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Introduction to the Special Issue of the Journal of Educational Controversy

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Introduction to the Special Issue of the *Journal of Educational Controversy*.

John G. Richardson

Abstract

This issue addresses the uneasy relation between 'best practices' in educational research and the consequences that often follow from efforts to implement practices deemed best. This relation is often complicated by the social phenomenon long recognized as "unintended consequences". It is proposed that controversies in education, as well as practices advanced as best, are shaped as the consequences -subsequently revealed as the very product of the good intentions that underlie prevailing theory and methods.

Introduction

Beginning with physics, then soon after with biology and linguistics, and then almost predictably the social sciences, the concept of *linear* has not had an easy time.¹ Its major competitor, if not successor, is the concept *dynamic* and its foundation emphasis on the non-linear. From the notion of dynamic were spawned newer and younger concepts that could be defined by their contribution to dynamic systems, whether they were fluids, weather conditions or biological ecosystems. And from natural systems it was a short distance to social organizations and cultural systems. With the traditional walls that kept the natural distinct from the social losing their function and legitimacy, the view of each through the camera of linearity seemed an archaic and misleading construction. With the rise of concepts that appeared to fit all systems, the notion of linearity seemed to be an historical reflection of Darwinian struggles within severely hierarchical worlds. Comparative images seemed to be compelling evidence of linearity. But if both the natural and social worlds were inherently dynamic systems, foundational concepts were needed that would fit the

¹ Andrew Abbott, "Transcending general linear reality." *Sociological Theory*, 1988, 6: 169-186.

compelling evidence of non-linearity. If original conditions did not bear any causal similarity to eventual outcomes, the predictive powers of linear regression seemed to be undercut. If different original conditions could, and often did result in similar eventual outcomes, then it seemed that chaos theory, fuzzy logic, equifinality, autopoiesis, laminar flow, terms and concepts confined largely, if not entirely, to physics and biology could as well. But once the borrowing of concepts began, the confinement of concepts and terms into disciplines of physics or biology appeared more and more indefensible. Once the gates were opened, so did a closer look; and so it began and has not let up.

Arguably the concept particularly responsible for the opening of disciplinary gates is the concept of *emergence*. The centrality of emergence derives from its simple definition – that entities, natural and social, are more than the sum of their parts. Analyses cannot proceed by reducing levels and properties down to the parts that compose them. Kinship and family entities are more than the roles and persons that compose them; and educational systems are more than the teachers, administrators, and students that constitute them. Kinship and educational systems are irreducible, for strategies that extract one or more levels for analysis are seriously restricted, or lead nowhere. Although Karl Marx emphasized, “Classes only exist in relation to one another,” so much of his work and that of others during his time fell victim to the lure of reduction. Especially attractive is the tendency to “deduce” attitudes, orientations or beliefs of a social group from the presumed “position” of a group in the broader society. The terms denoting social groups, like race-ethnicity, class, gender, age, come with attributes that can derive from prejudicial deductions that can remain static and linear. Deductions made from these attributes rely on what is visible, while what is invisible may often contain what is more causally significant.

These claims can appear far from new or even accurate. However, the claims are themselves extensions or derivations of the concept emergence. Yet, there is a broader claim that amplifies the significance of emergence when the

concept of emergence is itself a product of intricate historical forces, ones that were set in motion in the latter decades of the 18th century to mid 19th century and evolved in a path that led inexorably to the intellectual influence of the classic works of the turn of the 19th century. This thesis begins with a crucial note, or reminder: that much of the influential social thought of the late 18th century, the first generation of thinkers, focused on “invisible causes,” but did so with analytical intentions, abandoning metaphysical declarations or interpretations. The broader argument here is that the legacy of these thinkers and their works has often been misinterpreted, or simply ignored, for they became victims of the late 19th century institutionalization of the behavioral sciences. While it is common, but mistaken, to see the rise of sociology as the beneficiary of the decline of utilitarianism, the scope of this error has been costly, in time and thinking. In time, not until the latter decades of the 19th century did a rebuttal to entrenched views of causality arise, and with it arose a return to the thinkers once set aside and considered mistaken or irrelevant. Now the works of such figures as Adam Smith, J. J. Rousseau, Jeremy Bentham, Baron de Montesquieu, Alexis de Tocqueville, Vico, are acknowledged for their conceptual depth and analytical powers.

In their works, individual and collective, this ‘first generation’ of social theorists produced a body of ideas that set the framework for the classic works of the late 19th century. The decade of the 1890s alone advanced social theory by retrieving the ideas of the first generation. Without their shoulders, the works of Emile Durkheim (1858-1917) and Max Weber (1864-1920), to mention two whose own works and influence relied deeply on the ideas of their forerunners, would likely not have had the depth or influence they did. By the beginnings of the 20th century, this rich legacy was fading, reduced by the scrambling competition of the disciplines composing the behavioral sciences. This competition was moderated, in part, by the overarching rule to define what is distinctive about each discipline. For all members of the general category of behavioral science,

the substance of theory could vary considerably, for each discipline had demarcated their population of subjects. Yet the inclination for fragmentation required a stabilizing rule, and that was methodology.

The structure of early social thought, as we shall explore briefly, holds a key to the theoretical and methodological course taken by nearly all of the social sciences. If the works of Emile Durkheim are unraveled, this “structuring” can be seen. As the “father” of the sociology of education, Durkheim’s works might be called the father of “best practices”. What is likely the most influential outcome that was to define and explain education and learning was the triumph of the “linear”, or restated, the marginalization of the non-linear. As the politics of educational access became renamed by terms like ability, intelligence and achievement, and measured by the methods of normed tests, education became increasingly standardized. We may entertain a larger thesis: the course taken by national educational systems from the late 19th century to the present exhibits similarities to the course taken by social theory from the late 18th century to the classical tradition of the early 20th century. Both histories have been shaped by the struggles between the linear and non-linear, and between the visible and invisible. If we insert the concept of emergence, both histories have had moments wherein the premises of ability, intelligence, and achievement have been challenged and reconceived. At the center of these struggles, in can be argued, is the dynamic influence of social paradoxes – or what Mohamed Cherkaoui denotes as the paradox of unintended consequences.² The prevalence and significance of unintended consequences has not been sufficiently recognized, in part because examples tend to be interpreted as accidents or insufficient application of research methods. If these images are rejected by conceiving of unintended consequences as an integral part of a research problem,

² Mohamed Cherkaoui, *Invisible Codes. Essays on Generative Mechanisms*. Oxford, UK: Bardwell Press, 2005; and *Good Intentions, Max Weber and the Paradox of Unintended Consequences*. Oxford: UK: Bardwell Press, 2007;

or more assertively of social life itself, then the “generation” of consequences that are at odds with intentions is a normal outcome, and indeed one that can advance knowledge in multiple ways, for unintended consequences are not the province of any single discipline.

What can immediately capture one’s attention is the vagueness of the phrase ‘unintended consequence,’ especially in cultures that confer such importance to intentions, and worry about their consequences. There is an evident tendency to think of such consequences as mistakes or research results gone wrong. On the contrary, the concept is akin to paradox, a term that enjoys a fairly widespread usage in everyday language. Our interest here is precisely this connection of the two terms, and the explanatory power that inheres from their union. It is a reasonable claim that analyses of social paradoxes and their unintended consequences can yield considerable insight, and can guide interpretations away from what have, at times, gone terribly wrong.

The papers that constitute this volume hope to raise questions about conventional and formal beliefs and the usual arguments that are their representation. A specific focus of this hope revolves around the “visibility” of social inquiries, their analyses, interpretations and subsequent causal claims.

The Legacy of “Invisible” Causes: Adam Smith to Emile Durkheim

All influential thinkers don’t just emerge based on the innovative quality of their works. Even before the “classical tradition” in social theory, said to mark the latter decades of the 19th century, the works of Adam Smith (1723-1790) explored a variety of topics that foreshadowed the seminal works of the classical tradition. He lived during the political and cultural decline of absolutism and the acceleration of industrial capitalism. These “macro-structural” changes presented examples of change and continuity that would be his subject matter. Noted most for *Wealth of Nations* (1776), his first work *A Theory of Moral*

Sentiments (1756) was a conceptual prelude to the magnitude and depth of comparative wealth and prosperity. What makes Smith especially relevant to the topic here is his use of the term “invisible hand”, a notion that has intrigued and befuddled generations from its publication. Yet however befuddled, Smith’s reference to “invisible” was meant to describe a paradox: the paradoxical relation between private acts and public outcomes, a dynamic initially explored by Bernard Mandeville (1670-1733) but ignored by so many of his peers and beyond.

From his early treatise on “moral sentiments,” Smith turned to the distribution of wealth in nations, but with a novel explanation for the “paradox” of individual intentions and societal outcomes:³

...he [the individual] generally, indeed, *neither intends* to promote the public interest, *nor knows* how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as the produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an *invisible hand* to promote an end which was no part of his intention. ...By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

With the notion of an invisible hand Smith situated causation outside or independent of the intentions, designs, or expectations of actors. Individual intentions may seem to be necessary or even sufficient for a behavior or outcome, but Smith demonstrated the opposite. Moreover, actors are unaware of the

³ Cherkaoui, *Good Intentions*, p. 23.

actual conditions that cause a behavior or event, and, like intentions, such awareness can be quite irrelevant or inconsequential.

As Mohamed Cherkaoui points out, the Smith model does in fact “teach us,” and is safely ensconced in economic theory: “an economic system where decisions are decentralized and where actors are so numerous that none of them can influence prices, can organize itself perfectly efficiently without any external intervention of any sort.”⁴ Such an economic and social circumstance as decentralization and controlled competition may apply to a number of behaviors beyond the economic system, particularly education. There are many examples of the constancy of aggregate phenomena, including suicide, types of crime, school dropout rates, enrollment and graduation disparities, all of which repeat with little to no interpersonal interactions. Such repeating behaviors exemplify Smith’s “invisible hand.” Smith’s greatest insight may be the foresight to describe the causal mechanism as invisible, thereby affirming the causal role of emergent outcomes.

Beginning around the 1830s, European states employed the “social survey” that sought counts of population groups and behaviors relevant to state interests, particularly crime and suicide. Such was the origin of the term statistics. While a politically motivated effort, the practice and results elevated the knowledge of such counts to considerable political significance, and would in turn elevate the academic stature of statistics. Prominent figures trained in mathematics and philosophy saw the value of statistical investigations of social conditions, not only for state interests, but for the emerging blend of traditional disciplines with moral questions and problems of the time. One figure that exemplifies these changes was the Belgian philosopher and mathematician Adolphe Quetelet (1796-1874).

⁴ Ibid, p. 24.

Among his many publications, his *Treatise on Man*, published in 1835, marked a decisive point in this blending of disciplines. The essence of the work was the statistical patterns of crime and suicide data, particularly the pattern then labeled the normal curve of error. The prominence of this shape led Quetelet to name the study of social counts “social physics”. The name was first made by August Comte who was so infuriated that he invented the counter name “sociology”. Comte’s name stuck, in spite of his dislike for the practice of counting groups and behaviors. While Comte won the name contest, Quetelet won the statistical contest that soon led to the contest of causation.

The most puzzling question had to do with the most intriguing of patterns: the apparent constancy of aggregate rates, be they crime or suicide. Quetelet termed this constancy “fixed laws”, fully intending to cast the normal curve of error in the language of physics. Although attracted to the laws of physics, Quetelet argued for the similarity of law-like social patterns, those that constitute the “physiology of the social body.” Nonetheless, Quetelet avoided the more penetrating question: what explains the constancy of crime and suicide rates?

With Quetelet and fellow social statisticians, this growing body of work moved closer to the realm of paradox and unintended consequences. In his classic work *The Crowd, A Study of the Popular Mind*, published in 1895, Gustave Le Bon (1841-1931) summarized the dynamics that determine the mentality of crowds:

...in the aggregate which constitutes a crowd there is in no sort a summing-up of or an average struck between its elements. What really takes place is a combination followed by the creation of new characteristics, just as in chemistry certain elements, when brought into contact – bases and acids, for example – combine to form a new body

possessing properties quite different from those of the bodies that have served to form it.⁵

Without the concept of emergence, Le Bon nonetheless captured its central premise: the properties of new combinations cannot be explained by “reducing down” to the elements that “formed” the new body. Yet while the rates of crime and suicide, school suspension, achievement, and drop-out rates result with new individuals, the aggregate levels remain substantially constant over time. Said another way, Le Bon’s work is a treatise on non-linearity, but specifically whereby dynamics result in linear outcomes.

Almost a century and a half after Smith’s treatise on wealth and nations, and influenced more so by Quetelet’s works on the fixed laws of social bodies, Emile Durkheim (1864-1917) published his own treatise in 1897, the empirical and deeply theoretical study of suicide.⁶ He claimed that the proper object of sociological study was the “social fact”; and to demonstrate this he embarked on an empirical study of the most personal of acts – suicide. He gathered volumes of statistics on rates of suicide, comparing urban and rural, Protestant and Catholic, marital statuses, times of economic depression and economic prosperity. His findings demonstrated contrasts, but most of all, the statistics revealed a constancy in rates across time. This continuity emerged as the single most compelling fact among several, and turned the focus of his study into a theoretical treatise. Like Adam Smith’s unexpected finding of increasing prosperity at the level of society, Durkheim’s *Suicide* reads as a progressively theoretical work convincingly demonstrating how suicide was a social fact.

Where Smith formulated his “invisible hand,” and Le Bon identified the fallacy of presuming to explain social phenomena by reducing down to the

⁵ Gustave Le Bon, *The Crowd, A Study of the Popular Mind*. Mineola NY: Dover Publications, Inc.[1895] 2015. p. 4.

⁶ Emile Durkheim, *Suicide, A Study in Sociology*. New York, NY: The Free Press. 1951.

individuals that constitute them, Durkheim took this argument several steps further. Durkheim was unrelenting in his dissection of individual causes of suicide, eliminating psychological factors one by one, leaving the “social” as the only logical and plausible cause to explain the constancy of suicide rates. At the heart of his theoretical reasoning was the fact that the minority of individuals who killed themselves did not know each other, interact with each other, or in any way lead to suicide by way of contact or familiarity with the others who ‘produced’ the collective statistics on suicide. As he stated:⁷

Victims of suicide are in an infinite minority; which is widely dispersed; each one performs his act separately, without knowledge that others are doing the same; and yet as long as society remains unchanged the number of suicides remains the same.

A final note reveals his affinity to Smith’s invisible hand, although the two men never met (or could). In a commentary on his critics, located toward the end of the book, Durkheim observed:⁸

Thus, the basic proposition that social facts are objective...finds a new and especially conclusive proof in moral statistics and above all in the statistics on suicide...Of course it offends common sense. But science has encountered incredulity whenever it has revealed to men the existence of a force *that it has overlooked*.

The Durkheimian Legacy of Real Consequence: Correlation as (Linear) Causation

There is no doubt that *Suicide* is Durkheim’s premier work. It weaves theory and empirical data together in an artful and convincing manner. Yet

⁷ Durkheim, p. 34.

⁸ Ibid, p. 310

there can be little doubt as well that an earlier work entitled *Rules of Sociological Method*, published in 1893, soon after his doctoral dissertation, influenced the development of sociology for decades to come. This influence was primarily methodological, although built on a theoretical foundation advanced in his doctoral thesis.

The essence of *Rules* is straightforward, maybe in large part because Durkheim draws substantially on John Stuart Mills' *A System of Logic* (1843). In his classic work on causation, and in Chapter VIII and the Fifth Canon, Mills outlined the Method of Concomitant Variations:

Whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation.⁹

Durkheim argued that concomitant variation was the means to determine cause or effect, but an objective less ambitious than causation would soon start with a change in name, removing concomitant variation for "correlation".

Durkheim's *Rules* was published at a particularly favorable time. In 1888, Francis Galton had conceived the "correlation", and some few years later, Galton's protégé, Karl Pearson, refined the equation for the "product moment correlation coefficient". The correlation coefficient (symbolized as a lower-case r) measured the "linear dependence" of two variables and is the basis for linear regression. Statisticians were quick to declare that the coefficient was not a measure of causation, for the coefficient could be the result of a third or other factor. The recognition widened the door to "multivariate analysis" which soon encompassed biology, and a short time after encompassed psychology and sociology.

⁹ John Stuart Mill, *A System of Logic*. London: Longmans, Green, and Co., [1843] 1906. p. 263.

When we arrive at what is commonly referred to as the ‘classical tradition’, Durkheim along with Max Weber stand out, as much for their extraordinary scholarship as for the volume of critiques that never seem to end. Whether credible or not, most of the critiques of both figures have missed the mark which would have revealed the unquestionable depth of their respective work. Setting aside, or disposing of commentaries that claim to be critiques, but fail to withstand close scrutiny, it is remarkable how competent reviews of either figures have, like archeological finds, unearthed levels of sophistication not found or acknowledged in the many volumes devoted to standard critique or uninformative review. The major contribution to unearthing the depth of Durkheim and Weber, particularly the relevance of their work to contemporary sociological theory, is the French research group (GEMAS) - Groupe d’Etude des Méthodes de l’Analyse Sociologique.

The distinction and strength of GEMAS is rooted in a firm commitment to what distinguished the social thought of the ‘first generation’, such figures as Rousseau, Smith, Tocqueville, Montesquieu; and thus a firm rejection of their characterization as atheoretical. As noted, the ideas of this generation centered closely around the social phenomenon of unintended consequences, and their parent phenomenon, the paradox. The works of both Durkheim and Weber defined the second generation, not only by acknowledging the strength of their earlier counterparts, but without directly naming it, by building the phenomenon of unintended consequence into their respective works. This has eluded many, trimming the depth of both figures to labels of misleading relevance. To be more specific, the subtlety and power of unintended consequences was marginalized and diluted by the rising attraction of statistical methods, particularly multivariate methods that rested on the presumed general applicability of the correlation coefficient.

Cracks in the Edifice: Limitations of Correlation, and its Coefficient

No doubt the institutional rise of the social sciences can be credited to the diffusion of statistics, enabling all disciplines to engage in comparative research and entertain more generalized interpretations. In many ways, biology led the way and was a model for the disciplines of anthropology, psychology, political science and sociology. The statistical methods built on probability theory were attractive on several grounds, mainly the claim of generalizability. Yet critical cautions, largely from loyal sources, have always hovered near to correlational methods. Two are worth noting, not only for their individual powers, but because while separated by over some three decades, their mutuality has opened the door to think dynamically, which at minimum means historically. Emergence, non-linear, dynamic, and temporality are no longer marginal concepts, for the tables have turned. A brief reference to these critiques helps to explain how the liberation of these concepts occurred and has accelerated.

The "Ecological Fallacy"

In 1950, W. S. Robinson published a short paper in the *American Sociological Review*, entitled "Ecological Correlations and the Behavior of Individuals."¹⁰ At the heart of Robinson's focus was the important distinction between "individual correlations" and "ecological correlations". Correlations between individual traits, such as height, weight, and cognitive responses, are individual correlations; whereas correlations between ecological statistics, such as percentages of one or more groups in an area, or the rate of crimes, or percent of students in special education classes, are ecological correlations. The essence of Robinson's critique was straightforward, and powerful. In the absence of individual data, especially derived from individual interviews, research necessarily relies on ecological sources, and proceeds to correlate percentages

¹⁰ W. S. Robinson, "Ecological correlations and the behavior of individuals." *American Sociological Review*, 15 (3), 1950:: 351-357.

[ethnic, religious group] and rates of crime, special education, etc. The procedure can be highly informative, but it can be highly fallacious as well.

The fallacy committed with ecological correlations is the premature interpretation that individuals of the particular group studied in fact committed the crime, or are “in” the special education classes studied. If in a study of school-districts in a [US] state or states, there is a correlation between the percent of some ethnic-racial group in the district and the percent of students in classes for the Socially Maladjusted, no conclusion can be made that individuals from the specific group constitute the category; lacking individual data, we don’t know what students are in the classes. In fact, white students may be the majority in the classes, the result of white parental fears of [racial/religious] interactions.

The Fallacy of Case Symmetry

The mechanics of the correlation coefficient are, in blunt terms, very mechanical. The coefficient is derived by measuring the closeness of values to the line of “least squares”. While this does indicate the degree to which variables are associated, it doesn’t compare units or cases to each other directly. There is, then, an assumption that the meaning of the variables measured is the same across cases. Can we argue that “Hispanic”, or “Christian”, or “criminal”, or “mildly retarded” mean the same across cases? This can hardly be maintained.

Put another way, the cultural, economic, and political diversity is “overridden” by the mechanics of uniformity – or by the need to produce linearity. This need can lead to technical adjustments that standardize values, such as transforming percentages to logs so that New York doesn’t alter results. But the implications go beyond adjustments. Any scrutiny of the distribution of values is likely to reveal ‘segments’ of values that are very close to each other such that they are best conceived as a “set”, much like regions in the US are labeled Northeast, South, West because of geographic proximity and cultural

history. High values of income per capita for some cases are not simply “rich” countries, and low values “poor” countries. The two sets are *substantively* different; and likewise, students with consistently high grades, in college-bound tracks, or in trade-vocational programs, or in special needs classes, constitute the sets of the school system. Individuals may be similar by grades, but consequentially different by set membership. Linear tests and the methods that research them rest on a manual of assumptions that can fail to capture the “structure of consequences”, however unintended.¹¹

Unintended Consequences: More the Rule than the Exception

By the very name, examples of unintended consequences imply outcomes that are at variance with intentions. There could, however, be instances that specify the divergence: consequences could be positive or negative, or simply neutral; consequences could agree with intentions, but not anticipate the magnitude of the outcome. Smith’s work on the comparative wealth of nations reads as surprised at the volume of consequences, or at minimum, he seems to be extending his personal surprise to the “average man.” Le Bon’s work on crowds reads as neutral, arguing that the qualitative change in the psychology of individuals participating in the crowd is unintended, but mostly irreversible. Durkheim’s work, in nearly all, parallels Smith insofar as the external, collective level is *sui generis* and determining, but at minimum, unknown to individuals. Smith’s “invisible hand” is Durkheim’s “collective representations”, and similar parallels are common threads across major thinkers from the late 18th century to the institutionalization of the behavioral sciences.

While two and a half centuries have elapsed since Smith, the continuity from his “invisible hand” to contemporary concepts is striking and informative. What Smith sought to capture, or in fact did, is arguably the parent to the

¹¹ Carston Q. Schneider, and Claudius Wagemann, *Set-Theoretic Methods for the Social Sciences*. Cambridge, UK. Cambridge University Press, 2012. p. 6.

contemporary expansion of “social mechanisms” as the critical instrument that bridges the correlation between a presumed cause (X) and its effect or outcome (Y). The social mechanism such as the well-known, popular explanation that invokes *self-fulfilling prophecy*, is a theoretical mechanism that enlarges understanding for “how” X is related to Y. More contemporary constructions, such as *network diffusion*, *threshold-based behavior*, *compositional effects* are within the purview of Smith’s “invisible hand”.¹²

This continuity, changed in name and example, but not in dynamics and maybe neither in effects, can be especially illuminating. A comparison of Alexis de Tocqueville’s classic work on the “causes of the French revolution” in *The Old Regime and the French Revolution* published in 1855, and a deeply quantitative study of “school leaving” from a prestigious university (UC Berkeley), published in a major journal in 1980, can offer some insights. While separate in time, and all the contextual changes that this entails, the Tocquevillian ‘discovery’ that uprisings or revolutions are caused more by an improvement of conditions than by their deterioration. An improvement of conditions brings with it “rising expectations”, and thus an anger that is stimulated by a comparison of circumstances before and how circumstances can be:

Thus it was precisely in those parts of France where there had been most improvement that popular discontent ran highest. *This may seem illogical* – but history is full of such paradoxes. For it is not always when things are going from bad to worse that revolutions break out. On the contrary, it oftener happens that when a people which has put up with an oppressive

¹² Peter Hedström and Richard Swedberg (eds.). *Social Mechanisms, An Analytical Approach to Social Theory*. Cambridge, UK: Cambridge University Press, 1998. Chapter 1.

rule over a long series without protest suddenly finds the government relaxing its pressure, it takes up arms against it.¹³

Tocqueville's thesis remains a classic example of a paradox, a mechanism that generated a series of counter-intuitive consequences. The increasing centralization of France that followed is one of the consequences that resulted from the revolutionary changes. This was, like the dynamics set into motion by rising expectations, counter-intuitive.

The study of university withdrawal stretches the claims of similarity, but proposes a conceptual affinity between the French example as a departure from conventional behaviors and beliefs and the Berkeley example as a similar departure from the conventional behaviors that are the requirements for graduation. The central finding from this study was paradoxical: students with higher grade point averages had higher rates of withdrawal: "each increment of GPA *increases* withdrawal among those who planned that they might leave, but has no additional effect on those who planned definitely to stay." The students who stayed and graduated "appeared to have accepted institutionalized understandings of the value of college education and college grades."¹⁴ In more succinct terms, one of the effects of higher grades was to increase the sense among successful students that they "can do this", a sentiment that magnifies their distance from "institutionalized understandings" of college attendance itself. Withdrawal becomes a form of "popular discontent".

Some Implications for Educational Research

¹³ Alexis de Tocqueville, *The Old Régime and the French Revolution*. New York: Doubleday, 1955. pp. 176, 60.

¹⁴ Carl Simpson, Kathryn Baker, and Glen Mellinger. "Conventional failures and unconventional dropouts: Comparing different types of university withdrawals." *Sociology of Education*, 1980, 53: 203-214. p. 211.

The ecological fallacy and the fallacy of case symmetry have not deterred the development and application of correlational methods in educational research. In part, this may be due to the fact that national educational systems have increasingly converged, particularly in the number and focus of organizational levels, and the pathways to particular degrees or certifications. Even in full awareness of both issues, the larger “check” is theoretical: what explains the association between two (or more) variables? What are the dynamics that reproduce near constant rates of crime, and other behaviors?

To return to Smith and his “invisible hand.” Smith’s study of nations and wealth is a work that is arguably an extension of his treatise on moral sentiments. Smith’s paradox is not, however, an argument about human nature, and of moral sentiments in particular. It is a thesis about the interaction of moral sentiments with levels in society, and how the particular interactions that “generate” wealth are nonetheless unknown to individuals. The constancy of crime and suicide rates, and similar rates of educational measurements, is not a mystical outcome; rather, the actors and processes that generate rate and their constancy are “disguised,” i.e., invisible, for they are produced, in Cherkaoui’s terms, by a specific *structure of interdependence*. In France rates of crime are generated by the routine and determining practices of the judicial system; the same outcome can be generated by the cultural view of the police, as demonstrated in Italy. The structure of interdependence (W) is intermediary to a causal factor(s) (X) and an outcome (Y), forming a “tripartite” structure of causality. It is the variation in the structure of interdependence that is the key to explaining crime rates, for it is this variation (across countries, states, cities) that demonstrates the concept of *equifinality*, the fact that different origins can result in similar outcomes, and that similar origins can result in different outcomes as well. In the absence of a generating mechanism (W) mediating the relation between the X and Y, interpretations are at risk of a number of fallacies, among them is the ecological fallacy.

A view of educational measures as similar to crime and suicide rates leads one into the arena of paradoxes and unintended consequences. From even a partial view from a neutral outsider, it is evident how replete with “good intentions” educational systems can be. In such an institutional environment, inherited in traditional form from decades and centuries past, the search for “best practices” can appear to be not an exercise in futility, but an unrelenting fight against unintended consequences. From racial and gender overrepresentation in special education classes to racial disparities in suspensions, such statistical pictures can appear, to teachers especially, a mistake or simply wrong. To teachers, “with the best of intentions,” the persistence of racial and gender disparities can appear beyond rational explanation. Yet, such outcomes can begin as a routine micro level interaction that evolves into a paradox where good intentions generate bad outcomes, all seeming mystical.

Such a sequence can often flourish in educational systems, for good intentions can be ahead of bad outcomes along the way of its causal evolution. As one consequence of the misalignment of time between instruction and evaluation, differential placement, whether special education or relocation in remedial class or vocational tracks, the outcome can suddenly appear as a real condition rather than as a point in an evolving process of interlocking decisions. In his succinct summary of the basic ideas of “process metaphysics,” Nicholas Rescher could have been summarizing the basic ideas of the “paradox of unintended consequences”:

The crux of the process/substance controversy lies in the distinction between *occurrences* and *things*. Mainstream ontologists have in general endowed things with the permanence of perduring substances over time, supposing that things remain self-identical through time on the basis of their possession of certain essential features or properties that remain changelessly intact across temporal changes. Accordingly, the problem of substance ontology has always been that it is somewhere between

difficult and impossible to specify any such change-exempt descriptive properties' or nonclassifying features that stably characterize the essence of things. Process philosophy frees itself from this difficulty by simply averting the problem.¹⁵

The distinction Rescher draws between process and substance can be much more difficult than “simply averting the problem.” If it were a decision to simply avert the problem, racial and gender disparities would likely be a small and momentary incidence rather than a highly resilient inequity. It is far more the case that educational systems lack the freedom to avert such a problem, and moreover, the lack of such a freedom is itself deeply rooted and largely unchangeable in the short term. But with a framework that has paradoxes and unintended consequences as its basic ideas, the inability to “avert the problem” is precisely the core of its ideas; but in addition, if the ability to avert the problem presents itself, this returns one to the dynamics of unintended consequences. As if elaborating on Rescher’s “free will” conclusion, Cherkaoui states: “the interdependence between the elements of a dynamic system [education systems and their environment] can be the source of the complexity and emergence of systemic properties that are – *a priori* – neither predictable nor deducible from a knowledge of its components alone.”¹⁶

A Final Note

As a final note, and example that resonates in direct or implied ways in the succeeding articles, is the difference between exclusion and exemption in the “analysis” of the formation and expansion of national educational systems. The

¹⁵ Nicholas Rescher, *Process Metaphysics*. New York: NY: State University of New York Press, 1996, p. 35.

¹⁶ Cherkaoui, *Good Intentions*, p. 2.

difference between the two is significant, on legal, organizational, and cultural grounds. The principal generating source of this significance is the fact that the educational systems in most western nations were themselves *founded on a paradox*: with the legislative mandate extending a free and compulsory elementary education to all, the boundary of inclusion has expanded outward from the elite center, thereby encompassing groups historically excluded. Yet the model for this process was not exclusion but rather exemption. Concretely, the principles and practical instruction – the “best practices” for a free and compulsory education – were borrowed from and based on the instructional models developed for the education of deaf, blind and mentally deficient children.¹⁷ Viewed from this factual distinction, the outward expansion of a common education generated a trajectory of expansion that has been rhetorically aligned with the particular democratic ethic of each nation, defined by the character of the linkage between exclusion and exemption. The “puzzles” of analyses on school inclusion, suspension, and expulsion can be traced, in part, to this linkage, and specifically to the “structure of interdependence”, that shaped education as a system then and continues to shape education as a system to this day. The key to this explanation is to emphasize the “character of the linkage between exclusion and exemption” – for their linkage is an “emergent property.” Or more specific to this journal, what is taken to be an “educational controversy” is very often the visible surface of an unintended, or unanticipated consequence. What is controversial is not inherent, that is, controversial by its very nature. On the contrary, patterns or events are so perceived and thus become controversial: “best practices” are not inherently best. It can be more instructive to view equifinality as a rule, and then ask: is the controversy of patterns the result of common or different origins, and if discernable, then what mechanisms move

¹⁷ A specific example is the “physiological method” constructed and practiced by Edward Seguin (1812-1880) for instruction of deaf children, then extended to the mentally deficient (“idiots”).

origins to common or different outcomes? Accordingly, instances of educational practice or outcome, taken to be controversial, might best be viewed as the *behavior of social relations*, rather than the reflection of ill-prepared, prejudicial, or self-interested individuals.

A Brief Sketch of Papers

What follows are four papers, each quite different from the others in terms of subject matter and method, yet conceptually similar in terms of how paradoxes and their unintended consequences so deeply characterize educational processes and their outcomes. The papers are organized in a non-inferential way, namely “macro” to “micro”.

The lead paper by Bernadette Baker examines the rise, diffusion and influence of “Big Data”, the scale of which has never been as imposing as it is now. Baker reveals the consequences of how alluring such a quantitative data base can be – at first, only to entrap all actors in layers of consequences that were neither intended nor beneficial. In her words:

In field connected to field, education to Big Data and Big Data to education, the unintended consequences integral to understandings of the nonlinear, intersubjectivity and suggestibility that once marked the “mystery” of the social sciences and human-to-human interactions, become embodied and rationalized within a probability reasoning in search of new patterns.

Throughout the paper, Baker artfully connects how the unintended consequences of previous eras contributed to an understanding of the non-linear in ways that are now “embodied and rationalized” by the probabilistic models of

large N data.¹⁸ However, her last words of this quote are especially pointed – “in search of new patterns.” The implications can be “neither predictable nor deducible” from the knowledge we presume to possess, or persistently re-enact searches for “best practices.”

The paper by Jinting Wu examines educational policy designed to enhance economic development in rural China. Wu uncovers how the educational policy directed to rural inhabitants has both failed and succeeded. Such a statement is not a wish to have it both ways, but a description of how the interpretation of results is intricately connected to methods employed. Particularly enlightening is how different ethnographic and statistical methods can be, if the result is measured by success and failure in “fabricating” its intended outcome. In her words: “The ethnographic evidence highlights the unintended consequences of not only a state policy but also the fraught ways in which it is linked to other social mechanisms to produce a ‘successful failure’”. Again, as noted earlier, interpretations of analyses without attention to unintended consequences can be seriously depleted, if not wrong.

The final two papers are exceptional examples of “micro level” dynamics that both reflect and produce macro-level outcomes – such as legislatively created educational categories founded on etiological foundations of questionable but deeply harmful consequences. In the paper by Anna Crampton, dialogic analysis is employed in a study of a middle school classroom devoted to Science (STEM) in a racially diverse environment. From ethnographic observations, Crampton revealed how students constructed alternative models that contrast with official models of “best practices”. Like Jinting Wu, the methods employed are uniquely capable of revealing how the dynamic swirls of student interactions are generative forces that “unintentionally” structure classrooms (and educational systems) in such a way as to align with or

¹⁸ See e.g., Roger Clarke and Marcus R. Wigan, “Big Data’s Big Unintended Consequences.” *Computer*, 6: 46-53. June 2013, doi10-1109/MC, 2013-195, no. 5.

undermine prevailing models of “best practices”, or conflict with the knowledge claims that are the foundation to declarations of “best”.

The paper by Tracey Pyscher is a genuinely creative work that links the effects of a background of domestic abuse to the construction of an educational category that presumes to encompass these effects. This is powerful, and rare. The paper is as compelling as it is competent, and it is compelling. Pyscher *and* Crampton both demonstrate how the largely “invisible” dynamics of student classroom interactions can work their way “up” to the so-called macro level, thereupon becoming visible, but transformed to align with the structures of power that can be far from the experiences and linkages that both highlight. The papers by Crampton and Pyscher should be joined to make a book capable of a wide dissemination.