival of the population requires a process of creating new members,” namely, cohorts (NRP, box 3, c. 1990). The “exchange of members” from one population to another partly solves this problem, and it is in principle possible that “some populations may survive entirely through the acceptance of members created by other populations” (NRP, Box 3, c. 1990). However, in such instances a “sensible research strategy to consider” the two populations “as a single population” (NRP, Box 3, n.d.). Ultimately, regardless of migration patterns between subpopulations, “some source of creation is required” to ensure the long-term survival of an overall population (NRP, Box 3, c. 1990).

but also the incursion of other societies. Any given society, embedded in both the population and the environment, confronts both of these temporal and spatial threats to persistence.

According to Ryder, any currently existing society provides, however partial or imperfect, solutions to the problems of persistence and order. This is due to a general selection effect, for any society that has not at least minimally addressed these problems has already met its demise.¹¹ With respect to the three institutional areas in Fig. 1, Ryder viewed the educational and familial institutions as offering solutions, albeit imperfect, to the problems of persistence posed by the population, while technological and economic institutions provide solutions to the problems of persistence posed by the environment. Political and religious institutions, by contrast, deal less with problems of persistence than with problems of order, enabling the various educational, familial, technological, and economic institutions to continue providing solutions, however partial or limited, to the threats posed by the population and the environment.¹²

To deal with these threats, Ryder also viewed socialization and, to a lesser, extent social control, as absolutely critical. In the first place, regarding threats from the population, socialization, abetted by social control, is needed not only to ensure that each new cohort has the minimal “rational and normative apparatus” to participate in society (Ryder, 1968: p. 548), but also to ensure the temporal continuity of society in the face of a massive, ongoing process of “personnel replacement” (Ryder, 1965: p. 843; see also NRP, Box 1, September 3–5, 1959; NRP, Box 2, 1959). However, perhaps less evident, socialization, again aided by social control, is also crucial for dealing with problems of persistence arising from the environment. The reason is that, in Ryder’s view, effective solutions to environmental threats require structural “differentiation” and “interdependence,” which in turn place greater demands on societal coordination (NRP, Box 1, n.d.; NRP, Box 4, October 1961).¹³ Thus, given the constant barrage of environmental threats, the “societal blueprint which charts a

¹¹ The fact that a society offers various solutions to the problems of persistence and order is, of course, no guarantee that these solutions will be adequate to avoid societal collapse in the future, or that these solutions will be beneficial to the majority of a society’s members.

¹² Ryder additionally believed that, in contrast to the political and religious institutions, which provide solutions to problems of order, those institutions dealing with problems of persistence would converge over time, reflecting the diffusion of practicable solutions given common threats from the population and environment.

¹³ For example, although sustained fertility (absent migration) is necessary for a society to survive, a larger population size leads to “greater organizational requirements,” which in turn presents additional complications to achieving societal coordination (NRP, Box 1, n.d.). As well, besides replenishment of its members, societal survival also requires “economic and political vitality,” the latter of which “helps to determine the resources over which a particular social system has domain” (NRP, Box 1, n.d.). This again necessitates further structural “differentiation,” accompanied by additional difficulties in coordinating various subsystems (NRP, Box 1, n.d.; NRP, Box 4, October 1961).

way through the rapids” is “integration” via socialization and social control (NRP, Box 1, n.d.).¹⁴

Although typically operating in concert, socialization and social control entail decidedly distinct ways of achieving societal coordination. When socialization is the dominant mode of coordination, individuals in “different positions internalize the group design and come to regard it as good and just and proper,” viewing the “fulfillment of responsibilities” as an end in itself (NRP, Box 1, n.d.). Accordingly, the interests of the individual are, “in the long run,” perceived to be best served by “attention to the ends of the collectivity” (NRP, Box 1, n.d.). By contrast, when social control prevails, coordination is achieved mainly by the powerful meting out benefits and punishments to the less powerful. As Ryder argued, the “key to order in such a system is the differential control of rewards and punishments by those who are senior in the group hierarchy, i.e., by power” (NRP, Box 1, n.d.). To the extent that socialization is operating in such a society, it “plays the subsidiary role of supporting the prevalent power structure” by instilling in the less powerful “the myth that their own interests are best served by furthering the interests of the group, and its leaders” (NRP, Box 1, n.d.).

Together, the sociocultural system, the cohort concept, and the problem of persistence form the core elements of Ryder’s overall theoretical framework. As Ryder understood it, society is a complex system of sociocultural institutions distributed across time and space, and embedded in the population and environment, broadly construed. Rather than individuals, the fundamental elements in his framework are cohorts, or aggregate actors that have experienced some common event of theoretical significance, most commonly (but not exclusively) year of birth. Lastly, because of ongoing threats from the environment and the population, especially the constant entry and exit of cohorts, any extant society can typically be described in terms of three main institutional areas, as well as two main mechanisms (socialization and social control), that address, in however incomplete or imperfect ways, the problems of order and persistence.

3 Ryderian Processual Account of Social Change

So far, relatively little has been stated on the dynamics of the various components of the sociocultural system displayed in Fig. 1. In this section, I introduce Ryder’s “processual” account of social change, which links the cohort concept to the sociocultural system and the problem of persistence. I first discuss his general distinction between structure, process, and transformation, outlining how these concepts are related to his “cohort approach” for studying change in social systems (Ryder, 1965: p. 843; see also NRP, Box 4, June 1979; NRP, Box 1, n.d.). Next, I discuss Ryder’s

¹⁴ Ryder additionally noted that there would need to be a focus on “survival strategy, as distinct from maximization of success in one particular direction” (NRP, Box 1, n.d.). This would suggest, for example, that an overarching emphasis on just economic growth or biological reproduction would be problematic for a society’s survival.

concept of the stable societal model as an analogue to the stable population model used in demography. As I outline below, social change, or the transformation of a society's social structure as reflected across cohorts, is, in Ryder's conceptualization, not only distinct from change at the individual level, but also from change over the life cycle, as well as from any change in the population or in the biological and physical environment.

3.1 Structure, Process, and Transformation

Any theory of change, Ryder argued, must distinguish between those aspects of the system that are dynamic and those that are not. This is partly a practical necessity, for the simple reason that "you cannot study everything in action at once" (NRP, Box 4, October 1961). An additional, and no less important, reason is that some "fixity of structure is essential in some crucial respects if only to identify the system concerned as being the same one as two time points" (NRP, Box 4, October 1961). Following this line of thought, Ryder argued that in any complex system there is a fundamental difference between structure, process, and transformation, or states of "being," "behaving," and "becoming" (see also Gerard, 1957: p. 429). At the most fundamental level, structure is that which is taken to be fixed or stable in some general sense, in effect defining a given system, while process and transformation refer to the two main types change experienced by the system. Specifically, process is a "repetitive or non-monotonic perturbation" within a delimited structure; by contrast, transformation is a change in the structure itself and thus a change in the way the system is identified or defined (NRP, Box 4, October 1961; NRP, Box 3, c. 1990).

To clarify the differences among structure, process, and transformation, Ryder invoked the language of mathematics, in particular the distinction between parameters and variables. According to Ryder, any dynamic component in a system "may be represented as an equation containing variables and parameters" (NRP, Box 4, October 1961). The structure is reflected in the parametric constants, which stipulate the relationships among the variables. The process is the "normal operation" within the structure, which is simply the flow of inputs "supplied from outside the system" along with the expected outputs, as demanded by the parametric constants (NRP, Box 4, October 1961). While changes do, in fact, occur, they do so strictly within the limits imposed by the structure. As Ryder explained: "Changes in the exogenous variables yield different answers as the variables differ in value, but the answers flow from a fixed framework of resolution" (NRP, Box 4, October 1961). However, if "there is change in the parameters themselves," such that the same input "yields a different answer than before," then there is a transformation in the structure itself (NRP, Box 4, October 1961). That is, a structural transformation occurs when the parameters, formerly fixed, take on the status of variables.¹⁵

¹⁵ Given his criticisms of quantitative modeling, it is doubtful that Ryder meant that any structural transformation necessarily entails a change in the parameters of a mathematical model (NRP, Box 1, n.d.). Rather, Ryder's point is that, in light of a structural shift, the conventional input-output flow of the system is altered, not by a change in the inputs, but by a change in the system itself.

The above is quite general, and applicable to the components of any complex system, from biological cells to telecommunications networks to the Earth's global climate. Ryder's primary goal, however, was to develop a theory of social change, which requires distinguishing between structure, process, and transformation in a system that is distinctly sociocultural (e.g., see Fig. 1; see also Ryder, 1968, 1992). At the most macroscopic level,¹⁶ the social structure is, in Ryder's view, given by the complex set of institutions represented in Fig. 1, which is the crystallization of established norms, knowledge, beliefs, values, and ways of doing. The most fundamental social process is life-cycle change, or "the routinized patterning of behavior throughout the lives of individuals" continually entering and exiting society as cohorts (Ryder, 1968: p. 550).¹⁷ By contrast, social transformation, or, equivalently, social change, is "the transformation of institutional structures" in a society (NRP, Box 1, n.d.).¹⁸ Social structures are epiphenomenal to social processes, such that social change is reflected in the fact that "successive cohorts do something other than merely repeat the patterns of behavior of their predecessors" (Ryder, 1992). Thus, the distinction between social process and transformation, or life-cycle and social change, can accordingly "be characterized as the differentiation of intra-cohort and inter-cohort variations" of a characteristic or status (NRP, Box 6, February 1963; Ryder, 1968: p. 550). This is the basis for what Ryder, as noted previously, called "the cohort approach" to analyzing temporally structured data (1965: p. 843; see also Ryder, 1968, 1992).

In terms of the mathematical language of parameters and variables proposed by Ryder, social institutions or structures can be represented as a set of parametric constants, delineating the conditions under which cohorts age across periods in a given society. In other words, each cohort can be understood as having a life-cycle equation with age as a variable and some set of parameters, reflecting the prevailing social institutions or structures. The typical operation of a life-cycle equation in a

¹⁶ Note that for Ryder social processes and transformations occur at every level of society, not just at the most macroscopic level.

¹⁷ More generally, the social structure can be conceived as a "map of locations" in which individuals (and cohorts) are embedded, while a social process is "the aggregate version of movements from one location to another" (NRP, Box 3, c. 1990; see also NRP, Box 3, September 1975). The implications of these ideas for developing a more formal sociological theory of change are not fully explored by Ryder.

¹⁸ Following Ryder's general usage, I will use the phrase "social transformation" interchangeably with "social change" (e.g., 1968: p. 550; see also NRP, Box 4, January 5–7, 1987). Two clarifications are warranted, however. First, in an unpublished memo, Ryder noted that the comparison of cohort careers will reveal a transformation in the social structure only "on the assumption that there is indeed a distribution of responsiveness to the institutional structure by the individual entities exposed" (NRP, Box 1, n.d.). This suggests that, more precisely, "social transformation" is an alteration of the social structure, whether observed or not, while "social change" is the manifestation of this alteration as observed across cohorts. Second, in a separate unpublished memo entitled "What is Social Change?," Ryder offered a narrower definition of social change rooted in social norms, which he viewed as crucial for understanding trends in fertility rates, his substantive area of interest (Ryder 1967, 1975a, Ryder 1980a, Ryder 1990, 1997b; Westoff and Ryder 1977a, b; Winsborough 2009; NRP, Box 1, n.d.). As he defined it, (normative) social change occurs the extent to which "the same situation yields a different response" at two different time points (NRP, Box 1, n.d.). This "response" is a "response pattern to a range of similar situations, and it is normative at both times, i.e., generally expected, generally sanctioned (positively and negatively) and generally happens" (NRP, Box 1, n.d.).

given society is, accordingly, the social process under consideration. Social transformation or social change occurs the extent to which there is a “modification of processual parameters” from cohort to cohort, namely, when the formerly established parameters of a life-cycle equation acquire the status of variables (Ryder, 1968: p. 550). This is why, to describe social change in a set of cohorts, “the parameters of their life cycles are what are to be compared” (NRP, Box 1, n.d.).¹⁹

Ryder’s conceptualization of social change is explicitly processual in the sense that it asserts the “primacy of process relative to structure,” with several implications (NRP, Box 3, c. 1990). In the first place, as noted above, structural change is epiphenomenal to, and thereby measured by, processual change. Likewise, the structure of the system, however conceived, is not independent of or prior to the process under consideration; on the contrary, for Ryder, “the process fixes the structure,” such that there is no structure if there is no process (NRP, Box 4, October 1961; see also NRP, Box 4, January 5–7, 1987).²⁰ As Ryder summarized: “Cohort processes imply cohort structures,” which can in turn be translated into “period structures” (NRP, Box 3, c. 1990).²¹ Lastly, by giving precedence to process over structure, Ryder’s framework “implies that one should study events rather than states,” where events are transitions from “one state to another” (NRP, Box 3, c. 1990). At the individual level, events are “linked with each other” in a “necessary but not sufficient sequence,” with collections of individual sequences “represented as processes at the aggregate level” (NRP, Box 3, c. 1990).

3.2 Stable vs. Transformative Societal Models

In some applications, Ryder suggested, it may be useful to propose a stable model, or one in which the structure is maintained more-or-less constant as a result of various “processes which neutralize endogenous or exogenous sources of variability” that “would otherwise change the structure” (NRP, Box 4, October 1961). Note that positing a stable structure is not necessarily tantamount to assuming that a structure is completely fixed. It is true that, in its most elementary form, a “structure may be thought of as frozen, or, if time is admitted, in a stationary state, in which processes

¹⁹ Note that, in a society in which socialization is dominant, social change will primarily reflect shifts in the educational, familial, and religious institutions; by contrast, in a society in which social control is dominant, social change will generally reflect shifts in the control of material resources (and thus the disbursement of rewards and benefits) via the economic, technological, and political institutions (NRP, Box 1, n.d.; NRP, Box 4, October 1961).

²⁰ However, while privileging the role of processes in shaping structures, he recognized the duality of process and structure. As he noted, there is “feedback in the sense that changes in [a] structure” can “have consequences for processes” (NRP, Box 4, n.d.). For example, Ryder noted that the Malthusian model of population growth posits that population size (a structure) leads to higher mortality rates (a process).

²¹ Ryder’s “translation algebra” (NRP, Box 4, June 1979; see also NRP, Box 2, n.d.) offers a way of converting cohort-based summaries into period-based summaries (and vice versa). As Ryder put it, translation algebra is a “procedure for determining cross-sectional [period] structures by tracing their sources through the prism of population [historical] time and personal time into cohort processes” (NRP, Box 4, n.d.). For details, see Ryder (1964b, 1980b).

within the system interfere with none of the parameters of that state” (NRP, Box 4, October 1961). However, in lieu of a stationary (or frozen) structure, a “small step forward toward reality is accomplished by conceiving of a stable structure” wherein “certain kinds of change are assumed, but within a framework of fixity” (NRP, Box 4, October 1961).²² In Ryder’s conceptualization, accordingly, shifts in the structure are generally permitted in a stable model as long as they exhibit “random disequilibrium,” or relatively “small displacements which can be handled by the system,” as distinct from “cumulative disequilibrium,” or “large displacements which are disequilibrating” and hence indicative of a structural transformation (NRP, Box 4, October 1961).²³ Other cumulative structural changes are also compatible with a stable model, provided that they do not affect, at least in any substantial way, the structure that is constitutive of the system under consideration. Thus, as Ryder emphasized, given any particular stable model, there is “no implication” that “many variables of importance from various viewpoints will not experience continual change within this fixed framework of behavior” (NRP, Box 4, October 1961).

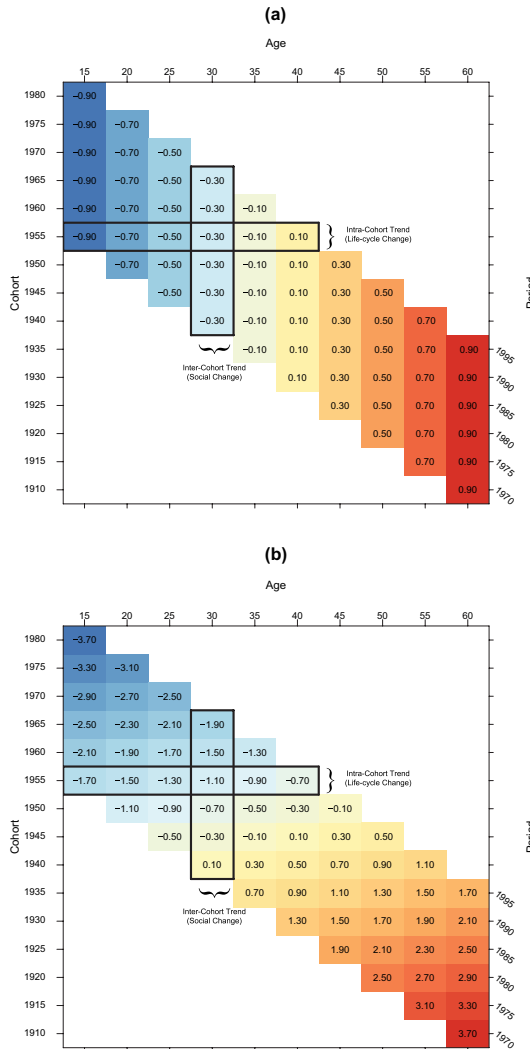
As a first approximation of a complex social system, Ryder presented the concept of a stable societal model as an analogue to the stable population model used in demography (Wachter, 2014; see also NRP, Box 4, n.d.; NRP, Box 4, c. 1961a, c. 1961b, c. 1961c; Ryder, 1975b, 1997a). In a stable population model, the age-specific birth and death rates are assumed to be “fixed through time” (NRP, Box 4, October 1961). Accordingly, there is an unchanging rate of population growth as well as an unchanging age distribution. Crucially, the stable population model undergoes no structural transformation in the sense that the age distribution is constant (i.e., the shape of the population pyramid is invariant through time), which is a function of fixed demographic processes of fertility and mortality.²⁴ In an analogous way, the stable societal model is characterized by an entrenched set of institutions, with established rules, norms, and related structural elements. The society is considered stable in that there is life-cycle change but no overall social change, namely, the institutions do not transform in any significant way over time; rather, there is simply an ongoing procession of life cycles for cohorts flowing in and out of society. Some versions of Parsonian structural-functionalism, for example, can be interpreted as positing a stable social structure, not to mention various equilibrium models²⁵ from economics as well as vacancy competition models from sociology (e.g., Sørensen, 1977, 1978).

²² I will treat a model with a “frozen” or “stationary” structure as subtype of a more general class of models in which the structure is “stable” (NRP, Box 4, October 1961).

²³ Ryder noted that this is not an invariably clear-cut distinction, and depends in large part on the level of analysis. At a higher level of analysis, some set of structural perturbations may appear as “small,” while at a lower level they may manifest as “large” and hence transformative (NRP, Box 4, October 1961).

²⁴ However, note that, in the stable population model, one can assume a non-zero growth rate, such that there is a “stable age distribution with a changing population size” (NRP, Box 4, October 1961).

²⁵ Although Ryder considered equilibrium models as potentially useful heuristically (NRP, Box 4, October 1961; NRP Box 4, c. 1961a, c. 1961b, c. 1961c), he was acutely aware of the limitations of the equilibrium concept. Not only are equilibrium models generally inadequate for examining structural transformations without considerable modification, but, argued Ryder, there lurks the danger that analysts using such models will inadvertently perceive more order than actually exists. As well, besides an order bias, equilibrium models are prone to a “conservative” bias, in which the status quo is implicitly viewed as preferable to any structural transformation, no matter how beneficial for the members of a society (NRP, Box 4, October 1961). As Ryder cautioned, it is “easy” to use an equilibrium model “as a political platform espousing conservatism” (NRP, Box 4, October 1961).



Notes: Panel (a) depicts a stable societal model, while panel (b) depicts a transformative societal model. Each cell gives the mean of some characteristic (or status) based on hypothetical data. Two sections are highlighted: the cohort section for the birth cohort born in 1955 (horizontal section) and the age section for those aged 30 years (vertical section). Comparisons within a cohort section reveal an intra-cohort trend (or life-cycle change), while comparisons within an age section reveal an inter-cohort trend (or social change).

Fig. 2 Stable vs. transformative societal models

To provide additional insight on Ryder’s views on structural change, consider Fig. 2, which displays a pair of two-dimensional heat maps indexed by cohort and age, with period on the diagonals. Panel (a) depicts a stable societal model, in which there is an absence of social change, while panel (b) depicts

a transformative societal model, in which there is both life-cycle and social change.²⁶ For both heat maps, each cell displays the mean of some characteristic or status based on simulated data consisting of 15 cohort groups, 10 age groups, and six period groups, with cohort calculated as the difference between period and age. To clarify the differences between the stable and transformative societal models, selected cohort (row) and age (column) sections are highlighted in both panels. First, the horizontal section in both panels identifies the set of individuals born in 1955.²⁷ Because cohort has been derived from age and period, we only observe this cohort for only a portion of its entire life cycle, from age 15 in 1970 to age 40 in 1995. As this cohort ages through time, the characteristic (or status) in both panels shifts across ages (columns) as well as periods (diagonals). In other words, comparisons within this section reflect an intra-cohort trend, or change over the life course. Second, the vertical section in both panels identifies the set of individuals at age 30. As we compare successive cohorts through time, the characteristic (or status) shifts across both cohorts (rows) and periods (diagonals). That is, comparisons within this section reflect an inter-cohort trend, or social change.

As shown in Fig. 2a, in a stable societal model each cohort that enters the society exhibits an identical life-cycle pattern for the ages (and periods) in which it is observed. The life-cycle change experienced by the 1955 cohort is highlighted by the horizontal section in panel (a), which reveals an intra-cohort trend that increases by 0.20 from left to right across adjacent cells. The lack of social change is highlighted by the vertical section in panel (a), which reveals that the inter-cohort trend for individuals at age 30 is 0. By contrast, as displayed in Fig. 2b, in a transformative societal model, each cohort that enters the society has a distinctive life-cycle pattern for the ages (and periods) in which it is observed. The life-cycle change experienced by the 1955 cohort is again highlighted by the horizontal section in panel (b), which again reveals an intra-cohort trend of 0.20. However, in contrast to panel (a), the society in panel (b) is undergoing considerable social change with respect to this particular characteristic or status. Consider, for instance, the vertical section in panel (b), which is again subset to those individuals aged 30 years old. The inter-cohort trend within this section is, from bottom to top across adjacent cells, 0.40, not 0. For example, for the cohort born in 1940 and observed in 1970, the expected mean outcome is 0.10, while for the cohort born in 1945 and observed in 1975 the expected mean outcome is -0.30 , a decrease of -0.40 . The fact that the life cycles of cohorts differ from each other in this way is the hallmark of a structural transformation. As Ryder emphasized, “the manifestation of social change is most relevantly observed in the comparison of the experience of successive cohorts” through time (NRP, Box 3, 1965).

²⁶ For simplicity of exposition, the discussion in this section is based on a subtype of the stable societal model in which the social structure is not just “stable” but “frozen” (NRP, Box 4, 1961).

²⁷ This is a slight simplification. If birth cohorts are calculated using 5-year intervals for age and period, as implied by Fig. 2, then individuals may have been born within a range of up to 10 years. For example, the 1955 birth cohort is a midpoint value referring to individuals born between 1950 and 1960.

Note that, when there is a complete absence of social change, as in the stable societal model depicted in Fig. 2a, the age patterns within cohorts are accurately reflected in the age patterns within periods.²⁸ As Ryder correctly pointed out, in a society devoid of social change, “each age group repeats the experience of the like age group in the preceding period” and thus the overall life-cycle pattern “may be observed in cross-section [i.e., within periods] as validly as in longitudinal section [i.e., within cohorts]” (NRP, Box 3, 1965). Accordingly, in such a society, the “average man [sic] could see his future in the experience of his elders, and his past in the behavior of those younger than him” (NRP, Box 3, 1965). For example, as shown in Fig. 2a, the age pattern for the 1955 cohort increases from -0.90 for those aged 15 to 0.10 for those aged 40. Likewise, within the 1995 cross-section, which is the top-most diagonal in Fig. 2a, the age pattern increases from -0.90 for those who are 15 to 0.10 for those who are 40. In other words, the life-cycle patterns within cohorts are mirrored, without distortion, in the periods. However, a caveat is in order: in any really existing society, which will certainly undergo some degree of social change as shown in Fig. 2b, the age patterns within cohorts will not, as a rule, be accurately reflected by those within periods. This is equivalent to stating that diachronic and synchronic analyses will, in general, diverge, with the extent of the discrepancy a function of the degree of social change.

The foregoing underscores that societies undergo many types of change, not all of which are social in character. In the first place, as discussed above, social change is distinct from life-cycle change, or trends within cohorts. Moreover, any individual change is not itself a social change, the latter of which entails changes in the distribution of individuals across cohorts (or other aggregates). This distinction, as Ryder noted, “maintains the social aspect of social change” (NRP, Box 1, n.d.). Perhaps less obviously, population change, or the replacement of sets of individuals by cohort succession, is also not social change.²⁹ This is simply a restatement of the fact that while cohorts may continually enter and exit a society, such that there is constant demographic turnover, the life cycles of cohorts may nevertheless be more or less invariant across cohorts, as in the top panel of Fig. 2. Lastly, social change is distinct from any change in the physical or biological environment. This is not to state, however, that biological or physical changes have no effect on a society. For example, Ryder noted that the “Black Death” of the mid-fourteenth century had far-reaching social consequences and may even have been responsible “for shaking Europe free from feudalism and Catholicism” (NRP, Box 4, October 1961). Yet any significant social change

²⁸ That is, in “a stable situation” it is “irrelevant whether the measurement” is “made by period or by cohorts” (NRP, Box 3, 1965).

²⁹ Furthermore, as Ryder explicitly stated, cohorts entering a society “do not cause change” (1965: p. 844). After all, to “assert that the cause of social change is demographic replacement would be tantamount to explaining a variable by a constant” (Ryder 1965: p. 844).

manifests itself as a shift in the social structure, as distinct from any change in the biological or physical environment.

The stable model of society, while providing a useful starting point for an analysis, is fundamentally an idealized construct. In any actually existing society social change is, in fact, “omnipresent and ubiquitous,” reflecting the realities of constant population turnover, complex system dynamics, and an ever-changing environment (NRP, Box 4, October 1961). As Ryder emphasized: “Change would be absent only if there were universal consensus, perfect replacement [of cohorts], no history, and spatial isolation” (NRP, Box 4, October 1961). This is not to state, however, that all societies are equally disposed to structural transformation. At the highest level of generality, societies differ in their degree of structural “stability” as opposed to “flexibility,” and thus in their capacity to undergo social change short of societal collapse (NRP, Box 4, 1961).³⁰

To clarify this distinction, note that, in Ryder’s view, the subsystems of any given society exhibit “dynamic interdependence,” differing in the extent to which they are connected to and capable of influencing other subsystems (NRP, Box 4, October 1961). Furthermore, various subsystems and their components are subject not only to countervailing processes that limit the degree of structural change, as implied by stable models, but also to processes of “cumulative circular causation,” or feedback loops that amplify their effects (NRP, Box 4, October 1961). Accordingly, while some structural changes have relatively isolated or minimal impacts on other subsystems, other changes have profound consequences that redound across the sociocultural system, following a principle of “interlocking circular interdependence within a process of cumulative causation” (NRP, Box 4, October 1961). In Ryder’s view, “stable” societies are generally characterized by counterbalancing movements in response to a structural change, while “flexible” societies are marked by reinforcing effects (NRP, Box 4, October 1961).³¹ The latter category of sociocultural systems also tends to institutionalize structural change through, for example, legislative and legal systems that permit the continual updating of rules as well as the deliberate implementation of policies that can, in principle, amplify initially modest structural changes. Likewise, the “institutionalization and application of science” not only allows for the possibility of “flexible” structural responses to environmental changes, but also introduces “a continual stream of factors of change into the social system” (NRP, Box 4, October 1961).

Ryder’s conceptualization of social change, in short, is grounded in a fundamental distinction, in principle applicable to any complex system, between structure, process, and transformation. At the most general level, a structural change, or

³⁰ Ryder viewed “stability” and “flexibility” as defining two diametrically opposite societies on a continuum, with the former characterized by “excess rigidity” and the latter by “excess pliancy” (NRP, Box 4, October 1961).

³¹ To illustrate the difference between structural stability versus flexibility, Ryder used the example of a system of variables. According to Ryder, the “stability of a system depends on the discrepancy between the range of variation actually occurring in a variable” and that which can be compensated “by appropriate variation of other variables” (NRP, Box 4, October 1961). Thus, in a stable system, for example, an upward shift in *X* corresponds to a countervailing downward shift in *Y*; by contrast, in a flexible system an upward shift in *X* corresponds to an upward shift in *Y*.

transformation, occurs when there is a change in a process itself. As Ryder asserted: “Social change is structural transformation, rather than the network of actions and interactions predicated in the routine operation of the social system” (NRP, Box 3, c. 1990). More specifically, social change (or a structural transformation) is reflected in variability across cohorts, whereas life-cycle change (or a social process) is indicated by variability within cohorts. Accordingly, a stable societal model may have considerable within-cohort variation, but no systematic variation across cohorts, and thus no social change beyond trendless perturbations.

4 The Varieties of Social Transformation

While the previous section outlined the overall contours of Ryder’s processual account of social change, this section expands on his framework by highlighting a number of different ways in which social change can be conceived and analyzed. This is accomplished, as Ryder noted, by developing “a style of research” that “extends demographic concepts into quite other realms” (NRP, Box 5, December 21, 1973). As I discuss below, there are two main ways in which Ryder extended his account of social change using insights from demography. First, he generalized the cohort concept (and, by extension, the definition of the population of interest) to a broad class of events with concomitantly diverse social processes and structural transformations. Second, he outlined how changes within and across cohorts can occur not only by individuals changing, or social mutation, but also by distributions of individuals changing through generalized demographic processes of fertility, mortality, and migration, or social metabolism. I discuss both of these extensions in turn.

4.1 Cohort-Defining Events and Processes in the Sociocultural System

Ryder’s conceptualization implies that any social process can, in principle, be minimally characterized by reference to some cohort-defining event, a set of cohorts (or “quasi-population”), and an axis (or dimension) along which the process of interest is experienced by the cohorts (NRP, Box 3, c. 1990). Accordingly, a change in the social structure is represented by cross-cohort variation in the social process. Because there is a wide range of possible cohort-defining events, each of which corresponds to a distinct social process unfolding along a given processual dimension, there are thus any number of ways in which a structural transformation can be conceptualized, measured, and modeled. Rather than a liability, Ryder viewed this flexibility as a major advantage for empirical research in that the analyst is “able to pick the right kind of cohort for any particular task” (NRP, Box 5, December 18, 1991).

In particular, Ryder emphasized that the concept can be “generalized beyond the birth cohort to cohorts identified by common time of occurrence of any significant and enduring event in life history,” broadly conceived (1965: p. 847). Each event that defines a cohort, in turn, defines a specific “quasi-population” (NRP, Box 3, c. 1990). The only requirement is that the cohort-defining event should

mark the beginning rather than the end of a processual sequence or, equivalently, an “exposure” interval (Ryder, 1992: p. 230). More precisely, the cohort-defining event should be that “specific event which initiates exposure to the risk of occurrence of the event of interest” (NRP, Box 4, June 1979). Each cohort-defining event is thus a “necessary but not sufficient condition” for observing “the occurrence of some later event” (NRP, Box 5, December 18, 1991). In essence, then, a cohort-defining event demarcates the beginning of some social process, or cohort-specific sequence of events, which unfolds along a particular processual axis.

Table 1 provides some examples of the different ways in which cohorts, and hence social processes and changes, can be conceptualized. For example, in addition to year of birth, cohorts can be defined by entry into a country, exit from prison, age at marriage, and so on. These cohort-defining events are necessary, but not sufficient, for the sequence of subsequent events that constitute the social process of interest. Consider, for example, recidivism after incarceration, as shown in the third row of Table 1. The cohort-defining event is leaving prison, which defines a sequence of events (a process of recidivism) that unfolds in the time since exit. Although leaving prison is a necessary condition for recidivism, it is by no means sufficient: many formerly incarcerated people desist from criminal activity.

A major advantage of Ryder’s framework is that it offers a tight coupling between sociological theorizing and empirical analysis. For any given application, explicit theoretical considerations determine the relevant cohort-defining event, social process, and processual axis under consideration. Once these elements are established, which, to reiterate, must be theoretically justified, a structural transformation can then be empirically measured by conditioning (or stratifying) on the levels of the processual axis and comparing how the process varies across cohorts. Take again the example of reoffending after imprisonment. The magnitude and direction of structural change is revealed by stratifying on the number of years since imprisonment and comparing recidivism rates across cohorts, which are defined by the date of release from prison.³²

It is crucial to underscore that Table 1 illustrates only a small subset of the many ways in which cohorts can be conceptualized and analyzed. Ryder, for example, believed that cohort analysis was particularly useful for studying the dynamics of organizations. A cohort orientation, as he argued, should “encompass all processes of role allocation, recruitment, training and education of personnel, dismissal and retirement within organizations of every size as well as the ‘generalized birth-and-death process’ for the organizations themselves” (NRP, Box 4, October 1961; see also Ryder, 1965: pp. 859–861). Ryder’s generalization of the cohort concept is also applicable to a wide range of contexts that are not of a purely social character. For example, structural changes in wine quality can be studied in terms of vintage, which defines a cohort of wines, along with a cohort-specific maturation

³² Likewise, as suggested by the first row of Table 1, social change across birth cohorts can be measured by stratifying on age and comparing life cycles across cohorts, which are defined using birth year (cf. Ryder 1965, 1968, 1992). This is equivalent to examining variation across cohorts (i.e., within vertical sections) of the heat maps displayed in Fig. 2.

Table 1 Examples of cohort-defining events and corresponding social processes

Example	Cohort-Defining Event	Social Process	Processual Axis
Birth Cohorts	Birth Year	Life-cycle	Age
Immigration	Date of Entry	Acculturation	Years in Country
Reoffending	Exit from Prison	Recidivism (or Desistance)	Time Since Exit
Organizations	Founding Date	Growth (or Death)	Years Since Founding Date
Divorce	Age at Marriage	Marital Development	Years Married
Education	Matriculation	Educational Trajectory	Year in College

process. Accordingly, a structural change in wine quality is indicated by a change in the maturation process for wines of different vintages. Such an approach can be similarly applied to the study of structural changes in stock portfolios (Christodoulou, 2018), mammalian populations (Pigeon et al., 2018), and tree growth (Bowman et al., 2013), to name a few examples.

4.2 Social Metabolism and Mutation

Besides promoting the cohort concept as a general analytical tool, Ryder also advocated for an explicitly “demographic” approach to understanding the nature and sources of social change (NRP, Box 3, c. 1990; Ryder, 1964a: pp. 460–463). Elaborating on the core insights of Simmel (1898) as well as Sorokin and Anderson (1932), the key idea in this respect is the fundamental difference “between change by metabolism and change by mutation,” or social metabolism versus social mutation (NRP, Box 5, December 21, 1973). As Ryder defined it, social metabolism refers to “change because of substitution of some individuals for others in an aggregate,” while social mutation refers to “change in the characteristics of the individuals themselves” (NRP, Box 5, December 21, 1973; see also NRP, Box 3, c. 1990). Importantly, this means that the cohort aggregate is “exposed to a type of change” that is “not available to the individual” (NRP, Box 3, c. 1990).³³ Social metabolism can be distinguished from demographic metabolism in that the latter becomes an instance of the former insofar as there is differential selection according to some “characteristic” or “status” (NRP, Box 3, c. 1990). This again underscores that a constant flow of cohorts in and out of the population, or population change, is distinct from social change.

Based on the distinction between social metabolism and mutation, any social process can itself be broken down into four additional, distinct subprocesses.³⁴ Table 2,

³³ Note, of course, that social metabolism is distinct from “individual metabolism,” or the process of converting food and drink into energy for activity (NRP, Box 3, c. 1990).

³⁴ Note that, from Ryder’s perspective, the fact that one does not necessarily track the same individuals as they age across periods is not itself problematic. The reason is that cohort analysis is an “aggregate macro-biography,” not an individual case history (Ryder 1965: p. 859). As Ryder pointed out, “the cohort is a population, with continual change in personnel over time, through mortality and migration, and that is part of the story” (NRP, Box 5, December 18, 1991). Although not explicitly discussed by Ryder, it should be noted that panel data, in which the same individuals are tracked over time, is in general required to disentangle processes of mutation versus metabolism in a given cohort.

for instance, shows the four main processes underlying the life cycle of a birth cohort (the social process of interest) as it ages across periods, from birth to death. First, as described in the top entry in Table 2, a distribution of some cohort attribute is initially determined by the selective process of birth, or what Ryder called the “historical selectivity of parenthood” (NRP, Box 4, June 1979; see also NRP, Box 3, c. 1990; NRP, Box 3, n.d.). This is simply the fact that an “initial distribution of cohort members with respect to any characteristic is created in the period-specific context at the time of birth” (NRP, Box 4, June 1979). Second, as shown in the second entry in Table 2, the cohort distribution may subsequently change through a selective process of survival. As Ryder put it, “the initial distribution is subject to change through time because of mortality, itself generally associated with particular statuses within the distribution” (NRP, Box 4, June 1979). Third, the distribution may also change through a process of net migration, in which cohort members with a particular characteristic enter or leave the cohort distribution, with the stipulation that the shifts do not cancel each other out (NRP, Box 3, c. 1990; NRP, Box 3, n.d.).³⁵ Lastly, as outlined in the bottom row of Table 2, the cohort distribution may change through a process of “net mobility” (NRP, Box 4, June 1979). As Ryder put it, the distribution “changes as a consequence of the movement of members from one to another status within the distribution,” again with the caveat that these movements “do not cancel one another out” (NRP, Box 4, June 1979). Note that although any given movement from one to another status occurs at the level of the individual, “the mobility may itself reflect characteristics of the aggregate, one of which would be the size of the cohort” (NRP, Box 4, 1979).

To illustrate how these processes operate, consider, for example, changes in the distribution of religious intensity, or the strength of one’s religious affiliation, as a birth cohort ages across periods from young adulthood to old age (see also Abbott, 1997). For any particular birth cohort, the initial distribution is determined by differential fertility with respect to religious intensity. For example, religious parents may be more likely to have children than their secular counterparts, resulting in a distribution of young adults skewed toward a relatively high religious intensity. However, this distribution may shift as the cohort ages over time due to differential migration. For instance, those with lower levels of religious intensity may be more likely to enter the cohort distribution, while those with higher levels may be more likely to leave the distribution. This, in turn, may be offset by the fact that religious individuals are less likely to leave the distribution through differential mortality. As well, through the process of net mobility, individuals themselves may shift to lower (or higher) levels of religious intensity as the cohort ages across periods. For example, while one might expect religiosity to decline in young adulthood as cohort members are exposed to new ideas and value systems, there might be an increase in religiosity in later adulthood as members approach the end of the cohort’s life span. Note that, as Ryder underscored, although mutative processes involve changes at the individual level, they may well be due to cohort-specific characteristics and thus necessitate a cohort orientation. For instance, for a birth cohort with a large number of individuals, there may be less competition among

³⁵ As Ryder noted, this can include “definitional migration” wherein individuals are inappropriately categorized into some cohorts rather than others “as a consequence of misenumeration” (NRP, Box 3, c. 1990).

Table 2 Social metabolism and mutation over a cohort's life cycle

	Process	Description
Social Metabolism	Selective process of birth (or fertility)	Establishment of an initial distribution of a characteristic within a cohort
	Selective process of survival (or mortality)	Differential mortality of cohort members with respect to a particular characteristic
	Process of net migration	Difference between number of individuals with a particular characteristic entering and exiting the cohort distribution
Social Mutation	Process of net mobility	Difference between number of individuals acquiring and losing a particular characteristic in the cohort distribution

religious groups to recruit new adherents, which in turn reduces the relative proportion of individuals who convert from a low to high religious intensity.

The discussion above refers to metabolic and mutative processes that occur within a given birth cohort as it moves through time from young adulthood to old age. It follows that similar processes of fertility, mortality, mobility, and migration occur within age groups as cohorts are compared across periods. While in some cases successive cohorts may have quite unequal, heterogeneous distributions, in other cases they may be more or less uniform with respect to a particular characteristic. Consider again, for example, the distribution of religious intensity compared between two successive cohorts observed in successive periods. The two cohorts may differ with respect to the selective process of fertility, such that, for instance, parents with a higher religious intensity may be less likely to have more children in the later cohort than in the earlier cohort, thereby leading to a cross-cohort decline in religiosity. Similarly, the selective process of mortality may differ across the cohorts, such that those with a higher religiosity are more likely to die in the later cohort than in the earlier cohort, again resulting in a cross-cohort decline in religious intensity. In addition, the process of net migration may differ between the two cohorts, with the later cohort having a greater influx of secular members than the earlier cohort. Lastly, there may be a cross-cohort difference in the process of net mobility, with more individuals in the later cohort moving to lower levels of religiosity than in the earlier cohort. Again, although net mobility entails individuals changing statuses, it may be rooted in cohort-level characteristics, such as the fact that the distribution of educational attainment may be higher in the later cohort rather than in the earlier cohort.³⁶

³⁶ The implication is that any given individual in the later cohort is more likely to shift to a secular viewpoint because of a greater exposure to highly educated individuals.

It should be emphasized, however, that social metabolism and mutation, as demographic ways of thinking about change within and across birth cohorts, are distinct from life-cycle and social change or, more generally, social process and transformation. Importantly, in the short run (defined in this context as the feasible upper limit of a cohort's life span), life-cycle and social change may each be due to either social metabolism or social mutation (or both).³⁷ In the long run, however, it is necessarily the case that social metabolism is the dominant source of social change. To illustrate this, consider, for a given stratum of age, the comparison of successive cohorts in successive periods. The differences could reflect a combination of both social metabolism and mutation, that is, processes of fertility, mortality, and migration as well as net mobility. However, suppose we were to stratify among those who are 20 years old and compare the distributions of a characteristic (or status) between, say, a cohort born in 1880 (and thus observed in 1900) and another cohort born in 1980 (and thus observed in 2000). Suppose further that the upper limit of life expectancy is 120 years. By the later period, all previous members of the cohort would have died out, so that the difference in the distributions between these two cohorts (and periods) is entirely due to social metabolism rather than social mutation.³⁸ Thus, in the long run, social change is entirely attributable to social metabolism, but over a duration less than the life span of the entering and exiting cohort members, both metabolism and mutation will contribute to social change.

Even in the short term, however, metabolic processes often have profound effects on a society. First, small differences in metabolic processes between groups frequently have enormous consequences, some of which are not always obvious. Take, for example, the differential mortality (or out-migration) of self-identified men. Even relatively small gender-specific metabolic processes can have striking effects on a wide range of social phenomena, affecting marriage patterns (e.g., it is more difficult to find a male partner during or after a war), official labor force statistics (e.g., more women worked in the United States during World War II), crime rates (e.g., fewer young men may lead to lower overall crime rates), and electoral outcomes (e.g., women tend to vote to the left of men on many issues). Moreover, metabolic changes are particularly consequential in the short run when social mutations are rare in a society: after all, in a society with no individual-level change, all social change is metabolic.

While Ryder recognized that mutations do occur, he adopted the Mannheimian perspective that individuals change their attitudes and beliefs primarily in early adulthood, shaped by formative events and processes such as wars, revolutions, recessions, and technological innovations. Research on individual-level change generally

³⁷ Regarding just metabolic changes, Ryder contended that differential migration is “the most striking influence in the short run” while “differential natural replacement” via fertility and mortality is “generally more important in the long run” (Ryder 1965: pp. 845–846).

³⁸ The time for all cohorts to be replaced by new cohorts is equal to the length of a cohort's life span. So, for example, suppose that the life expectancy of a cohort is 120 years. This means that, for any given period, the cohorts in that period will be replaced entirely by new cohorts 120 years in the future.

supports Ryder's perspective, with recent studies providing evidence for a so-called "settled dispositions" rather than an "active updating" model of individual-level change (Vaisey & Kiley, 2021; see also Bourdieu, 1990; Corning & Schuman, 2015).

So far, the discussion has been restricted to the analysis of birth cohorts, which by definition are subject to processes of fertility, mortality, and migration. Yet Ryder believed that the ideas outlined in Table 2 could be applied to a wide range of cohort-defining events and processes. To illustrate this, Ryder outlined the general process by which a cohort of individuals joins a social organization, such as a university or a private firm. The selective process of birth is instead a selective process of recruitment, while survival refers not to mortality per se but to individuals leaving the organization, which could be for any number of reasons.³⁹ Ryder likened the process of selective recruitment to a "barter process" that reflects "the aggregate properties of all sellers and buyers" at the time of recruitment (NRP, Box 4, June 1979).⁴⁰ As he put it, "individuals with various relevant properties engage in the transaction to apply for membership to the agents of those groups" while "the agents choose among the applicants" (NRP, Box 4, June 1979). After this initial distribution is established, "there will be departures from that social subsystem" that reflect not only the characteristics of the individual, but also "of the cohort of which the individual is a member" (NRP, Box 4, June 1979).

Consider, for example, a cohort of individuals entering a particular college, a specific type of social organization (or subsystem) of a society. An initial distribution is established through a complex process in which individuals consider applying for admission to different colleges, while college admissions officers consider different individuals for admission (NRP, Box 4, June 1979). Once individuals accept an offer of admission to a particular college, an initial distribution of students is established, with corresponding distributions of various traits and behaviors. This distribution may subsequently change through net mobility, as individual students alter their traits and behaviors during their time at the college. However, a process of selective survival (or exit from the college) also changes the distributional traits and behaviors of the cohort until graduation, at which point all students leave the college. This, in turn, creates a new cohort, that of the alumni of the college, who are accordingly subject to additional processes of survival and net mobility.

In summary, Ryder's "demographic" approach to conceptualizing and analyzing social change is complex yet flexible, adaptable to a wide range of contexts. For Ryder,

³⁹ Note that in this case no distinction would be made between net migration and mortality. From the perspective of the organization, any individual leaving, for whatever reason, would count as a "death" of that individual.

⁴⁰ Specifically, he viewed the entry of an individual into any social group in terms of "a marriage between an individual and a group," so that the "marriage market at the time procedures an initial configuration of the marriage cohort" (NRP, Box 4, June 1979). Elsewhere Ryder also noted that the distribution of individual elements in an aggregate can be altered through processes of social "fusion" versus "fission" (NRP, Box 4, January 5–7, 1987). The former refers to an individual joining a group, while the latter refers to an individual leaving a group. For example, one person marrying another is a process of social fusion in that one person joins the family as an aggregate; conversely, one person divorcing another is a process of social fission in that one individual leaves the family.

the cohort concept can be generalized to any number of events corresponding to a diverse array of social processes and, accordingly, structural changes. Moreover, building on his distinction between social metabolism and mutation, any given cohort-specific social process can be divided into four subprocesses based on net mobility as well as differential patterns of fertility, mortality, and migration. Importantly, only the first of these subprocesses actually involves individuals themselves changing; the last three are entirely distributional, and thus, in Ryder's view, necessitate a cohort perspective.

5 Conclusion

Drawing on Ryder's seminal (1965) essay on cohort analysis as well as a trove of unpublished documents, letters, and notes, in this article I proposed a new demographically based theory of social change. The core insight of this framework can be summarized in the dictum that, in any complex system, social or otherwise, *a change in process reflects a change in structure*. This is why, to examine social change, or a transformation in the social structure, one can compare the life cycles of cohorts, or, more generally, the social processes of cohorts. If there is no difference in the life cycles (or social processes) of cohorts, then, as with the stable societal model, there is no social change (or structural transformation).

More generally, the Ryderian theoretical framework developed in this article advances the literature in a number of ways. First, this article significantly extends Ryder's seminal sociological contribution, his 1965 article linking cohort analysis to social change. His classic essay is, in fact, only a small part of his overall framework, focusing on how the educational and familial institutions are related to the problem of societal persistence due to demographic turnover (see Fig. 1). Second, a Ryderian approach offers a rapprochement between what has been called the "central dilemma" in sociological thought, namely, that between ontological "individualism" versus "holism" (Subrt, 2019; see also Zahle & Collin, 2014). By using the cohort concept as an interstitial device linking individuals to social aggregates, Ryder's framework avoids the Scylla of reductionism and the Charybdis of reification. Additionally, his cohort-centric approach helps to ensure not only that the explanans and explanandum of social change are at the same level of analysis, but also that sequences of temporal events are preserved, thus maintaining the continuity of individual lives and the distributional integrity of cohorts.⁴¹ Third, by embedding society in the population and environment, a Ryderian framework helps orient researchers towards not just the temporal but also the spatial features of society. It is noteworthy that Ryder's theoretical framework so explicitly incorporates temporal and spatial dimensions, both of which have historically been lacking in social theory more generally.⁴² Fourth, a Ryderian theory of social change contributes to recent discussions on the merits of viewing sociology as a kind of "population

⁴¹ This topic is discussed in greater detail in the online supplement.

⁴² As Giddens (1979) has pointed out, "most forms of social theory have failed to take seriously enough *not only the temporality of social conduct but also its spatial attributes* [emphasis in original]" (202).

science,” as argued forcefully in a recent treatise by John Goldthorpe (2016; see also Gërxfhani et al., 2022; Goldthorpe, 2021; Xie, 2007). Importantly, by embracing an explicitly demographic mode of analysis yet rejecting methodological individualism in favor of methodological cohortism, Ryder’s account lays the foundations for an alternative vision of sociology as a population science that avoids some of the strictures inherent in Goldthorpe’s project (see Ruonavaara, 2018). Finally, and arguably most importantly, a demographically based Ryderian framework helps to narrow the divide between theoretical models of social change and empirical research. As Abbott (2000) has pointed out, “great theory” is nourished not only by “prior theory” but also by “reflection about the empirical world” (299). By grounding a processual account of social change in the analysis of cohorts, there arises the possibility of a virtuous feedback loop wherein theoretical insights are informed by empirical results, which in turn help to further refine theoretical models. The extent and nature of social change can be examined using virtually any form of data, qualitative or quantitative, by specifying a cohort-defining event and then examining the variability of subsequent sequences of events across cohorts, however conceptualized.⁴³ More formally, a Ryderian framework suggests a mathematical process can be specified, with a structural transformation captured by a change in the process parameters across cohorts. In this respect, Ryder’s concept of social change can be estimated using a number of existing techniques, including not only regression models, but also sequence analysis (Abbott, 1995; Aisenbrey & Fasang, 2010; Pelletier et al., 2020; Ritschard & Studer, 2018) as well as stochastic process models (Edling, 2002; Hernes & Land, 2015; Land, 1971; Sørensen, 1977, 1978, 1979).

This article fills a significant gap in the literature by introducing a rich, flexible set of conceptual tools for theorizing about the nature and extent of social change. For several reasons, however, Ryder’s ideas fall short of constituting a fully developed theory. First, the ideas presented here are based on a large but fragmented collection of notes and documents, and thus this article offers only an interpretation of Ryder’s theory rather than a definitive account, which does not exist. It follows that different scholars examining the same collection may develop somewhat different interpretations of Ryder’s account of social change. Second, although Ryder recognized the inherent problems of a stable model of society, he occasionally gravitated toward such a model, particularly in his unpublished sociological writings, many of which were written at the height of structural-functionalist thinking. This tendency manifests itself in his corpus as an overemphasis on processes of social equilibrium and a general neglect of the role of power and conflict in generating social change. This is compounded by his view that shifts in fertility rates are primarily due to changing social norms, and thus to cultural factors, rather than to underlying economic or political structures.

⁴³ Note that conventional APC data, or time-series cross-sectional data organized by age, period, and (birth) cohort, can be used to estimate parameters representing life-cycle and social change. However, as previously noted, such data is not sufficient to disentangle processes of mutation versus metabolism: separating metabolic from mutative processes requires APC panel data, in which the same individuals are tracked over time within cohorts.

The most critical limitation, however, is that Ryder's ideas about social change are more of an overarching theoretical framework, defined by a set of general metatheoretical principles and concepts, rather than a concrete explanatory theory. As a result, while his ideas provide a starting point for conceptualizing and describing social change, they lack the specificity needed to explain a change once it has been identified.⁴⁴ Suppose, for example, that a researcher is interested in studying the dropout rates of successive cohorts entering a college. As Ryder rightly observed, the fact that dropout rates vary across cohorts as they are compared through time indicates the presence of a processual shift, and thus a structural change. Beyond highlighting the importance of cohort turnover and events early in a cohort's history, however, Ryder's theoretical framework provides little insight into the causal mechanisms likely driving this change, which could result from any number of internal organizational factors (such as stricter grade requirements or evolving social norms about college success) or external factors (such as a worsening economic environment that drives less prepared students into college). In this respect, Ryder's framework serves as a foundation for measuring social change and generating further questions, but provides minimal guidance for identifying specific mechanisms underlying observed structural changes.

There are, accordingly, a number of ways in which the Ryderian theory of social change advanced in this article can be further developed. In the first place, his approach could be improved by incorporating more detailed accounts of the ways in which cohorts are socialized into a society's existing norms, values, and beliefs. Insights from contemporary research in social psychology (e.g., Grusec & Hastings, 2015; Schönplflug, 2009) could fruitfully provide a more detailed theoretical account of cross-cohort socialization, helping to specify the underlying mechanisms involved (see also Mortimer & Simmons, 1978; Mortimer, 2002). Second, his account focuses largely on relatively gradual structural changes and downplays the importance of short but transformative events. Thus, his theory could benefit from incorporating the role of revolutions, wars, and other disruptive events in triggering both short- and long-term structural changes (Goldstone, 1991). Third, although Ryder recognized that social processes are likely to differ across various social strata, such as gender and geography, his approach could use a more explicit integration with theories of social stratification (Savage, 2021). One approach, for example, is to combine Bourdieu's theory of practice with a Ryderian cohort perspective, focusing on understanding how the habitus varies across not only social classes but also successive cohorts (Bourdieu, 1990; Edmunds & Turner, 2002; Eyerman & Turner, 1998). Fourth, Ryder's theoretical account could be expanded by considering how the ideas of other process-oriented social theorists can be integrated into Ryder's cohort-centric mode of theorizing (e.g., Abbott, 2016; Delmotte & Górnicka, 2021; Elias [1978], 2000; Šubrt, 2020; Šubrt et al., 2020; Wilterdink, 2018). For example, future research could examine how Elias' concept of "figuration" might be integrated with Ryder's concept of "cohort," both of which can be understood as

⁴⁴ I am grateful to an anonymous reviewer for pointing out this important limitation and for providing the example in this paragraph.

attempts to overcome the apparent micro–macro antinomy in social theory (Šubrt et al., 2020: pp. 10–12). Lastly, Ryder’s theory lacks sufficient attention to reflexivity, specifically the conditions under which a cohort shifts from a demographically and sociologically meaningful entity (“cohort in itself”) to an active political entity with a perceived common identity (“cohort for itself”). In this regard, Ryder’s account may be expanded by incorporating insights from more recent research on generational consciousness, meaning-making, and collective memory (e.g., Bristow, 2016; Corning & Schuman, 2015; Edmunds & Turner, 2002; Schuman & Rodgers, 2004).

Despite its limitations, the Ryderian framework proposed in this article provides the conceptual basis for developing more detailed, empirically grounded theories of social change. By placing cohorts and their social processes at the center of analysis, Ryder’s approach transcends traditional divisions in both theory and method. As Ryder argued, analysts “who have specialized in the individual level of explanation” are generally “receptive to the view that an individual’s experience may be relevant” for their “present behavior” (NRP, Box 4, June 1979). Yet, such analysts “have by and large abstracted their study” from the “individual’s location in history,” neglecting the broader context in which any particular individual is embedded (NRP, Box 4, June 1979). Conversely, “those who have worked on the aggregate level” have “tended to lock themselves into the straitjacket of calendar year history,” thereby “losing sight of the life cycle,” or the inherent sequencing of events actually experienced by any given individual (NRP, Box 4, June 1979). The advantage of a cohort mode of theorizing is that “it forces one to confront the implications of both perspectives,” rendering “explicit the distinction between the individual and the aggregate level of discourse” while raising “questions which might not otherwise be asked” (NRP, Box 4, June 1979). In short, and perhaps most importantly, “the cohort orientation begins not at the end, as the period orientation does, but at the beginning, as life itself does” (NRP, Box 4, June 1979).

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